

THE RELATIONSHIP OF
TIME PERSPECTIVE AND NEGATIVE PAST EXPERIENCES WITH
RISK-TAKING BEHAVIOR IN OBESITY



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PLAGIARISM

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

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ABSTRACT

Obesity is a complex and multifactorial medical condition that threatens public health worldwide. The World Health Organization defines obesity as abnormal or excessive fat accumulation that poses a health risk for the individual. Risk-taking behavior is defined as any consciously or unconsciously controlled behavior that includes perceived uncertainty about potential benefits or harms for the physical, economic or psychosocial well-being of the person or others. On the other hand, time perspective is a cognitive construct that describes a person's orientation towards the importance of the present, past, and future. Past negative experience is defined as any traumatic experience that occurs during childhood, adolescence, and adulthood, including emotional abuse, physical abuse, sexual abuse, rape, bullying by peers, witnessing domestic violence, and serious life-threatening accidents. According to the somatic marker hypothesis, which claims that emotional and internal states can influence decision making, obese individuals may experience “myopia for future” and prioritize positive somatic markers related to possible high reward over negative somatic markers. Although there are studies investigating the relationship between obesity and risk-taking behavior in the literature, the relationship between time perspective, past negative experiences, and decision making in obesity has not yet been investigated in detail. This study therefore aimed to examine the relationship between time perspective and past negative experiences with risk-taking behavior in obesity. Forty-four (23 female, 21 male) healthy participants and 43 (22 female, 21 male) obese participants between the ages of 18-60 were included. Zimbardo Time Perspective Inventory, Beck Depression Inventory, Childhood Trauma Scale, Barratt Impulsivity Scale Short Form (BIS-11), State and Trait Anxiety Inventory, Iowa Gambling Task (IGT), and Balloon Analog Risk Task (BART) were administered to

the participants, respectively. The results revealed that participants in the healthy group performed significantly better than obese participants, and gradually increased their scores during the test, indicating that they improved their performance as a result of learning. IGT performance was significantly correlated with body mass index, impulsivity, and future time perspective for the overall sample. Finally, the result of the regression analysis indicated that future time perspective was a significant predictor of risk-taking behavior, as measured by IGT. In addition, there was a statistically significant negative correlation between BMI and IGT score. In addition, BART performance, which is another measure of risk-taking behavior, was found to be associated with past negative experience, physical neglect, in particular. We believe our findings shed more light on the psychological aspects of obesity, and possible intervention methods for both prevention and treatment.

Keywords: Obesity, Time Perspective, Past Negative Experiences, Risk-Taking Behavior

ÖZET

Obezite, dünya çapında halk sağlığını tehdit eden karmaşık ve çok faktörlü bir tıbbi durumdur. Dünya Sağlık Örgütü obeziteyi sağlık açısından risk oluşturan anormal veya aşırı yağ birikimi olarak tanımlamaktadır. Risk alma davranışı, kişinin kendisinin veya başkalarının fiziksel, ekonomik veya psiko-sosyal refahı için potansiyel yararları veya zararları hakkında algılanan belirsizliği içeren bilinçli veya bilinçsiz olarak kontrol edilen herhangi bir davranış olarak tanımlanır. Zaman perspektifi ise bir kişinin şimdinin, geçmişin ve geleceğin önemine yönelik yönelimini tanımlayan bilişsel bir yapıdır. Geçmiş negatif deneyim ise çocukluk, ergenlik ve yetişkinlik döneminde meydana gelen duygusal istismar, fiziksel istismar, cinsel istismar, tecavüz, akranlar tarafından zorbalık, aile içi şiddete tanık olma ve ciddi yaşamı tehdit eden kazaları içeren her türlü travmatik deneyim olarak tanımlanmaktadır. Duygusal ve içsel durumların karar vermeyi etkileyebileceğini iddia eden somatik belirteç hipotezine göre, obez bireyler “gelecek için miyopi” yaşayabilir ve olası yüksek ödülle ilgili pozitif somatik belirteçleri olumsuz bedensel belirteçlere göre önceliklendirebilir. Literatürde risk alma davranışı ve obezite arasındaki ilişkiyi araştıran çalışmalar olmasına rağmen, aynı zamanda bu kişilerin zaman perspektifine ve geçmiş negatif deneyimlerine odaklanan çalışmalar bulunamamıştır. Bu nedenle bu çalışma, obezitede risk alma davranışı ile zaman perspektifi ve geçmiş olumsuz deneyimler arasındaki ilişkiyi incelemeyi amaçlamıştır. Çalışmaya 18-60 yaşları arasında 44 (23 kadın, 21 erkek) sağlıklı ve 43 (22 kadın, 21 erkek) obez katılımcı dahil edildi. Katılımcılara sırasıyla Zimbardo Zaman Perspektifi Envanteri, Beck Depresyon Envanteri, Çocukluk Çağı Travma Ölçeği, Barratt Dürtüsellik Ölçeği Kısa Formu (BIS-11), Durumluk ve Sürekli Kaygı Ölçeği, Iowa Kumar Testi (IGT) ve Balon Analog Risk Görevi (BART)

uygulanmıştır. Sonuç olarak, sağlıklı gruptaki katılımcılar, obez katılımcılardan önemli ölçüde daha iyi performans gösterdiler ve test sırasında puanlarını kademeli olarak artırdılar, bu da öğrenme sonucunda performanslarını iyileştirdiklerini gösteriyor. IGT performansı, bu örneklem özelinde vücut kitle indeksi, dürtüsellik ve gelecek zaman perspektifi ile önemli ölçüde ilişkiliydi. Son olarak, regresyon analizinin sonucu, gelecek zaman perspektifinin, IGT tarafından ölçüldüğü üzere, risk alma davranışının önemli bir yordayıcısı olduğunu göstermiştir. Ayrıca vücut kitle indeksi ile IGT skoru arasında istatistiksel olarak anlamlı negatif korelasyon bulunmuştur. Buna ek olarak, bir diğer risk alma görevi olan BART performansına bakıldığında, geçmiş negatif yaşantı değişkenlerinden fiziksel ihmalin BART performansı ile anlamlı düzeyde ilişkili olduğu bulunmuştur. Bulgularımızın obezitenin psikolojik yönlerine ve hem önleme hem de tedavi için olası müdahale yöntemlerine daha fazla ışık tuttuğuna inanıyoruz.

Anahtar kelimeler: Obezite, Zaman Perspektifi, Geçmiş Negatif Deneyimler, Risk Alma Davranışı

To My Family



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1. INTRODUCTION

1.1. Obesity

1.1.1 Definition of Obesity

Obesity is a complex and multifactorial medical condition that threatens public health worldwide. Today, obesity is the second most important cause of preventable deaths after smoking (Turkish Society of Endocrinology and Metabolism, 2018).

Obesity is defined by the World Health Organization (WHO) as abnormal or excessive fat accumulation that poses a health risk (WHO, 2009). Obesity is a chronic disease that is characterized by an increase in body fat mass compared to lean body mass, and is caused by the energy taken into the body with food more than the energy consumed (Durgun, 2012).

The most accurate measurement method that determines obesity is the method that measures the amount of adipose tissue in the body. For this, direct and indirect measurement methods are used. Direct methods include Total Body Water measurement (using marked water), Ultrasonography, Computerized Tomography, (CT), Magnetic Resonance Imaging (MRI), Dual Photon Absorptiometry, Bioelectric Impedance Analysis, and Total Body Electrical Conductivity. Although many methods are used in the determination of obesity, the most widely used methods are indirect, including the calculation of Body Mass Index (BMI), waist and hip circumference measurement, and skinfold thickness, since they are more practical (Koran, 2009).

Body mass index (BMI) is frequently used to identify obesity. BMI is calculated by dividing a person's weight (in kilograms) by the square of their height (in meters) (Turkish Society of Endocrinology and Metabolism, 2018). Table 1 demonstrates different levels of obesity, as identified by WHO (WHO, 2012).

Table 1

The Recent World Health Organization (WHO) Agreement on the Standardized Classification of Overweight and Obese, based on BMI

Classification	BMI (kg/m²)
Underweight	< 18.5
Normal Range	18.5 to 24.9
Overweight	≥ 25
Pre-obese	25.0 to 29.9
Obese Class 1 (moderate obesity)	30.0 to 34.9
Obese Class 2 (severe obesity)	35.0 to 39.9
Obese Class 3 (morbid obesity)	≥ 40.0

1.1.2. Prevalence and Distribution of Obesity in the World and Turkey

According to the data announced by the World Health Organization, especially after 1980, the rate of obesity has doubled worldwide. The obesity rates, which were 8% for women and 5% for men in 1980s, reached 14% for women and 10% for men in 2008 (World Health Organization, 2012). According to the report published in 2014, there are 1 billion 900 million overweight and 600 million obese adults. According to WHO estimates, around the world in 2016, 39% of adults are overweight and 13% are obese. The incidence of obesity in childhood is also increasing. Overweight and obesity are linked to more deaths worldwide than underweight. Globally, obese people outnumber people with low weight in every region except sub-Saharan Africa and parts of Asia (World Health Organization, 2020).

Considering the obesity situation in Turkey, a similar picture emerges. The prevalence of obesity in the adult population in our country has exceeded the critical high rate of 30%. Although the prevalence of obesity is higher in women, the rapid increase in men in recent years is also noteworthy (Turkish Society of Endocrinology and Metabolism, 2018). According to Obesity Prevalence Study in Turkey (TURDEP I), the prevalence of obesity was found to be 22.3%. The TURDEP II study done in 2010, revealed an increased obesity rate that reached 32% (Semin, 2014). In the report of 2013, World Health Organization foresaw 51% of men and 25% of women in Turkey will be obese until 2030 (World Health Organization, 2013).

1.1.3 Etiology of Obesity

1.1.3.1. Biological Factors

Food consumption behavior is a complex behavior that emerges as a result of the integration of environmental, neural, hormonal, and neurochemical signals with the central nervous system. Eating behavior includes the evaluation of signals from structures such as the stomach, liver, pancreas, duodenum, adipose tissue, and brain (especially the hypothalamus) (Carlson, 2014).

Different genes have been associated with obesity, including MC4R (melanocortin 4 receptor), ADRB3 (β 3-adrenergic receptor), PCSK1 (proprotein convertase subtilisin kexin 1), BDNF (brain-derived neurotrophic factor), LCT (lactase), MTNR1B (melatonin receptor 1 B), TLR4 (toll-like receptor 4), ENPP1 (econucleotide pyrophosphatase / phosphodiesterase 1), FGFR1 (fibroblast growth factor receptor 1) and LEP / LEPR (leptin / leptin receptor) (Bush & Moore, 2012).

The satiety center and appetite center are located in the hypothalamus. These two centers are close to each other and the satiety center has an inhibitory effect on the appetite center. When any damage occurs in the satiety center, the appetite center

shows increased activation, and the person experiences an increase in appetite, which might lead to obesity. Hypothalamic obesity occurs when a trauma, tumor or infection develops in the ventromedial hypothalamus, where the satiety center is located (Yıldız, 2014).

1.1.3.2. Sociodemographic Factors

Factors such as gender, age, marital status, social and economic development, place of residence, culture, and education affect the prevalence of obesity (Björntorp, 2001).

In various studies, it has been reported that increasing age, being a woman, and having a low education level increase the risk of obesity (Turkish Ministry of Health, 2010). The reason that the risk of obesity increases with age is due to the decrease in basal metabolic rate with aging (Shimokata & Kuzuya, 1993). A higher obesity prevalence among women has been associated with a number of social and psychological factors, including depression, sexual abuse, socioeconomic status, and weight-based discrimination. Obesity in women was linked to a 37% increase in serious depression in one study (APA, 2013). Moreover, some sexually abused women may experience obesity as a way to protect themselves from the sexual approaches of potential sexual partners or abusers (Gunstad et al., 2006). Inequalities in literacy and poverty are a salient feature among women living with obesity, especially in many non-industrialized developing countries where the role of environmental influences on gender health may be significant (Kapoor et al., 2021). According to the findings of a study, females who experienced more weight-related stigma had lower levels of autonomous motivation to exercise, which was associated with lower levels of walking, as well as moderate, and vigorous physical activity. Males, on the other hand, showed a direct link between stigma and both walking and

vigorous physical activity, with higher levels of these forms of physical activity being related with more stigma experiences (Sattler et al., 2018). In addition, since couples are prone to gain/lose weight together, choosing overweight individuals as partners also affects the maintenance of unhealthy eating behavior (Sackett et al., 1975).

In developed societies, individuals with low socioeconomic status and education level consume cheap and high-calorie foods more frequently and are therefore more prone to gain weight with reduced physical activity (Mokdad et al., 1999).

1.1.3.3. Behavioral and Environmental Factors

Cultural, behavioral and environmental factors (energy-intensive diet, large portions, physical inactivity, sedentary lifestyle) and eating disorders accelerate the development of obesity. Environmental toxins, food deficiency, and exposure to an obesogenic (high-fat) diet increase nutrient intake and adipose tissue by causing epigenetic changes such as methylation/acetylation in genes associated with obesity (Turkish Society of Endocrinology and Metabolism, 2018).

In modern societies, technological applications provide the opportunity to carry out work with less energy. This situation causes reduced physical activity, which leads to an increase in the amount of fat tissue. According to one study, physical inactivity plays a significant role in the development of obesity at a rate of 67.5 % (Sencer, E., 2001, as cited in Yağbasan, 2009). According to epidemiological studies conducted among men; overweight is most common in those who live a sedentary life (Yağbasan, 2009). In addition, due to factors such as time anxiety brought with modern life, fast eating/cooking, consuming takeaway and/or fast food also stimulate overeating behavior. In addition, the growth of the industry for mass

media and food advertisements triggers excessive food consumption (Hoek & Gendal, 2006).

1.1.3.4. Psychological Factors

Some researchers have suggested that obesity is a type of food addiction and can be evaluated not only as a metabolic disease but also as a mental disorder, so it should be included in DSM (Volkow & O'Brien, 2007). Regarding the increase in eating disorders and obesity, recent research has clearly shown that the most critical events occur in early maladaptive programming of the brain. Recent research has confirmed a highly significant correlation between early life stressors and body mass index, independent of other relevant medical or psychiatric histories. A history of being bullied, rejected, and emotionally abused increases the likelihood of becoming obese.

The biological processes underlying obesity and metabolic disease are also related to anxiety and depression (Bornstein et al., 2006). Obesity is frequently associated with depression, and the two can interact and provoke one another. Women are far more sensitive to the obesity-depression cycle than men. They also have a somewhat higher risk of having an unhealthy BMI than men. Obesity in women was linked to a 37% increase in serious depression in one study (APA, 2013). Many people who have difficulty recovering from sudden or emotionally draining events (such as losing a close friend or family member, relationship difficulties, losing their job, or facing a serious medical problem) begin to unwittingly eat too much wrong food or stop exercising. Soon these become habitual and difficult to change (APA, 2013).

In addition, society often emphasizes the importance of physical appearance. As a result, obese people often face prejudice or discrimination at work, school, and

social situations, and this pattern of depression and eating continues (Shin & Shin, 2008; Stunkard & Sobal, 1995; Nieman et al., 2012, as cited in Agrawal et al., 2015).

1.1.4. Methods Used in Obesity Treatment

There are various treatment options in the treatment of obesity. Low-calorie diets, physical exercise programs, pharmacological treatments, surgical operations, and psychotherapy are among these treatment methods. Today, these treatments are planned individually and are used together in many cases (Sertöz & Mete, 2005).

1.1.4.1. Low-Calorie Diets

In the dietary treatment of obesity, different types of personalized diets such as low-calorie diets, low-carbohydrate diets, very-low-calorie diets, very low-fat diets are used. Among the main objectives of these programs are less energy intake than energy expenditure, providing a satiety effect on the person, being suitable for the lifestyle of the person, being applicable for a long time, having the fluid content correctly adjusted, and not creating a major complication (Kaya, 2009). These diet programs provide a slow but steady reduction in daily energy intake, through reducing it by 500-1000 kcal/day, which results in weight loss (Durgun, 2012).

1.1.4.2. Physical Exercise Programs

Diet regulation alone is insufficient for weight control. Motivation and regular exercise are also required to maintain weight control for a long time. Exercise preserves muscle tissue that can be lost along with adipose tissue during dieting. This protection is related to the rate of exercise performed during weight loss (Durgun, 2012).

1.1.4.3. Pharmacological Treatments

In the treatment of obesity, in cases where diet, exercise, and behavioral change treatment are insufficient, and in individuals with BMI over 30 kg / m² or

with a BMI above 27 kg / m² and having diseases such as diabetes, hypertension, and dyslipidemia, drug treatment is also used (Çömlekçi, 2011).

1.1.4.4. Surgical Operations

Although obese people lose weight as a result of diet and exercise, they regain weight after a while because these efforts usually do not show continuity. Sometimes, the lack of weight loss despite the combination of diet, exercise, behavior, and drug therapy brings up surgical treatment. Surgical treatment in obesity can be applied to morbid obese individuals with BMI > 40 kg / m² or those with comorbid disease with BMI between 35-40 kg / m², who do not respond to medical treatment. There are various techniques for this. These techniques include intestinal bypass, partial biliopancreatic bypass, gastropasty, insertion of adjustable silicone gastric band, and laparoscopic gastric band application are considered as a less invasive and endoscopically applied gastric balloon application (Çömlekçi, 2011).

1.1.4.5. Psychotherapy

Different psychotherapy orientations can be used in obesity treatment. Cognitive-behavioral therapy is useful in helping stimulus control, self-monitoring of lifestyle changes, goal setting, and restructuring negative and self-defeating thoughts (Karasu, 2013). Marchesini (2002) investigated the effects of cognitive-behavioral therapy on health-related quality of life in obese individuals with and without binge eating disorder. The study revealed that CBT resulted in a statistically significant change in the perception of the health status of obese individuals with binge eating disorders (Sertöz & Mete, 2005). In addition, psychodynamic (insight-focused) psychotherapy is useful to assist in conflicts related to overweight, body image, food relationship, and irregular eating habits, and to deal with prejudice and overt discrimination that obese individuals may experience (Karasu, 2013).

1.2. Time Perspective

1.2.1. Theories of Time Perspective

Time perspective is defined as a cognitive construct that defines a person's orientation towards the importance of the present, past, and future (Zimbardo & Boyd, 2015). Time perspective is divided into five subcategories that include cognitive processes and perceptions: Past Positive (PP), Past Negative (PN), Future (F), Present Hedonistic (PH), and Present Fatalistic (PF) (Akirmak, 2019). Time and its dimensions are seen as psychological concepts constructed and reconstructed by the individual, not as objective stimuli that exist independently of the individual (Block, 1990). Time perspective is a fundamental process of the subjective experience of the person we learn at an early age through our culture, religion, social class, education, and family influences (Desmyter & De Raedt, 2012).

People with a future perspective always focus on the possible consequences of current decisions and actions. They are committed to working for future goals and the rewards that accompany them, often at the expense of present pleasure, delaying gratification, and avoiding time-wasting temptations. They differ from those in other time perspective categories in that they are more likely to use dental floss, eat healthy foods of whatever flavor, have regular medical checkups, and solve puzzles well at micro behavioral levels. They have a higher rate of academic and professional success than others. However, the disadvantage of extreme future orientation is to minimize the need for social connections, occasionally not taking time for self-indulgence and not relying on a sense of community and cultural traditions (Boniwell & Zimbardo, 2004).

People with a past perspective tend to focus on family, tradition, continuity of the self over time, and history. This can be positive or negative. The Past-Positive

time perspective reflects a warm, tasteful, often emotional, and nostalgic perspective on one's past, with an emphasis on maintaining relationships with family and friends. These individuals have the highest self-esteem and happiness of those who dominate other factors. The Past Negative time perspective is associated with focusing on personal experiences that are distinctive or harmful. In general, a past orientation has the disadvantage of being overly conservative, cautious, avoiding change, not being open to new experiences and cultures, and maintaining the past even if it is not in the interests of the person (Boniwell & Zimbardo, 2004).

A distinction is made between two ways of focusing on the present time perspective. The Present-Hedonistic person appreciates high-intensity activities, craves excitement and new experiences, and is open to new friendships and sexual adventures. This type of person acts with little concern for the consequences of his actions, avoiding cost-benefit analysis and possible planning. The goal of life is to find pleasure while avoiding pain. However, excessive pleasure-seeking orientation can sometimes lead to negative consequences. People with a Present-Hedonistic time perspective are at risk of being attracted to nearly all addictions, accidents and injuries, and academic and career failure (Boniwell & Zimbardo, 2004). The Present-Hedonistic factor was found to be associated with neglect of future consequences, low consistency preference, low ego or impulse control, but very high interest in the pursuit of novelty and sensation, and not with any past or future-oriented structures (Garcia et al., 2017). The present Fatalistic time perspective is related to despair and constant beliefs that external forces control one's life, such as spiritual or government forces. Those who have a fatalistic perspective of time often believe that life is destiny and that it makes no sense to strive to change it. Therefore, they do not prefer to take control of the situations (Metcalf & Zimbardo, 2016). For those living in

poverty in ghettos or refugee camps, it can be a very realistic orientation (Boniwell & Zimbardo, 2004).

Some people prioritize thinking more broadly for the future with the subjective perspective of the time. These people often choose to invest today for future gains. In the present or past time perspective, the thoughts and motivations of individuals focus on recent, immediate, or short-term evaluations rather than on more distant future possibilities. Those who have a fatalistic perspective of time often believe that life is destiny and that it makes no sense to strive to change it. Therefore, they do not prefer to take control of the situations. In the present hedonistic time perspective, individuals focus on pleasure, avoidance of discomfort, risk-taking, and feeling seeking (Metcalf & Zimbardo, 2016).

Zimbardo et al. (1997), in a study with a large sample size, found that men are more oriented towards the present, and women are more oriented towards the future. For instance, a significant relationship was found between time perspective and risky driving. Significant gender differences reveal that men are more oriented towards the present than women, and women are more forward-looking than men, and this effect occurs when men drive more risky driving (Zimbardo et al., 1997). Yet another study did not find systematic gender differences (Fingerman & Perlmutter, 1995). Also, it seems that the future time perspective increases with age (Eson & Greenfield, 1962). On the other hand, the perception that the remaining lifetime of the person is decreasing may shorten the future time perspective at an advanced age (Carstensen et al., 1999; Carstensen, 2006). Consistent with this, Fingerman and Perlmutter (1995) noted that both young adults (20-37 years) and older adults (60-81 years) think more often about the next few months than the longer or shorter future periods. Younger participants stated that they thought about more distant time zones more often, while

older participants did not. In addition, few studies have looked at the relationship between measures of intelligence and measures of future time perspective, and there have been those who found little or no positive correlation (Blatt & Quinlan, 1967; Mischel & Metzner, 1962; Prenda & Lachman, 2001, as cited in Teuscher & Mitchell, 2011). Thus, although educational attainment is positively associated with a broader future time perspective, it does not appear to have a significant relationship with general measures of intellectual function (Teuscher & Mitchell, 2011).

Zimbardo and Boyd (1999) show that both Past-Negative and Present-Fatalistic perspectives are associated with strong feelings of depression, anxiety, anger, and aggression. Time perspective is also related to well-being, negative views about the past are reported to be associated with depression, while positive views about the past are associated with happiness and life satisfaction (Bruehlman-Senecal & Ayduk, 2015; Zimbardo & Boyd, 1999, as cited in Garcia et al., 2017).

Anorexia patients are expected to express a high level of future time perspective and conscientiousness (i.e., being hardworking and perfectionist), but also high levels of neuroticism and an incoherent time perspective (high past negative, low past positive, high present fatalistic), and low life satisfaction (Garcia et al., 2017). Indeed, in accordance with personality traits (i.e., high levels of neuroticism and persistence), patients with anorexia nervosa exhibit an inability to evaluate long-term consequences of their actions and choices or the inability or inflexibility to adapt their mindset (Tenconi et al., 2016). Thus, perhaps it explains their intolerance to uncertainty (Sternheim et al., 2011). A study of anorexia and time perspective found that anorexia patients had a darker and less emotional view of the past (i.e., high past negative, and low past positive), higher aversion to pleasure (low present hedonistic), a more fatalistic and hopeless view of future (i.e. high present fatalistic) as well as a

higher tendency to find reward in achieving certain long-term goals (i.e., high future) (Garcia et al., 2017). This statement suggests a persistent effort for the reward from an individual who has no hope for the future; this may explain why patients with anorexia nervosa have inability or difficulty in assessing future long-term consequences of their actions and choices, and also show an inability or flexibility to adapt (Tenconi et al., 2016).

It has been observed that the Present-Hedonistic time perspective is more positively correlated with risk-taking tendency than any other predictor, including personality traits. There is evidence showing that Present TPs are positively correlated with behaviors such as risky driving, smoking, and substance addiction, and that Future TPs are negatively correlated with these variables. For example, people with high Present-Fatalistic TP are less likely to use condoms, regardless of their attitude towards condom use. Consistent with this finding, those with high future orientation were more likely to use alternative methods to reduce exposure to HIV (for example, questioning the partner's sexual history, delaying or avoiding sexual intercourse) (Teuscher & Mitchell, 2011). Meanwhile, a future TP is protective against drug use for a range of substances (alcohol, tobacco, marijuana, hard drugs), although not always (Jochemczyk et al., 2017; Teuscher & Mitchell, 2011). Like substance abuse research, research on gamblers shows that pathological levels of gambling are associated with steeper discounting functions and a more limited future time perspective (Teuscher & Mitchell, 2011). Moreover, early research involving time perspective measurements have consistently shown that delinquents have a shorter future time perspective than non-delinquents, as measured by Wallace's Future Events Test (Landau, 1975; Stein et al., 1968, as cited in Teuscher & Mitchell, 2011), and

story-completion techniques (Barndt & Johnson, 1955; Davids et al., 1962; Siegman, 1961, as cited in Teuscher & Mitchell, 2011).

Studies with adolescents found that they are more sensitive to experiences that provide immediate satisfaction and prefer short-term rewards rather than long-term rewards. According to Laghi and his colleagues (2012), focusing on the present time perspective as determinants of their actions, adolescents are more likely to engage in a wide range of high-risk behaviors such as substance abuse (Apostolidis et al., 2006; Keough et al., 1999; Wills et al., 2001), unprotected sexual practices (Rothspan & Read, 1996), guilt (Boyd & Zimbardo, 2005), and risky driving (Zimbardo et al., 1997). In addition, adolescents who assumed both binge eating and binge drinking reported negative experiences in the past and showed a lower future orientation and more inclination towards fatalism than others (Boyd & Zimbardo, 2005; Rothspan & Read, 1996).

Time perspective is considered to have cognitive, emotional, and social components (Boniwell & Zimbardo, 2004). The formation of the time perspective is influenced by several factors, some of which are learned in the socialization process, such as the individual's cultural values, dominant religious orientation, type of education, socioeconomic status, and family modeling. However, the time perspective can also be influenced by the nature of a person's career, economic or political instability, personal experiences, traumatic events, or personal accomplishments throughout a person's lifelong development (Lennings, 1998). Within countries, those living in the southern regions tend to be more Present oriented than those in the northern regions above the equator. More individually oriented cultures tend to be more future-oriented than those who emphasize collectivism. Western lifestyles have

become predominantly goal-oriented and future-oriented in the service of capitalist values (Boniwell & Zimbardo, 2004).

Flexibility and "ability to change" are essential components of a balanced time perspective. " The optimal time perspective depends upon the demands of the situation and its task and reward structure " (Epel et al., 1999). Although Zimbardo and Boyd (2008) did not develop any direct indicators of balanced time perspective, they proposed an interesting starting point for their experimental processing by formulating a description of an optimal mix of time perspectives. The authors suggested that the optimal TP profile consisted of: a sentimental and positive view of the past (i.e., high past positive), a less pessimistic attitude toward the past (i.e., low past negative), the desire to experience pleasure without concern for future consequences (i.e., high present hedonistic), a less fatalistic and hopeless view of the future (i.e., low present fatalistic), and the ability to find reward in achieving specific long-term goals (i.e., high future) (Keough et al., 1999; Zimbardo et al., 1997, as cited in Garcia et al., 2017).

1.2.2. Time Perspective and Obesity

There is a fundamental principle that the early adoption and consistent implementation of healthy behaviors will help prevent disease, improve the quality of future life, and prolong survival. These future benefits require short-term tradeoffs, such as taking time for regular exercise, avoiding fatty foods, and limiting alcohol intake. Given the future relevance of health promotion, the time perspective has attracted attention as a factor that can explain individual differences in health behavior. It is predicted that those who are more forward-looking will be more likely to engage in healthy behaviors than those who are less forward-looking. Studies on

various health behaviors have supported this hypothesis, although it is not monotonous (Guthrie et al., 2014).

There are several research on the time perspective in obesity in the literature. In one study with adults examining obesity and time perspective, individuals who were more future oriented reported engaging in more recreational activities than those who were less future oriented. On the other hand, smoking, obesity, or exercise were not associated with present fatalistic and present hedonistic orientations (Guthrie et al., 2013). Moreover, strong associations were evident in the young age group (18 to 24 years old) in another by the same researchers. Here, among the more futuristic, physical inactivity and obesity were less likely, and those who focused more on the present were more likely to have physical inactivity and obesity. Only those between the ages of 18-24 years had lower future time perspective scores and higher present-hedonistic time perspective scores, reflecting interest in pleasure-seeking, which is related with obesity. As a result of these two studies, it can be suggested that time perspective has age-specific associations with exercise and obesity, and it was concluded that time perspective can affect decision making related to healthy behaviors (Guthrie et al., 2014).

The current results support previous findings that future and present time perspectives are certain constructs that influence health outcomes in different ways (Henson et al., 2006; Daugherty & Brase, 2010; Joireman et al., 2012; Dassen et al., 2015, as cited in Price et al., 2017). Price et al. (2017) also found that having greater future time perspective predicted higher self-control and a lower BMI. On the contrary, a higher BMI and lower self-control were associated with a greater emphasis on present time perspective. In addition, in a study focusing on temporal functioning problems of obese individuals and individuals preparing for bariatric surgery, they

found that present hedonistic time perspective is common in obese individuals (Tucholska, 2021). In general, although there is a relationship between future time perspective and obesity in the literature, opposite results have also been observed. For instance, Guthrie et al. (2013) reported although more future-oriented individuals reported higher recreational exercise frequency than less future-oriented individuals, this result was not associated with obesity (Price et al., 2017).

1.3. Negative Past Experiences

1.3.1. Theories of Negative Past Experiences

Negative past experiences are defined as all kinds of traumatic experiences that include emotional abuse, physical abuse, sexual abuse, rape, bullying by peers, witnessing domestic violence, and serious life-threatening accidents that occur during childhood, adolescence, and adulthood (Palmisano et al., 2016). Childhood maltreatment can result in difficulties in the person's ability to tolerate and process intense emotional experiences, particularly negative affect. This may be a consequence of not learning emotional regulation skills, particularly negative emotions, as well as the abuse itself (Schoe, 2003). Later, in an effort to cope with emotional situations that overwhelm them, maltreated individuals develop external behaviors that help avoid painful emotions (Briere & Scott, 2006). Such tension-reducing behaviors include behaviors such as self-harm, suicidal tendency, compulsive sexual behaviors, as well as eating disorders (Briere & Rickards, 2007).

Childhood distress and life stress factors are associated with an increased risk for substance use disorders in adulthood. However, there is limited research investigating the relationship between childhood trauma, stressors, and behavioral addictions such as gambling disorder (GD). In one study, the severity of childhood trauma was found to be significantly higher in patients with gambling disorders

compared to healthy controls. Childhood trauma is an important predictor of GD diagnosis, as physical neglect is the only trauma subtype that significantly increases the probability of GD in adulthood (Horak et.al, 2020).

The prevalence of child abuse has been reported as 5-10% in the general population (May-Chahal & Cawson, 2005). Child abuse is associated with numerous health-related factors, including alcoholism, suicide attempts, smoking, heart disease, cancer, stroke, diabetes, and depression (Felitti et al., 1998; Hussey et al., 2006). In addition to causing psychological and emotional effects such as anxiety disorders, shame, and emotional eating (Felitti, 1993; Vámosi, 2010), there are also various biological effects of biological abuse, such as increased inflammation, increased hypothalamic-pituitary-adrenal axis reactivity, sleep disturbances, and suppression of the immune system (Glaser & Kiecolt-Glaser, 2005; Hemmingsson, 2014).

1.3.2. Negative Past Experience and Obesity

The absence of life satisfaction and positive emotions is a serious problem because it predicts subsequent death and morbidity from the presence of negative emotions (Huppert & Whittington, 2003). More recently, studies in non-human primates have suggested that stressful psychosocial experiences in childhood may also be associated with the development of obesity, but the evidence in humans remains inconsistent (Kaufman et al., 2007; Conti et al., 2012, as cited in Danese & Tan, 2014).

Numerous studies have documented a strong association between binge eating or obesity and childhood sexual abuse (CSA) (Van Gaal et al., 2006; Leblanc et al., 2011). Several studies suggest an association between childhood sexual abuse and a diagnosis of binge eating disorder (BED), a condition strongly related to obesity. In a group of 145 patients with BED, 30.3% had a history of sexual abuse whereas only

18.4% of normal controls had such a history (Bentley et al., 2009). Similarly, in a sample of 162 women with BED, 35.3% reported a history of CSA, a rate significantly higher than 12.2% among controls (Boynton-Jarrett et al., 2012).

Alternatively, a traumatic experience such as sexual abuse can cause psychobiological disorder that can affect maladaptive behaviors, including disorganized eating (Burke et al., 2011). CSA or similar traumas can cause disturbances in the 5-hydroxytryptamine [5-HT] pathway (Chartier et al., 2009; D'Argenio et al., 2009), which has been shown to play a key role in regulating eating behavior (Danese et al., 2011; Felitti et al., 1991). Given the well-established relationship between BED and obesity, coupled with thought-provoking findings that point to a relationship between reduction in 5-HT activity and childhood trauma (D'Argenio et al., 2009) as well as binge eating (Felitti et al., 1991), it is possible that the relationship between CSA and obesity is mediated by binge eating. Because thinness is a component of the West's current ideals for female beauty and sexuality (Fuemmeler et al., 2009; Greenfield & Marks, 2009), some women victims of sexual abuse may experience their obesity as a way to protect themselves from the sexual advances of potential sexual partners or abusers (Gunstad et al., 2006; Hepgul et al., 2012; Wells et al., 2000; Bennett et al., 2010).

For some women with a history of sexual abuse, weight loss can trigger post-traumatic stress disorder symptoms as women approach the weight at which they are abused (King et al., 1996; Clark et al., 1992, as cited in Gustafson & Sarwer, 2004). Weiner and Stephenson (2002) suggested that some women may have 'barrier weights'. These are body weights and are usually lower than individuals' current weights and can cause a lot of concern if approached. Some female eating disorder

patients have been described to avoid certain body weights corresponding to events in their sexual history (Gustafson & Sarwer, 2004).

Intuitively, some CSA victims may be more susceptible to sexual fears than non-abused individuals and are therefore more likely to benefit from any reduction in these fears provided by their obesity. However, this idea has not yet been studied empirically (Gustafson & Sarwer, 2004).

In summary, several authors have suggested that for some subsets of obese CSA survivors, obesity may serve as an "adaptive function" that may protect against unwanted romantic or sexual interest. Preliminary results show that compared to non-abused individuals, CSA survivors are less satisfied with their obesity and are less likely to be successful in losing and maintaining weight (Gustafson & Sarwer, 2004).

A meta-analysis of 41 studies (190,285 participants) found that childhood maltreatment is associated with an increased lifetime risk of obesity (Danese & Tan, 2014). According to a developmental psychopathological model, traumatic experiences in childhood can negatively affect both brain development and various mental functions through different pathogenic mechanisms (for example, disruption of limbic hypothalamic-pituitary-adrenaline regulatory processes) (De Bellis & Zisk, 2014).

In addition, it is known that uncontrollable high-stress events and chronic stress can change eating behaviors and affect brain reward and motivation pathways (Sinha & Jastreboff, 2013). Therefore, childhood trauma is an important risk factor of various dysfunctional eating characterized by changes in brain reward and motivation pathways such as food addiction (Gearhardt et al., 2011; Imperatori, et al., 2015) and binge eating (Davis et & Carter, 2009; Schienle et al., 2009).

One study shows that exposure to early life stress is associated with adult obesity. Specifically, men who reported being bullied, rejected, or emotionally abused during childhood were more likely to be obese at the time of testing (Gunstad et al., 2006).

1.4. Risk-taking Behavior

1.4.1. Theories of Risk-taking Behavior

Risk-taking behavior is defined as any consciously or unconsciously controlled behavior that includes a perceived uncertainty about the potential benefits or harms for the physical, economic or psycho-social well-being of oneself or others. The concept of risk is largely related to the self-assurance against possible harm and the most accurate calculation of the related harms and benefits. Risk-taking is defined differently depending on the situation and perspective (Wilde, 1994). Choices that involve the uncertainty of a possible negative outcome are an important part of our daily life. In general, the decision an individual makes in a situation depends on his attitude to risk. Studies on risk-oriented behaviors of individuals in other situations, such as lifestyle or leisure activities, have shown that people often have a distorted risk perception (Zuckerman, 1979). When it comes to lifestyle risks where the extent of the negative outcome such as smoking, drinking alcohol, speeding or skydiving is more controlled under the control of the individual decision-maker, it is possible to observe that people willingly take this risk despite a possible risk of injury or illness for an existing pleasure (Borsky & Raschky, 2009).

Dysfunctional gambling appears to be associated with a wide range of risky behaviors (Westfal et al., 2000). Gambling and risky behaviors may have a common psychobiological history (Comings, 1998). Impulsivity, an important aspect of the personality of pathological gamblers (Steel & Blaszczynski, 1998), is associated with

risky behaviors (Petry, 2001), it is also related to a person's age and may decline as the individual ages (Pfohl, 1999).

Decision-making tests were mostly used to examine risk-taking behavior. Studies show that there are at least two types of decision making: decisions taken in uncertain situations and decisions made in risky situations. These two types of decision making also seem to be influenced by different types of neuropsychological functions. Decisions made in uncertain situations are less related to executive functions, and are thought to have an asymmetrical connection with working memory. Decision-making behavior in risky situations, on the other hand, is more related to sub-components of executive functions such as cognitive flexibility, category switching and monitoring, as it is associated with determining strategies for what to do in the future and following the rules (Brand et al., 2005, as cited in İçellioğlu, 2008).

1.4.2. Risk-taking Behavior and Obesity

Most studies on obesity have been conducted using decision-making tasks under uncertainty such as the Iowa Gambling Task (IGT), and it has been shown that individuals with obesity prefer superficially high, short-term rewards, despite subsequent long-term losses, compared to normal weight control (Brogan et al., 2010; Fagundo et al., 2012, as cited in Navas, 2016).

Studies in animal and human models show the importance of the reward system in eating behavior and obesity, as it guides the sensory ("liking") and motivational ("wanting") processes underlying hedonic eating (Appelhans, 2009). For example, most people show greater neural activation towards high-calorie foods than low-calorie foods in reward centers (Frank et al., 2016; Harding et al., 2018; Kahathuduwa et al., 2016, as cited in Gunstad et al., 2020). Some individuals react

more than others to food intake in reward centers (for example, the overeating model), and this response can be further amplified by frequent consumption of high-calorie foods (Devoto et al., 2018; Stice & Burger, 2019, as cited in Gunstad et al., 2020). The key structure associated with uncertainty and risk decision-making is reward sensitivity. Gray's Reinforcement Sensitivity Theory (1990) assumes that the behavioral approach system directs behavior to appetizing stimuli (for example, appetizing food) that provide immediate compensation and is represented by the 'sensitivity to reward' (SR). According to the somatic marker hypothesis that claims that emotional and internal states can influence decision making, obese individuals may prioritize positive somatic markers related to possible high immediate reward rather than negative somatic markers that stimulate negative consequences of the decision (Rotge et al., 2017). When a person faces a decision scenario, many thoughts arise and various "physical consequences" are briefly visible (somatic consequences being momentary changes in the body). The body sends signals through sudden and unexpected physical changes. Sweating, a rapid heartbeat, or a brief contraction of the body are examples of somatic marker activation signals. These physical changes may foreshadow decision-making. A somatic marker can direct attention to the positive or negative outcome of a specific action and serve as an automatic alarm (Damasio, 1994, as cited in Cabrera et al., 2020).

As defined in the field of addiction, obese individuals may therefore have 'myopia for the future (i.e. less sensitive to the long-term consequences of their decisions) or hypersensitivity to reward leading to behaviors towards the highest reward. Total IGT scores were significantly lower in obese individuals compared to healthy controls with normal weight (Rotge et al., 2017). Risky decision-making is impaired in obesity. The clinical significance of non-food-related decision-making

disorders remains to be evaluated, especially in terms of their results in daily life or achieving weight loss (Rotge et al., 2017). In other words, obesity is linked to a tendency to make risky decisions in experimental conditions, similar to daily food choices (Navas, 2016).

In two studies, it was found that overweight and obese men take more risks in a laboratory task than normal-weight men, and overweight and obese women are not different from normal-weight women in this respect. It has also been found that obese women show higher levels of impulsivity than women of normal weight (Koritzky et al., 2012). In another study, normal-weight participants consistently selected more cards from advantageous decks compared to the binge eating and obesity groups in the IGT trials. It has been found that those of these two groups who do not tend to underestimate the future tend to perform better on IGT (Davis et al., 2010).

High school students with extreme obesity were found to engage in many high-risk behaviors at rates comparable to their peers with a healthy weight. In some cases, a high school student with extreme obesity may do so in even more dangerous ways while engaging in these risky behaviors (for example, engaging in sexual activity while under the influence of alcohol or drugs, or starting smoking before the age of 13) (Ratcliff et al., 2011).

According to the DSM-5, impulsivity is characterized by an abrupt response to stimuli, an unplanned reaction on the spur of the moment or without consideration for the consequences, a problem programming or sticking to programs, a sense of urgency, and self-harming conduct in times of emotional turmoil (APA, 2013). There is also evidence that impulsivity and obesity features have an inherited component. Twin studies, for example, show that BMI has a heredity of 69–75 percent and delay discounting has a heritability of 46–62 percent (Anokhin et al., 2015; Crépin et al.,

2010, as cited in Meyre et al., 2019). Meyre and colleagues (2019) reported that increased impulsivity was associated with higher BMI. Sarisoy et al. (2013) found that morbidly obese individuals had greater impulsivity scores than healthy controls. Bénard and colleagues (2017) also discovered that obese people (particularly those with a BMI of more than 40 kg/m²) had a higher impulsivity score. Terracciano and colleagues (2009) also found that impulsivity was linked to being overweight or obese. In a study by Uncu and colleagues (2020), there was a significant difference in Barratt Impulsiveness Scale (BIS) total, BIS inattention, BIS motor impulsivity, and BIS nonplanning impulsivity scores between obese and nonobese people. The occurrence relapses into obesity during the treatment process is also influenced by impulsivity. People who are impulsive have a harder time controlling their eating habits. They also have a tendency to drop out of obesity treatment before completing it. Obesity is triggered by impulsivity for these reasons (Uncu et al., 2020).

1.5. The Relationship between Time Perspective, Negative Past Experience, Risk-taking Behavior and Obesity

In the literature, risk-taking behavior has been examined separately with both obesity, time perspective, and negative past experience. According to the somatic marker hypothesis (Bechara et al., 1994) that claims that emotional and internal states can influence decision making, obese individuals may prioritize positive somatic markers related to possible high immediate reward rather than negative somatic markers that stimulate negative consequences of the decision.

Previous studies showed that obese individuals performed poorly compared to normal controls on the Iowa gambling task (IGT), a psychological task used to simulate real-life decision making (Davis et al., 2010; Guillaume et al., 2015).

1.6. The Purpose of the Study

Despite consistent results in the literature, obesity, time perspective, negative past experience, and risk-taking behavior have not been studied together. Studies have shown that there is a relationship between obesity and time perspective, obesity and negative past experience as well as time perspective and risk-taking behavior, negative past experience, and risk-taking behavior. In this context, this study aimed to examine whether there is a relationship between obesity and risk-taking behavior. Whether time perspective and negative past experiences are related with risk taking behavior in both obese and healthy participants will also be investigated. In the light of the findings in the literature, we assume that a higher future time perspective is associated with lower risk-taking behavior and a higher present or past time perspective is associated with higher risk-taking behavior in obesity. Also, obese individuals are expected to have a lower future time perspective and a higher present hedonistic/present fatalistic/past negative time perspective compared to healthy participants. In addition, obese individuals are expected to have high past negative experience and be more prone to risk-taking behavior compared to healthy participants.

2. METHOD

2.1. Participants

Participants between the ages of 18-60 years with a body mass index (BMI) below 30 were selected for this study using a convenience sampling method. Obese individuals were reached from the Endocrinology and Family Practice departments of Istanbul Research and Training Hospital. Participants in the obese group had a BMI over 30 and were between the ages of 18-60 years. Participants with a history of pathological gambling, head injury with loss of consciousness, past or present psychological or neurological diagnoses were not included in the study. Psychologists have observed that people suffering from depression often exhibit impairments in their decision making (Blanco et al. 2013; Chen et al. 2015, as cited in Cobb-Clark et al., 2021). Therefore, participants with a Beck depression score above 30 were not included in this study. There were 44 participants in healthy group (23 women; 21 men), and 43 participants in obese group (22 women, 21 men) groups. The age of participants ranged between 18 and 58 years ($M = 32.02$, $SD = 10.42$). The average age of healthy participants was 30.24 years ($SD = 9.31$) whereas obese group had a mean age of 33.80 years ($SD = 10.42$) (See Table 1 for sociodemographic characteristics of the sample).

2.2. Instruments

The study consists of a questionnaire and two cognitive tasks. The cover page of the questionnaire contained an informed consent form (See Appendix A). This form contains the purpose of the study, the participation criteria, the researcher's contact information, and request for participant's consent. The questionnaire consisted of six main sections, respectively: (1) Sociodemographic form, (2) Zimbardo Time Perspective Inventory (ZTPI), (3) Beck Depression Inventory (BDI), (4) Childhood

Trauma Questionnaire (CTQ), Barratt Impulsiveness Scale-Short Form (BIS-11), and State-Trait Anxiety Inventory (STAI) (See Appendix B).

2.2.1. Sociodemographic Form

The first section of the questionnaire included a sociodemographic form. The demographic form consisted of questions about age, gender, height, weight, socioeconomic status, education level, gambling history, history of medical or psychiatric diagnosis or treatment, surgery, and history of head injury.

2.2.2. Beck Depression Inventory

Beck Depression Inventory (BDI), developed by Beck, is a self-report rating inventory consisting of 21 items that measures the characteristic attitudes and symptoms of depression. Each item is rated on a 4-point Likert scale. The cut-off score of 17 is commonly used to indicate the severity of clinical depression (Beck et al., 1961). Adaptation of the scale to Turkish was made by Hisli Şahin in 1988. The correlation coefficient between the Minnesota Multiphasic Personality Inventory Depression subscale and the Turkish version of BDI is .63, which indicates that the scale is a valid measurement tool. The internal consistency coefficient of the Turkish version of BDI is .80; the split-half reliability coefficient was found to be .74. The total scores obtained from the scale indicate "0-9 normal", "10 -16 mild depression", "17 -29 moderate depression", and "30 -63 severe depression".

2.2.3. State-Trait Anxiety Inventory

State-Trait Anxiety Inventory (STAI), developed by Spielberger et al. (1970), is a psychological inventory based on a 4-point Likert scale and consisting of 40 questions based on self-report. The STAI measures two types of anxiety: state anxiety or anxiety about an event, and the level of trait anxiety or anxiety as a personal trait. Commonly, the cut-off score of 40 is used to describe possible clinical anxiety levels

(Tilton, 2008). The first 20 items indicate State Anxiety (SA) by evaluating how a person feels at a given time. The other 20 items measure Trait Anxiety (TA), which evaluates individual differences in how anxiety becomes evident over time as a fixed personality trait (Barnes et al., 2002). The scale was adapted to Turkish in 1985 by Öner and Le Compte. The internal consistency coefficient of the scale ranges .83 and .87, test-retest reliability is between .71 and .86 and item reliability is reported to vary between .34 and .72 (Öner & Le Compte, 1998).

2.2.4. Barratt Impulsiveness Scale-Short Form (BIS-11)

The Barratt Impulsivity Scale-Short Form (BIS-11) is a questionnaire designed to evaluate the personality/behavioral structure of impulsivity (Spinella, 2007). The scale consists of 15 items that are rated on a 4-point scale. BIS-11 measures three dimensions of impulsivity: attention impulsiveness, motor impulsiveness, and non-planning impulsiveness (Patton et al. 1995). The scale was adapted to Turkish by Tamam and colleagues (2013). The maximum score on the scale is 60. High scores indicate a high level of impulsivity.

2.2.5. Childhood Trauma Questionnaire (CTQ)

Childhood Trauma Questionnaire (CTQ) is a self-report-based tool that is useful in quantitatively evaluating the experiences of abuse and neglect in childhood and adolescence (Bernstein et al., 1998). The current version of CTQ includes 28 items, each rated on a 5-point Likert type scale. Adaptation of the scale to Turkish was made by Şar and colleagues (2012). The total score is obtained with the scores of 5 subscales: emotional abuse, physical abuse, physical neglect, emotional neglect, and sexual abuse. The total score for the subscale score varies between 5-25, while the total score varies between 25-125. Cronbach's alpha is 0.95 for the Total Scale and

ranges from 0.71 to 0.92 for the factors, indicating high internal consistency (Aslan & Alparslan, 2000).

2.2.6. Zimbardo Time Perspective Inventory

The Stanford Time Perspective Inventory (STPI), developed by Zimbardo (1992), included five dominant orientations: past regret orientation future success orientation, two types of current orientation - hedonistic and fatalistic - and time pressure factor. However, this factor structure has proven to be relatively unstable (Lennings, 2000a, 2000b), and the Zimbardo Time Perspective Inventory (ZTPI), the latest modification of STPI, has been created (Zimbardo & Boyd, 1999), which compensates for the shortcomings of previous scales.

The 56-item Zimbardo Time Perspective Inventory (ZPTI), developed by Zimbardo & Boyd in 1999, measures individual differences in time orientation, or tendency to focus on different aspects of the past, present, and future. Adaptation of the scale to Turkish was made by Akirmak in 2019. The scale consists of 56 items each of which is rated on a 5-point Likert scale, and five sub-dimensions. The sub-dimensions of the questions are as follows: Present-Hedonist (PH), Present- Fatalistic (PF), Past-Negative (PN) Past-Positive (PP) and Future (F). The test-retest reliability of the scale is ranging from .70 to .80. According to the analysis, Cronbach's Alpha reliability values are as follows: Present-Hedonist .79, Present- Fatalistic .74, Past-Negative .82, Past-Positive .80, Future .77 (Zimbardo & Boyd, 1999).

2.2.7. Balloon Analogue Risk Task (BART)

The Balloon Analog Risk Task (BART) is a computerized measure of risk-taking behavior. This task was developed by Lejuez and colleagues in 2002.

Participants are given a balloon and asked to inflate it. When to stop depends on the participant. Participants earn a certain amount of money for each inflation. However,

if the balloon burst, the money earned is lost. This task has been implemented using data from OSFHOME (Pierce, 2019). The primary score used to measure BART performance is the adjusted average number of pumps in unexploded balloons, and higher scores indicate higher risk-taking tendency (Lejuez et al., 2002). In the original version of BART, each pump is worth \$ 0.05, and there are a total of 30 balloons with a range of different possibilities. The third block reliability was examined (ie, comparison of scores in the first block, middle, and third blocks of 10 balloons each), indicating strong reliability (> 0.7). Performance analysis between sessions shows a fairly robust test-retest correlation (T1 / T2 $r = .77$).

2.2.8. Iowa Gambling Task (IGT)

Iowa Gambling Task (IGT) was designed by Bechara and colleagues, 1994. IGT requires participants to draw from four decks of cards (called A, B, C, and D) to examine decision-making. With each card, the participant can win or lose money. Some decks are "advantageous" and other decks are "disadvantageous", and participants are expected to opt for good decks after a while (Cauffman et. al., 2010). This task has been implemented using data from GitHub (Margevicious, 2018). The participant can choose as many cards as they want from the deck they want. The test ends after the selection of 100 cards. The participant has \$ 2000 in his account and the participant is instructed to try to keep the money in his account above \$ 2000 as much as possible. If the participant's money falls below \$ 2000 before the test is over, the test will loan the participant another \$ 2000 again. Decks A and B provide more money in the short term than decks C and D, but cause more losses in the long run. When calculating the total score for the test, the formula of subtracting the number of cards selected from advantageous decks from the total number of cards selected from disadvantageous decks is used $[(A + B) - (C + D)]$. This calculation can be made for

the total score containing 100 cards or it can be calculated for 5 blocks divided into 20 cards. In the Turkish version of IGT, the currency was converted from Dollar (\$) to Turkish Lira (TL) by translating English words into Turkish. Besides these minor changes, the task was similar to the standardized computerized version of IGT.

2.3. Procedure

Participants first filled the informed consent form. Those who agreed to participate in the study were then given the following: Demographic Form, Balloon Analogue Risk Task (BART), Zimbardo Time Perspective Inventory (ZTPI), Beck Depression Inventory (BDI), Childhood Trauma Questionnaire (CTQ), Barratt Impulsiveness Scale Short Form (BIS-11), State-Trait Anxiety Inventory (STAI), and Iowa gambling task (IGT). All participants were given a debriefing form at the end of the study (See Appendix C). The study was approved by Yeditepe University Social Sciences and Humanities Ethics Board (See Appendix D).

2.4. Data Analysis

23th version of Statistical Package for the Social Sciences (SPSS) was used to analyze data (2015). Chi-square test for goodness of fit was used to compare the groups with respect to gender and education. All continuous variables were checked for normality via Shapiro-Wilk test. Nonparametric statistics were used for variables that significantly deviate from normal distribution. Therefore, Mann Whitney U test was used to compare the group with respect to mean age. Intergroup comparisons for depression, trait anxiety, impulsivity and time perspective (past negative, past fatalistic, present hedonistic) scores were conducted with Independent Samples T test. Mann Whitney U test was used to compare state anxiety, the subscales of impulsivity (non-planning, motor, attention), childhood trauma, past positive and future time

perspective scores. Benjamini-Hochberg correction was applied for multiple comparisons.

To test whether psychological state predicts neuropsychological performance, a series of Spearman correlational analyses were first carried out to test whether IGT and BART score was significantly correlated with depression, anxiety, impulsivity and time perspective scores. Stepwise multiple regression analyses were then used to identify whether variables that were significantly correlated with future time perspective, Barratt non-planning and body mass index (BMI) predicted performance on IGT. A simple regression analyses were then used to identify whether physical neglect score significantly predicted BART adjustment score.

3. RESULTS

3.1 Descriptive Information

Sociodemographic characteristics of the sample are provided in Table 2. There was a statistically significant difference between healthy and obese groups in terms of body mass index, $U(n1 = 44, n2 = 43) = .000, p = .000$. There was no statistically significant difference between healthy and obese groups in terms of gender, $X^2(1) = .011, p = .918$; age, $U(n1 = 44, n2 = 43) = 780.5, p = .159$; and education level, $X^2(3) = 1.053, p = .789$.

Table 2

Sociodemographic Characteristics of the Sample

	Total (N=87)	Healthy (N=44)	Obese (N=43)	p-value
Body Mass Index	29.14 (SD= 7.44)	23.00 (SD = 2.86)	35.42 (5.00)	<.001* ^U
Mean Age	32.28 (SD=10.50)	30.55 (SD = 9.39)	34.25 (SD = 11.30)	.159 ^U
Gender				.918 ^{X²}
Women	45 (51,7%)	23 (26,4%)	22 (25,3%)	
Men	42 (48,3%)	21 (24,1%)	21 (24,1%)	
Education				.789 ^{X²}
Primary/middle school	10 (11,5%)	4 (4,6%)	6 (6,9%)	
High school	18 (20,7%)	8 (9,2%)	10 (11,5%)	
Undergraduate	41 (47,1%)	22 (25,3%)	19 (21,8%)	
Graduate/Doctorate	18 (20,7%)	10 (11,5%)	8 (9,2%)	
Perceived SES				
Low	5 (5,7%)	2 (2,3%)	3 (3,4%)	
Moderate	71 (81,6%)	37 (42,5%)	34 (39,1%)	
High	11 (12,6%)	5 (5,7%)	6 (6,9%)	

SES: Socioeconomic status, U: Mann Whitney U Test was used, X²: Chi-square Test was used.

Table 3 demonstrates mean scale scores of the two groups. The only significant intergroup differences were obtained for the Non-planning subscale of BIS and Future subscale score of the ZTPI. In particular, the Barratt Non-planning Impulsivity score of obese group was significantly higher than healthy group, $U(n1 = 44, n2 = 43) = 687.0, p = .026$. When the Future Time Perspective scores were analyzed, it was seen that there was a significant difference between the two groups

$U(n_1 = 44, n_2 = 43) = 511.0, p = <.001$, and the healthy group scored higher on this scale than the obese group.

Table 3

Mean Depression, Anxiety, Impulsivity, Childhood Trauma and Time Perspective Scores of the Groups

	Total (N=87) <i>M/SD</i>	Healthy (N=44) <i>M/SD</i>	Obese (N=43) <i>M/SD</i>	<i>p-value</i>
Beck Depression	10.61 (6.04)	9.73 (6.28)	11.51 (5.71)	.169 ^t
State Anxiety	33.25 (10.71)	32.80 (11.33)	33.72 (10.14)	.434 ^U
Trait Anxiety	40.76 (9.72)	41.05 (11.02)	40.47 (8.30)	.782 ^t
Barratt Impulsivity	26.91 (4.83)	26.30 (4.01)	27.53 (5.52)	.233 ^t
Non-planning	7.63 (1.99)	7.16 (1.90)	8.12 (2.00)	.026* ^U (H<O)
Motor	9.38 (2.56)	9.61 (2.36)	9.14 (2.76)	.268 ^U
Attention	9.90 (2.38)	9.52 (1.95)	10.28 (2.73)	.179 ^U
Childhood Trauma	33.78 (10.25)	33.57 (11.28)	34.00 (9.22)	.272 ^U
Emotional Abuse	6.77 (3.40)	7.14 (4.00)	6.40 (2.65)	.442 ^U
Physical Abuse	5.68 (2.01)	5.61 (1.74)	5.74 (2.27)	.458 ^U
Physical Neglect	6.86 (2.54)	6.41 (2.08)	7.33 (2.88)	.099 ^U
Emotional Neglect	9.00 (4.55)	8.89 (5.05)	9.12 (4.02)	.370 ^U
Sexual Abuse	5.47 (1.60)	5.52 (1.56)	5.42 (1.65)	.746 ^U
Time Perspective				
Past Negative	30.13 (8.40)	28.82 (8.86)	31.47 (7.77)	.143 ^t
Past Positive	32.31 (6.46)	32.11 (6.68)	32.51 (6.30)	.560 ^U
Present Fatalistic	22.17 (4.93)	21.55 (4.93)	22.81 (4.90)	.232 ^t
Present Hedonistic	49.20 (7.89)	48.95 (6.83)	49.44 (8.92)	.776 ^t
Future	49.66 (6.24)	51.98 (5.28)	47.28 (6.30)	<.001* ^U (H>O)

H: Healthy group, O: Obese group.

t: Independent Sample T-test was used, U: Mann Whitney U Test was used.

** p values that are significant after the Benjamini-Hochberg Correction are shown in bold.*

The results of the Iowa Gambling Task analysis evaluating the decision-making performance also show that the total scores of the two groups significantly differed $U(n_1 = 44, n_2 = 43) = 382.0, p = <.001$, with the obese group ($M = -10.74, SD = 28.31$) scoring lower than the healthy group ($M = 16.45, SD = 23.48$). In addition, it was observed that there was a significant difference between the two groups in all sub-scores of the Iowa Gambling Task, with the healthy group showing a consistently better performance. Furthermore, there was a significant change in the healthy

group's IGT performance between the first 40 and last 60 deck selection, Wilcoxon $z(n = 44) = -3.77, p < .001$, showing an improved performance in the second half. However, there was no significant change in the obesity group, Wilcoxon $z(n = 43) = -.59, p = .553$ (See Figure 1).

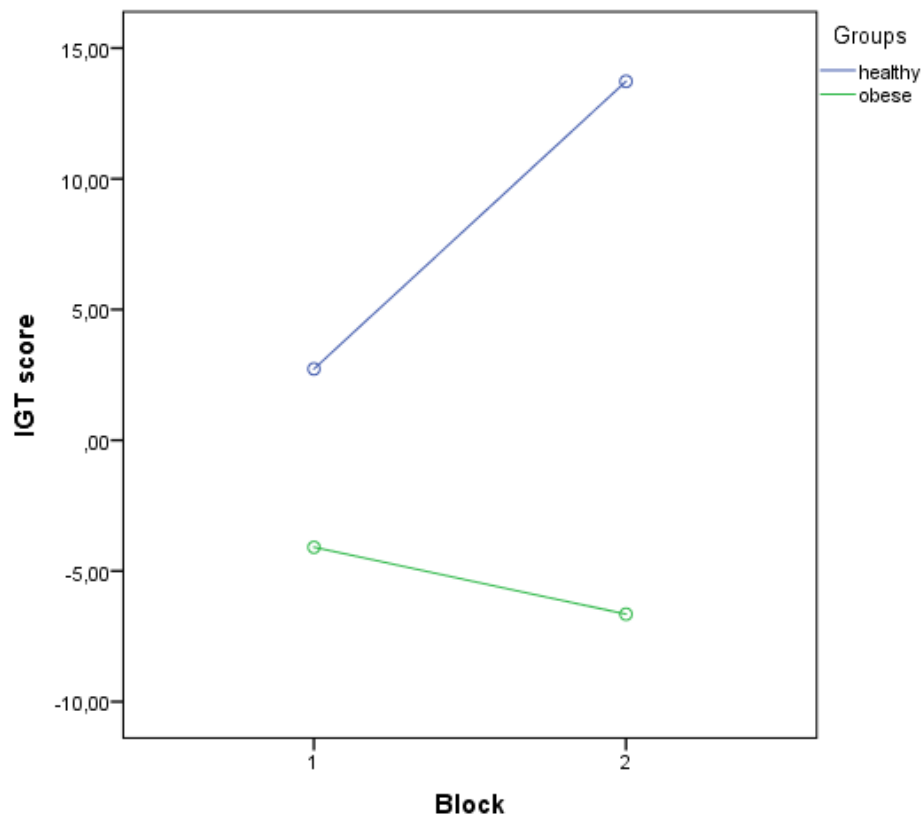


Figure 1. IGT block-based performance comparison between groups.

Another measure of decision making performance, Balloon Analogue Risk Task scores and sub-scores were analyzed, and no difference was found between the groups (see Table 4).

Table 4

Decision Making Performance of the Groups

	Total (N=87) M/SD	Healthy (N=44) M/SD	Obese (N=43) M/SD	p-value
Iowa Gambling Task				
Total score	3.01 (29.23)	16.45 (23.48)	-10.74 (28.31)	<.001* ^U (H>O)

First 40 performance	-.64 (9.35)	2.73 (6.70)	-4.09 (10.45)	.001* ^U (H>O)
Last 60 performance	3.66 (23.64)	13.73 (20.34)	-6.65 (22.49)	< .001* ^U (H>O)
The difference in first 40 and last 60 performance	4.30 (20.94)	11.00 (19.14)	-2.56 (20.69)	.001* ^U (H>O)
Balloon Analogue Risk Task				
The average number of pumping	8.10 (4.34)	8.67 (4.65)	7.51 (3.97)	.302 ^U
The average number of successful pumpings	9.44 (6.13)	10.41 (6.56)	8.45 (5.56)	.178 ^U
The average number of failed pumpings	6.48 (3.24)	6.53 (3.55)	6.43 (2.92)	.993 ^U
Total number of balloons that burst	10.28 (4.33)	10.59 (4.06)	9.95 (4.62)	.496 ^t
The average number of pumpings after successful balloons	8.25 (5.09)	8.85 (5.04)	7.63 (5.12)	.207 ^U
The average number of pumpings after failed balloons	7.70 (4.45)	8.31 (4.83)	7.07 (3.98)	.266 ^U
BART adjustment	.55 (3.32)	.54 (2.89)	.56 (3.75)	.628 ^U

H: Healthy group, O: Obese group.

t: Independent Sample T-test was used, U: Mann Whitney U Test was used.

** p values that are significant after the Benjamini-Hochberg Correction are shown in bold.*

3.2 The Relationship of Iowa Gambling Task (IGT) Performance with Sociodemographic Features, Psychological Tests, and Time Perspective

Spearman's correlation analysis was used to examine the relationship of Iowa Gambling Task (IGT) performances, which measures risk-taking behavior, with sociodemographic characteristics (see Table 5), as well as depression, anxiety, impulsivity, childhood trauma, and time perspective scores (see Table 6). When the correlation of all parameters with IGT was analyzed, only 4 variables were found to be significantly correlated.

A significant negative relationship was found between IGT total score and Body Mass Index (BMI); $r_s = -.405$, $p < .001$. The results indicated that as BMI increases, IGT performance decreases.

Table 5

Correlation Table for Iowa Gambling Task Performance Total Score and Sociodemographic Characteristics of the Sample (n=87)

Variable	r_s	p
1. Age	-.044	.684
2. Gender	-.033	.765
3. Body Mass Index (BMI)	-.405	<.001*

* p values that are significant after the Benjamini-Hochberg Correction are shown in bold.

In addition, there was a statistically significant negative correlation between IGT total score and Barratt Non-planning score; $r_s = -.224$, $p = .037$. As the Barratt Non-planning Impulsivity of the participants increases, their score on IGT decreases. Finally, a significant positive correlation was observed between IGT total score and Future TP score; $r_s = .471$, $p = <.001$, indicating that as Future TP increases, IGT performance increases, as well.

Table 6

Correlation Table for Iowa Gambling Task Total Score Performance and Depression, Anxiety, Impulsivity, Childhood Trauma and Time Perspective (n=87)

Variable	r_s	p
1. Beck Depression	-.071	.512
2. State Anxiety	-.045	.678
3. Trait Anxiety	.043	.695
4. Barratt Impulsivity	-.202	.061
5. Barratt Non-planning	-.224	.037*
6. Barratt Motor	-.050	.649
7. Barratt Attention	-.095	.384
8. Childhood Trauma	.007	.951

9. Emotional Abuse	.152	.160
10. Physical Abuse	-.074	.495
11. Physical Neglect	-.005	.964
12. Emotional Neglect	.001	.993
13. Sexual Abuse	-.030	.785
14. Past Negative TP	-.087	.422
15. Past Positive TP	.067	.535
16. Present Fatalistic TP	-.024	.827
17. Present Hedonistic TP	-.107	.323
18. Future TP	.471	<.001*

TP: time perspective

* *p* values that are significant after the Benjamini-Hochberg Correction are shown in bold.

3.3 The Relationship of Balloon Analogue Risk Task (BART) Performance with Sociodemographic Features, Psychological Tests, and Time Perspective

Spearman's correlation analysis was used to examine the relationship of Balloon Analogue Risk Task (BART) performances, which measures risk-taking behavior, with sociodemographic characteristics (see Table 7), depression, anxiety, impulsivity, childhood trauma, and time perspective (see Table 8). When the correlation of all parameters with BART performance was analyzed, a statistically significant correlation was found only with the physical neglect scale. There was a statistically significant negative correlation between BART adjustment score and physical neglect, $r_s = -.232$, $p = .031$. It was observed that other variables were not correlated with BART performance and its sub-scores.

Table 7

Correlation Table for Balloon Analogue Risk Task (BART) Adjustment Performance and Sociodemographic Characteristics of the Sample (n=87)

Variable	r_s	p
1. Age	-.029	.789
2. Gender	-.095	.380
3. Body Mass Index (BMI)	-.086	.430

Table 8

Correlation Table for Balloon Analogue Risk Task (BART) Performance and Depression, Anxiety, Impulsivity, Childhood Trauma and Time Perspective (n=87)

Variable	r_s	p
1. Beck Depression	.024	.824
2. State Anxiety	-.176	.104
3. Trait Anxiety	-.157	.145
4. Barratt Impulsivity	.150	.166
5. Barratt Non-planning	.109	.317
6. Barratt Motor	.051	.641
7. Barratt Attention	.173	.109
8. Childhood Trauma	-.115	.287
9. Emotional Abuse	-.053	.625
10. Physical Abuse	-.088	.417
11. Physical Neglect	-.232	.031*
12. Emotional Neglect	-.136	.208
13. Sexual Abuse	.086	.427
14. Past Negative TP	-.148	.173
15. Past Positive TP	.057	.601
16. Present Fatalistic TP	.082	.450
17. Present Hedonistic TP	-.023	.833
18. Future TP	-.155	.153

* p values that are significant after the Benjamini-Hochberg Correction are shown in bold.

3.4 Investigation of Factors Predicting IGT and BART Performance

A stepwise regression analysis was carried out to test whether BMI as well as Barratt Non-planning and Future TP scores significantly predicted total IGT score. Only Future TP score entered the equation and explained 21% of the variance; $F(1, 85) = 23.126$, $p < .001$ (See Table 9).

Table 9*Regression Coefficients of Future Time Perspective on Iowa Gambling Task Total**Score Performance*

Variables	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Constant	-104.60	22.55	-4.64	<.001	[-149.43, -59.76]
Future Time Perspective	2.17	.45	4.81	<.001	[1.27, 3.06]

Adj. $R^2 = .205$

A simple regression analysis was carried out to test whether physical neglect score significantly predicted BART adjustment score. The results indicated that physical neglect was not a significant predictor, $F(1, 88) = 3.081$, $p = .083$.

4. DISCUSSION

The present study may be one of the first studies on the relationship of time perspective and negative past experience with risk-taking behavior in obesity.

Although there have been separate groups of research that examined the relationship between time perspective and obesity (e.g., Guthrie et al., 2014), the relationship between negative past experience and obesity (e.g., Kaufman et al., 2007; Conti et al., 2012; Van Gaal et al., 2006; Leblanc et al., 2011), I was not able to find a study that investigated all these variables at the same time.

In this study, a comparison was made between two groups, healthy and obesity groups, in terms of time perspective, past negative experience, and risk-taking behavior. In general, one of the prominent differences between the two groups is the difference in the performance of the Iowa Gambling Task, which measures risk-taking behavior. It was observed that healthy participants performed significantly better than obese participants and gradually increased their scores during the test with the effect of learning. Obese individuals not only had low scores, but also showed progressively worsening performance throughout the test. Looking at these results, it is seen that obese individuals perform more risk-taking behaviors compared to healthy participants. Consistent with our findings, most studies on obesity have used decision-making tasks under uncertainty, such as the Iowa Gambling Task (IGT), and individuals with obesity appear to prefer high, short-term rewards despite long-term losses, and their IGT performance has been shown to be worse compared to normal-weight participants (Fagundo et al., 2012; Brogan et al., 2010).

In order to understand the reason for the difference in IGT performance, the relationship of other variables affecting test performance with risk-taking behavior was examined. It will be more explanatory to examine these variables under two

headings. One of the variables we saw in the literature was Time Perspective. Some people prioritize thinking more broadly for the future from the subjective perspective of time, and often choose to invest today for future earnings. In the present or past tense perspective, individuals' thoughts and motivations focus on near or short-term considerations rather than more distant future possibilities. Those with a fatalistic time perspective often believe that life is destiny and that it is pointless to try to change it, and therefore do not prefer to take control of situations. In the current hedonistic time perspective, individuals focus on the sense of pleasure, avoidance of discomfort, taking risks, and seeking (Metcalf & Zimbardo, 2016).

According to the findings of studies examining the relationship between obesity and time perspective, individuals who were more future-oriented reported more recreational activity than those less future-oriented. On the other hand, smoking, obesity, or exercise were not linked to current fatalistic or hedonistic perspectives (Guthrie et al., 2013). In another study, having a greater future time perspective predicted higher self-control and a lower BMI. In contrast, a higher BMI and lower self-control were associated with a greater present time perspective (Price et al., 2017).

From this point of view, Time Perspective is expected to explain the difference between the risk-taking behavior of the healthy and obese groups. The findings of the current study indicate a relationship between future time perspective and risk-taking behavior. This result is not surprising, as, in accordance with the literature, people with a future time perspective are expected to always focus on the possible consequences of present decisions and actions, dedicating themselves to delaying gratification and avoiding time-wasting temptations for future goals and the rewards that accompany them, often at the expense of missing present pleasure (Boniwell &

Zimbardo, 2004). When we put these people in a task where their risk-taking behavior is tested, they will make less risky choices. However, in line with the test results, we can see that people who invest less in the future time perspective make more risky choices. In addition, it can be said that the key structure associated with uncertainty and risk decision-making is reward sensitivity. According to the somatic marker hypothesis, which claims that emotional and internal states can influence decision making, obese individuals may prioritize positive somatic markers related to possible high immediate reward over negative somatic markers that warn of negative consequences of the decision. The somatic marker hypothesis also asserts that obese individuals experience 'future myopia' (i.e. they are less sensitive to the long-term consequences of their decisions), or hypersensitivity to rewards, which leads to the highest reward-oriented behaviors. The somatic marker generates a mental picture from a positive or negative bodily perceived experience, from which a feeling that will influence decision making emerges. In addition to forewarning us about the decisions, the somatic marker serves to narrow the range of options presented by the images, thus contributing to the subsequent reasoning process. The process is repeated with a positive somatic marker, creating an incentive for that image, i.e., it improves the accuracy and efficiency of the decision process and decreases both in the absence of it. Through sensations, the images depicted in the body are constantly updated. Thus, feelings translate our bodily state and create an image that is juxtaposed with the image of other external objects and situations, resulting in a representation that assigns a meaning of pain or pleasure (Damasio, 1994). However, this efficient and responsive system in evasion or predation does not protect us from harmful choices like smoking or overeating. When it comes to the process of losing weight in obese women, it is true that, while the obesity condition is a significant source of distress,

causing a negative energy balance in order to reverse the obesity process is always a task that requires great effort, and includes relapses and frustration. It appears that the compensation system is more effective in actions that provide immediate gratification. The immediate and tangible satisfaction that food provides these women outweighs the clear and delayed satisfaction that losing weight would provide in the medium to long term (de Meira Leite & Rubio, 2014). The reason why people cannot make advantageous decisions is attributed to the lack of the emotional mechanism that quickly indicates the possible consequences of an action and causes them to develop appropriate behavior. The absence of these emotional signals causes them to be unable to make a rational cost-benefit analysis of options associated with current and future outcomes (Bechara et al., 2005). The findings of this study reveal that obese individuals prioritize positive somatic signals over negative somatic signals, invest less in the future, and focus on immediate results. This study expected a low future time perspective as well as a high present time perspective and high past negative time perspective in obese individuals. However, finding a significant result only with the future time perspective can be explained by the fact that there are more consistent results about the future time perspective and less consistent results about other time perspectives in the literature (e.g., Guthrie et al., 2013; Guthrie et al., 2014; Henson et al., 2006; Daugherty & Brase, 2010; Joireman et al., 2012; Dassen et al., 2015, as cited in Price et al., 2017; Tucholska, 2021).

In addition to the Time Perspective, there are also studies examining the difference in risk-taking behavior between healthy and obesity groups from the perspective of Past Negative Experiences. When we examine the literature, quite consistent results are seen. Abused individuals develop external behaviors that help avoid painful feelings (Briere & Scott, 2006). Behaviors that reduce such tension are

associated with self-harm, suicidal tendencies, compulsive sexual behaviors, and eating disorders (Briere & Rickards, 2007). In this context, it can be thought that these people are prone to risky behaviors. In addition, it is known that uncontrollable high-stress events and chronic stress can change eating behaviors and affect brain reward and motivation pathways (Sinha & Jastreboff, 2013). Therefore, childhood trauma, through leading to changes in brain reward and motivation pathways, might be an important risk factor for various dysfunctional eating patterns, including food addiction (Gearhardt et al., 2011; Imperatori, et al., 2015), and binge eating (Davis et al. & Carter, 2009; Schienle et al., 2009). Numerous studies have documented a strong association between binge eating or obesity and childhood sexual abuse (CSA) (Van Gaal et al., 2006; Leblanc et al., 2011). Some authors have suggested that for obese CSA survivors, obesity may serve as an "adaptive function" that may protect against unwanted romantic or sexual interest. Because of this function, it is thought that obese individuals are less likely to be less successful in losing and maintaining weight (Gustafson & Sarwer, 2004). Similarly, Weiner and Stephenson (2002) hypothesized that some women may have 'barrier weights'. These are body weights that are usually lower than individuals' current weights and can cause a lot of concern when approached. It has been described that some female eating disorder patients avoid certain body weights corresponding to events in their sexual history (Gustafson & Sarwer, 2004). Despite such consistent results in the literature, this study could not show the relationship of Past Negative Experiences with risk-taking behavior in obesity. One of the reasons for this may be that the Past Negative Experiences scale is based on self-report. Sometimes it is undesirable to express these difficult experiences accurately by the participants.

Previous research has also shown an association between high impulsivity as measured by the BIS-11 and weight status, where highly impulsive participants were more likely to be overweight or obese (Bénard et al., 2017). The BIS-11 measures impulsivity across three subscales: attentional impulsivity (inability to focus attention or concentrate), motor impulsivity (acting without thinking), and non-planning impulsivity (lack of future orientation or forethought) (Meule, 2013). Based on the definition of the non-planning impulsiveness which means lack of future orientation, it can be thought that specifically this subdimension has similar results with the future time perspective on risk-taking behavior, which is defined as investing in the future. It is understandable that obese individuals invest less in the Future Time Perspective, thus unable to plan.

In this section, the different results between IGT and BART scores, which measure risk-taking behavior, will be interpreted. Current study revealed significant differences between the groups with respect to their IGT performances, with healthy group performing better in all IGT measure. However, no such difference was observed in BART performance.

There is a fundamental difference between IGT and other risk-taking tasks. This difference is based on the way in which information about the content of the task is presented. While all tasks except IGT present information about the content of the task in a clear manner during decision making, all information is implicit during IGT, especially in the first blocks (Li, Lu, D'Argembeau, Ng, Bechara, 2010, as cited in Ulu, 2019). Although both IGT and BART were designed to assess decision making, studies show that the scores obtained on both tests do not show any correlation. This clearly demonstrates that IGT and BART measure different aspects of decision making. BART is more directly related to risk, while IGT involves more complex

cognitive functions (Balagueró, 2016). Based on the study of Brand et al. (2007), the reason for the weak relationship between IGT and BART performance can be attributed to the idea that decision-making performance during IGT consists of two phases. In the first phase; while it is defined as “decision making under uncertain conditions” because the rules regarding losses and gains are implicit for the participant, in the second phase; decisions are defined as “decisions at risk” because they are influenced by clear information, although implicit, about the risks in each deck. Accordingly, he claims that the second phase, not the first phase, of IGT has the strongest relationship with executive functions (Brand et al., 2007, as cited in Ulu, 2019). Executive function factors that may be associated with IGT; visual learning/memory, verbal learning/memory, and fluency. Other non-executive neuropsychological areas are defined as attention and processing speed. Structural equation modeling has shown that IGT can be explained by the attention factor from the beginning to the end (1-100), while executive functions can be effective after the 40th card selection (Gansler et al., 2011, as cited in Ulu, 2019). After the 40th card selection in IGT, decision making process is started under risk, so it can be expected that there will be a correlation between the last 60 card selection of IGT and BART scores. However, the results of the current study failed to find such a pattern.

Although BART and the second part of the IGT both look at decision making at risk and are more affected by executive functions, the different design of the two tests may at least partially explain why they yielded differential results (i.e., obese group performed worse than healthy group in IGT but not BART). In order to understand the logic involved in the task's reward and punishment processes, IGT requires preserved capacities in more complex cognitive abilities such as mnemonic and attentional functions, executive functions, and language (Bechara, et al., 1994).

Unlike IGT, BART does not follow a set of rules, as the explosions happen randomly (Lejuez, et al., 2002, as cited in Balagueró et al., 2016). As a result, we are faced with two tasks which assess different cognitive aspects. The IGT requires participants to have well-preserved complex verbal comprehension skills, as well as good functioning of most executive functions. BART is an easier test than IGT, not only in terms of implementation, but also in terms of understanding (Balagueró et al., 2016). This may have prevented the two tests from giving consistent results.

While decision-making behavior includes some logical analysis in certain situations, it includes the evaluation of advantages and disadvantages in uncertain situations. While many individuals make definite and easy decisions in certain situations, that is, in certain situations, there are variations and individual differences in decision-making behavior in uncertain situations that require us to evaluate the advantage or disadvantage (Lamar, 2006, as cited in İçellioğlu, 2008). Brand argues that decision making under risky situations can occur independently of somatic marker (Brand et al., 2006). In fact, they argue that people can make advantageous decisions only with logical and cognitive processes (Brand et al., 2006, as cited in İçellioğlu, 2008). Different studies investigated the relationship between IGT and several executive function measures (Tower of London Test, Wisconsin Card Sorting Test, and Stroop Test). The IGT is a particularly sensitive test of decision-making and brain areas related to this function such as dorsolateral prefrontal cortex, anterior cingulate cortex, ventrolateral prefrontal cortex and orbitofrontal cortex. Although there is a link between IGT and executive relations, there are also studies that have shown that normal executive function performance can be preserved despite poor IGT performance. In İçellioğlu's study (2008), no correlation was found between IGT performance and the performances of other executive function tests. In the light of all

this information, poor decisions made in IGT may not always indicate executive dysfunction, so a low IGT score does not mean that BART performance associated with executive functions will also be low. Assuming that while BART measures "decision-making under risky situations", Iowa measures both uncertain and risk-based decision-making, looking at IGT performance in obese and healthy individuals, we can argue that these two groups differ in terms of "decision making under uncertain situations". The differentiation of future time perspective and Barratt nonplanning scores, which we found in our research, may also support this result. The future is uncertain, individuals who do not invest in the future and are bad at planning may turn to disadvantageous rather than advantageous choices under such uncertain situations. In addition, these different results support the Somatic Marker Hypothesis. As we mentioned earlier, the reason why people cannot make advantageous decisions is due to the lack of emotional mechanism that quickly shows the possible consequences of an action and causes them to develop appropriate behavior under uncertain situations. The absence of these emotional signals causes them to be unable to make a rational cost-benefit analysis of options associated with current and future outcomes (Bechara et al., 2005). Perhaps obese individuals cannot benefit from these signals when making decisions under uncertain situations, and they can make more advantageous choices in risky situations where executive functions are at the forefront without uncertainty.

When we look at the brain structure of decision making, it has been reported that the orbitofrontal cortex (OFC) and anterior cingulate cortex (ACC) are important for risk estimation, while the ventrolateral prefrontal cortex (VLPFC) is activated when participants receive negative performance feedback. Decreased activity in these regions have been associated with an increase in risky behaviors in decision making

and a weakness in the ability to evaluate feedback obtained from previous decisions (Eshel et al., 2007, as cited in Ulu, 2019). In a study aiming to identify brain regions claimed to support risk-taking behavior in individuals with obesity, altered neural activity in the insula and ventromedial prefrontal cortex have been indicated as neural correlates of risky decision making in obesity (Steward et al., 2019). The orbitofrontal cortex is also involved in perceiving how rewarding stimuli are and learning the relationships between visual stimuli and rewarding or punishing outcomes (Hornak et al., 2004, as cited in Yazici & Yazici, 2010). In addition, in studies on obesity and the reward system, connectivity analyzes of the thalamus, insula, putamen and orbitofrontal cortex regions were examined; decreased cortical volume and thicknesses have been observed to in the insula, thalamus, and orbitofrontal cortex (Marques-Iturria et al., 2013; Shott et al., 2015; Opel et al., 2015, as cited in Kilic et al., 2017). The different performances in decision-making processes under uncertainty between healthy and obese individuals may perhaps be due to changes in activity in these parts of the brain.

4.1. Clinical Implications of the Study

Given the future importance of health promotion, the time perspective has attracted attention as a factor that can explain individual differences in health behavior. Those who are more forward-looking are predicted to be more likely to engage in healthy behaviors than those who are less forward-looking. Studies on various health behaviors have supported this hypothesis, although it is not uniformly (Guthrie et al., 2014). However, a time perspective intervention to develop long-term thinking about physical activity leads to increased levels of physical activity (Hall & Fong, 2003), suggesting that time perspective may be causally related to health behavior that prevents obesity.

It may be important to focus on the subjective Time Perspective in the psychological interventions of obese individuals and to conduct original studies on how this perspective has developed. Time perspective is thought to have cognitive, emotional, and social components. The formation of time perspective is influenced by several factors, some of which are learned during the socialization process, such as the individual's cultural values, dominant religious orientation, type of education, socioeconomic status, and family model. However, time perspective can also be affected by the nature of a person's career, economic or political instability, personal experiences, traumatic events, or personal achievements throughout a person's lifelong development (Lennings, 1998). Revealing these factors and creating a balanced perception of time perspective can be an intervention method for obese individuals.

It is also important to understand the source of the impulsivity of obese individuals. Clarifying its relationship to brain activity will also help in treatment planning. Our study found that obese individuals performed worse in decision making under uncertain situations compared to healthy participants. Understanding what uncertain situations mean for people with obesity and how they affect their lives will also provide insight into understanding these people.

4.2. Limitations and Suggestions for Future Studies

This study was conducted face-to-face during the Covid-19 pandemic period. For this reason, it could be done with a limited number of participants. Both the pandemic conditions and the duration of the data collection process (which lasted around 60 minutes) may have created a burden on the participants. This might have affected the reliability of the answers given. In addition, all scales were based on self-report. As with all self-report scales, the scores reported by the participants may not

determine their actual characteristics. Therefore, in future studies, the application of cognitive tests and brain imaging studies to participants, in addition to self-report scales, will provide a more comprehensive understanding of the topic. It will also be useful to measure galvanic skin response in future studies to better explain the somatic marker hypothesis, as the theory is largely based on skin conductance response (Bechara & Damasio, 2005).

4.3. Conclusion

In conclusion, this study revealed that obese individuals could not benefit from somatic markers under uncertainty and developed more risk-taking behavior compared to healthy participants. It has been observed that these people cannot make appropriate choices in situations of uncertainty, and they do not prefer to invest in the future under such circumstances. Increased risk-taking behavior in obese individuals has been associated with less investment in the Future Time Perspective. For this reason, it may be important for mental health professionals working with obese individuals to refer to the Time Perspective as an intervention method and to examine its origins. It may also be important to understand what uncertain situations mean to them and what impact they have on them, and to plan treatment.

It can be said that very short distances are still covered in the treatment of obesity. Although some people lose weight with treatment, they can regain the weight they lost in a short time (Nederkoorn, 2007, as cited in Annagür et al., 2012). Moreover, one possible predictor of relapse in obesity treatment is impulsivity. Studies have shown that obese people are more impulsive than those with a healthy weight. Impulsive people state that they could not control their eating behavior and they are more interested in delicious and high-calorie foods. Impulsivity has also been shown to be a predictive factor for discontinuation of treatment (Hjördis & Gunnar,

1989, as cited in Annagür et al., 2012). More research is also needed to determine whether assessing individual personality traits such as impulsivity plays a larger role in obesity prevention and treatment strategies. Specific cognitive behavioral approaches developed for the treatment of impulsive behavior have the potential to make a significant contribution to the treatment of obesity (Psychiatry and Clinical Psychopharmacology, 2011). All of this information should be used to guide treatment planning.



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Appendix A: Informed Consent Form

Bilgilendirilmiş Onam Formu

Bu tez çalışması Yeditepe Üniversitesi bünyesinde Dr. Öğretim Üyesi Ezgi Soncu Büyükişcan danışmanlığında Klinik Psikoloji Yüksek Lisans Programı öğrencisi Selin Kılıçkaya tarafından yürütülmektedir. Çalışmada karar alma mekanizmaları ile bazı kişisel özellikler arasındaki ilişkiye dair bilgi edinilmesi amaçlanmaktadır. Çalışmada katılımcılardan sırasıyla bir balon oyunu oynamaları istenecektir. Araştırmaya tahminen 25-35 dakika ayırmanız istenmektedir. Çalışmanın amacına ulaşması için sizden beklenen, bütün soruları eksiksiz ve size en uygun gelen cevapları işaretleyecek şekilde cevaplandırmanızdır.

Bu çalışmaya katılmak tamamen gönüllülük esasına dayanmaktadır. Bu formu okuyup onaylamanız araştırmaya katılmayı kabul ettiğiniz anlamına gelmektedir. Ancak çalışmaya katılmama veya katıldıktan sonra herhangi bir anda çalışmayı bırakma hakkına da sahipsiniz. Araştırmada sorulan sorulardan bazıları duygularınız ve geçmiş yaşantılarınız ile ilgilidir. Bu sorular bazı kişilerde olumsuz duygu ve düşünceler uyandırabilir. Böyle bir durumla karşılaştığınızda o soruları cevaplandırmama ve katılımınızı sonlandırma hakkına sahipsiniz. Ayrıca ihtiyaç duymanız ve talep etmeniz halinde araştırmacı (Selin Kılıçkaya) psikolojik destek almanız konusunda sizi yönlendirebilir.

Araştırma yüz yüze yürütülecektir. Bu çalışmadan edinilecek bilgiler tamamen araştırma amacı ile kullanılacaktır. Araştırma boyunca herhangi bir ses ya da görüntü kaydı alınmayacak, kişisel verileriniz kimlik bilgilerinizden arındırıldıktan sonra anonim olarak işlenecektir.

Yukarıda yer alan bilgileri okudum ve katılmam istenen çalışmanın amacını ve gerekliliklerini anladım. Çalışmaya gönüllü olarak katılmayı

☐ Kabul Ediyorum

☐ Kabul Etmiyorum

KOD:

Tarih:

Appendix B: Sociodemographic Form

DEMOGRAFİK BİLGİ FORMU**KOD:** _____**Yaşınız:** _____**Cinsiyetiniz:**

- ☐ Kadın
- ☐ Erkek
- ☐ Diğer

Eğitim Durumunuz (en son mezun olduğunuz okul):

- ☐ İlkokul
- ☐ Ortaokul
- ☐ Lise
- ☐ Üniversite
- ☐ Yüksek Lisans
- ☐ Doktora

Boyunuz (cm): _____**Kilonuz (kg):** _____**Düzenli kumar oynuyor musunuz?:**

- ☐ Evet
- ☐ Hayır

Sosyoekonomik düzeyinizi nasıl tanımlarsınız?:

- ☐ Düşük
- ☐ Orta
- ☐ Yüksek

Herhangi bir kronik hastalığınız var mı? Varsa hastalığınızın ne olduğunu belirtiniz.

Herhangi bir ameliyat geçmişiniz var mı? Varsa ne ameliyatı olduğunuzu belirtiniz.

Şu anda herhangi bir psikolojik/psikiyatrik/nörolojik rahatsızlık tanınız var mı? Varsa tanınızın ne olduğunu belirtiniz.

Geçmişte herhangi bir psikolojik/psikiyatrik/nörolojik rahatsızlık tanısı aldınız mı? Aldıysanız tanınızın ne olduğunu belirtiniz.

Hiç şuur kayıplı kafa travması geçirdiniz mi?

ZIMBARDO TIME PERSPECTIVE INVENTORY

Her maddeyi okuyunuz, ve her madde için olabildiğince dürüst bir şekilde "Sizin karakterinizi ne kadar yansıtıyor veya sizin için ne kadar doğru?" sorusunu cevaplayınız. Aşağıdaki ölçeği kullanarak uygun kutucuğu işaretleyiniz.

	(1) Hiç doğru değil	(2) Doğru değil	(3) Ne doğru ne de yanlış	(4) Doğru	(5) Çok doğru
1. Bir kutlama için arkadaşlarla bir araya gelmenin hayattaki en büyük zevklerden biri olduğuna inanırım.	☐	☐	☐	☐	☐
2. Çocukluğumu hatırlatan manzaralar, sesler ve kokular sıklıkla harika anıları geri getirir.	☐	☐	☐	☐	☐
3. Kader hayatımda birçok şeyi belirler.	☐	☐	☐	☐	☐
4. Sık sık hayatımda neleri farklı yapmalıydım diye düşünürüm.	☐	☐	☐	☐	☐
5. Kararlarım genellikle etrafımdaki şeylerin ve insanların etkisi altında kalır.	☐	☐	☐	☐	☐
6. Bir kişinin günü sabahdan planlamış olmalı.	☐	☐	☐	☐	☐
7. Geçmişim hakkında düşünmek bana keyif verir.	☐	☐	☐	☐	☐
8. Düşünmeden hareket ederim.	☐	☐	☐	☐	☐
9. İşlerin zamanında bitmemesi beni endişelendirmez.	☐	☐	☐	☐	☐
10. Bir şeyi başarmak istediğimde kendime hedefler belirlerim ve bu hedeflere ulaşmak için belirli yöntemler düşünürüm.	☐	☐	☐	☐	☐
11. Her şeyi göz önünde bulundurduğumda, geçmişimde hatırlanacak kötünden daha çok iyi şeyler bulunmaktadır.	☐	☐	☐	☐	☐
12. En sevdiğim şarkıyı dinlerken, genellikle zamanın nasıl geçtiğini anlamam.	☐	☐	☐	☐	☐
13. Yarının işlerini yetiştirmek ve diğer gerekli işleri yapmak, bu akşamın eğlencesinden önce gelir.	☐	☐	☐	☐	☐
14. Her şey olacağına varır, bu nedenle ne yaptığımın bir önemi yoktur.	☐	☐	☐	☐	☐
15. Geçmiş güzel günlerin nasıl olduğunu anlatan hikayeleri dinlemekten hoşlanırım.	☐	☐	☐	☐	☐
16. Acı veren geçmiş deneyimlerim, zihnimde sürekli canlanır.	☐	☐	☐	☐	☐
17. Hayatımı mümkün olduğunca dolu dolu yaşamaya çalışırım; anı yaşarım.	☐	☐	☐	☐	☐

	(1) Hiç doğru değil	(2) Doğru değil	(3) Ne doğru ne de yanlış	(4) Doğru	(5) Çok doğru
18. Randevulara geç kalmak keyfimi kaçırır.	☐	☐	☐	☐	☐
19. Tercihen, her günümü son günümümüş gibi yaşamak isterim.	☐	☐	☐	☐	☐
20. Güzel zamanlara ait mutlu anılar kolayca aklıma gelir.	☐	☐	☐	☐	☐
21. Arkadaş ve yetkililere karşı olan yükümlülüklerimi zamanında yerine getiririm.	☐	☐	☐	☐	☐
22. Geçmişten payıma düşen reddedilme ve kötü muameleden nasibimi aldım.	☐	☐	☐	☐	☐
23. Fevri kararlar veririm.	☐	☐	☐	☐	☐
24. Her günümü planlamaya çalışmak yerine, olduğu gibi yaşarım.	☐	☐	☐	☐	☐
25. Geçmişimde, düşünmek istemediğim oldukça fazla tatsız anı var.	☐	☐	☐	☐	☐
26. Hayatıma heyecan katmak benim için önemlidir.	☐	☐	☐	☐	☐
27. Geçmişimde, geri alabilmeyi istediğim hatalar yaptım.	☐	☐	☐	☐	☐
28. Yaptığım işten keyif almanın işi zamanında bitirmekten daha önemli olduğunu düşünürüm.	☐	☐	☐	☐	☐
29. Çocukluğuma özlem duyarım.	☐	☐	☐	☐	☐
30. Bir karar vermeden önce, yarar ve zararları tartarım.	☐	☐	☐	☐	☐
31. Risk almak hayatımı sıkıcı olmaktan kurtarır.	☐	☐	☐	☐	☐
32. Bana göre, hayat yolculuğunun tadını çıkarmak, sadece varış noktasına odaklanmaktan daha önemlidir.	☐	☐	☐	☐	☐
33. Olaylar nadiren beklediğim gibi gelişir.	☐	☐	☐	☐	☐
34. Eskiye ait tatsız görüntüleri unutmak benim için zordur.	☐	☐	☐	☐	☐
35. Hedef, sonuç ve çıktıları düşünmem gerektiğinde, bu durum sürecin keyfini kaçırır ve faaliyetlerimin akışını bozar.	☐	☐	☐	☐	☐
36. Anın tadının çıkarırken bile, kendimi geçmişte yaşadığım benzer deneyimlerle kıyaslama yaparken bulurum.	☐	☐	☐	☐	☐
37. Her şey sürekli değiştiği için geleceğe dair plan yapamazsınız.	☐	☐	☐	☐	☐

	(1) Hiç doğru değil	(2) Doğru değil	(3) Ne doğru ne de yanlış	(4) Doğru	(5) Çok doğru
38. Hayatımın gidişatı benim etkiyemeyeceğim güçler tarafından kontrol edilir.	☐	☐	☐	☐	☐
39. Yapabileceğim bir şey olmadığı için, gelecek hakkında kaygılanmanın bir anlamı yoktur.	☐	☐	☐	☐	☐
40. İstikrarlı bir şekilde ilerleyerek, projeleri zamanında tamamlarım.	☐	☐	☐	☐	☐
41. Ailem bir şeylerin eskiden nasıl olduğuyla ilgili konuşurken, kendimi bunları duymazdan gelirken bulurum.	☐	☐	☐	☐	☐
42. Hayatıma heyecan katmak için riskler alırım.	☐	☐	☐	☐	☐
43. Yapılacaklar listesi hazırlarım.	☐	☐	☐	☐	☐
44. Genellikle, mantığımdan ziyade kalbimin sesini dinlerim.	☐	☐	☐	☐	☐
45. Yapılması gereken bir iş olduğunu bildiğimde, cezbedici diğer şeylere karşı koyabilirim.	☐	☐	☐	☐	☐
46. Kendimi anın heyecanına kapılırken bulurum.	☐	☐	☐	☐	☐
47. Günümüz hayatı fazla karmaşık; geçmişin daha basit hayatını tercih ederdim.	☐	☐	☐	☐	☐
48. Arkadaşlarımın öngörülebilir davranmalarındansa spontane davranmalarını tercih ederim.	☐	☐	☐	☐	☐
49. Düzenli olarak tekrarlanan aile ritüelleri ve geleneklerini severim.	☐	☐	☐	☐	☐
50. Geçmişte başıma gelen kötü şeyleri düşünürüm.	☐	☐	☐	☐	☐
51. Eğer benim ilerlememi sağlayacaksa, zor ve ilginç olmayan görevlerde çalışmaya devam ederim.	☐	☐	☐	☐	☐
52. Kazandıklarımı bugün keyif için harcamak, yarının güvencesi için biriktirmekten daha iyidir.	☐	☐	☐	☐	☐
53. Genellikle şans, sıkı çalışmaktan daha iyi sonuç getirir.	☐	☐	☐	☐	☐
54. Hayatta kaçırmış olduğum iyi şeyler hakkında düşünürüm.	☐	☐	☐	☐	☐
55. Yakın ilişkilerimin tutkulu olmasını severim.	☐	☐	☐	☐	☐
56. İşlerimi yetiştirmek için her zaman vakit olacaktır.	☐	☐	☐	☐	☐

BECK DEPRESSION INVENTORY

Aşağıda, kişilerin ruh durumlarını ifade ederken kullandıkları bazı cümleler verilmiştir. Her madde, bir çeşit ruh durumunu anlatmaktadır. Her maddede o ruh durumunun derecesini belirleyen 4 seçenek vardır. Lütfen bu seçenekleri dikkatle okuyunuz. **Son bir hafta içindeki (şu an dahil) kendi durumunuzu göz önünde bulundurarak, size en uygun ifadeyi bulunuz.** Daha sonra o maddenin yanındaki harfin üzerine (X) işareti koyunuz.

1. (a) Kendimi üzgün hissetmiyorum.
(b) Kendimi üzgün hissediyorum.
(c) Her zaman için üzgünüm ve kendimi bu duygudan kurtaramıyorum.
(d) Öylesine üzgün ve mutsuzum ki dayanamıyorum.
2. (a) Gelecekte umutsuz değilim.
(b) Geleceğe biraz umutsuz bakıyorum.
(c) Gelecekte beklediğim hiçbir şey yok.
(d) Benim için bir gelecek yok ve bu durum düzelmeyecek.
3. (a) Kendimi başarısız görmüyorum.
(b) Çevremdeki bir çok kişiden daha fazla başarısızlıklarım oldu sayılır.
(c) Geriye dönüp baktığımda, çok fazla başarısızlığımın olduğunu görüyorum.
(d) Kendimi tümüyle başarısız bir insan olarak görüyorum.
4. (a) Her şeyden eskisi kadar zevk alabiliyorum.
(b) Her şeyden eskisi kadar zevk alamıyorum.
(c) Artık hiçbir şeyden gerçek bir zevk alamıyorum.
(d) Bana zevk veren hiçbir şey yok. Her şey çok sıkıcı.
5. (a) Kendimi suçlu hissetmiyorum.
(b) Arada bir kendimi suçlu hissettiğim oluyor.
(c) Kendimi çoğunlukla suçlu hissediyorum.
(d) Kendimi her an için suçlu hissediyorum.
6. (a) Cezalandırıldığımı düşünmüyorum.
(b) Bazı şeyler için cezalandırılabileceğimi hissediyorum.
(c) Cezalandırılmayı bekliyorum.
(d) Cezalandırıldığımı hissediyorum.
7. (a) Kendimden hoşnutum.
(b) Kendimden pek hoşnut değilim.
(c) Kendimden hiç hoşlanmıyorum.
(d) Kendimden nefret ediyorum.
8. (a) Kendimi diğer insanlardan daha kötü görmüyorum.
(b) Kendimi zayıflıklarım ve hatalarım için eleştiriyorum.
(c) Kendimi hatalarım için çoğu zaman suçluyorum.
(d) Her kötü olayda kendimi suçluyorum.

9. (a) Kendimi öldürmek gibi düşüncelerim yok.
(b) Bazen kendimi öldürmeyi düşünüyorum, fakat bunu yapmam.
(c) Kendimi öldürebilmeyi isterdim.
(d) Bir fırsatını bulsam kendimi öldürürdüm.
10. (a) Her zamankinden daha fazla ağladığımı sanmıyorum.
(b) Eskisine göre şu sıralarda daha fazla ağlıyorum.
(c) Şu sıralarda her an ağlıyorum.
(d) Eskiden ağlayabilirdim, ama şu sıralarda istesem de ağlayamıyorum.
11. (a) Her zamankinden daha sinirli değilim.
(b) Her zamankinden daha kolayca sinirleniyor ve kızıyorum.
(c) Çoğu zaman sinirliyim.
(d) Eskiden sinirlendiğim şeylere bile artık sinirlenemiyorum.
12. (a) Diğer insanlara karşı ilgimi kaybetmedim.
(b) Eskisine göre insanlarla daha az ilgiliyim.
(c) Diğer insanlara karşı ilgimin çoğunu kaybettim.
(d) Diğer insanlara karşı hiç ilgim kalmadı.
13. (a) Kararlarımı eskisi kadar kolay ve rahat verebiliyorum.
(b) Şu sıralarda kararlarımı vermeyi erteliyorum.
(c) Kararlarımı vermekte oldukça güçlük çekiyorum.
(d) Artık hiç karar veremiyorum.
14. (a) Dış görünüşümün eskisinden daha kötü olduğunu sanmıyorum.
(b) Yaşlandığımı ve çekiciliğimi kaybettiğimi düşünüyorum ve üzülüyorum.
(c) Dış görünüşümde artık değiştirilmesi mümkün olmayan olumsuz değişiklikler olduğunu hissediyorum.
(d) Çok çirkin olduğumu düşünüyorum.
15. (a) Eskisi kadar iyi çalışabiliyorum.
(b) Bir işe başlayabilmek için eskisine göre kendimi daha fazla zorlamam gerekiyor.
(c) Hangi iş olursa olsun, yapabilmek için kendimi çok zorluyorum.
(d) Hiçbir iş yapamıyorum.
16. (a) Eskisi kadar rahat uyuyabiliyorum.
(b) Şu sıralarda eskisi kadar rahat uyuyamıyorum.
(c) Eskisine göre 1 veya 2 saat erken uyanıyor ve tekrar uyumakta zorluk çekiyorum.
(d) Eskisine göre çok erken uyanıyor ve tekrar uyuyamıyorum.

17. (a) Eskisine kıyasla daha çabuk yorulduğumu sanmıyorum.
 (b) Eskisinden daha çabuk yoruluyorum.
 (c) Şu sıralarda neredeyse her şey beni yoruyor.
 (d) Öyle yorgunum ki hiçbir şey yapamıyorum.

18. (a) İştahım eskisinden pek farklı değil.
 (b) İştahım eskisi kadar iyi değil.
 (c) Şu sıralarda iştahım epey kötü.
 (d) Artık hiç iştahım yok.

19. (a) Son zamanlarda pek fazla kilo kaybettiğimi sanmıyorum.
 (b) Son zamanlarda istemediğim halde üç kilodan fazla kaybettim.
 (c) Son zamanlarda istemediğim halde beş kilodan fazla kaybettim.
 (d) Son zamanlarda istemediğim halde yedi kilodan fazla kaybettim.

Daha az yemeye çalışarak kilo kaybetmeye çalışıyorum. Evet () Hayır()

20. (a) Sağlığım beni pek endişelendirmiyor.
 (b) Son zamanlarda ağrı, sızı, mide bozukluğu, kabızlık gibi sorunlarım var.
 (c) Ağrı, sızı gibi bu sıkıntılarım beni epey endişelendirdiği için başka şeyleri düşünmek zor geliyor.
 (d) Bu tür sıkıntılarım beni öylesine endişelendiriyor ki, artık başka hiçbir şey düşünemiyorum.

21. (a) Son zamanlarda cinsel yaşantımda dikkatimi çeken bir şey yok.
 (b) Eskisine oranla cinsel konularla daha az ilgileniyorum.
 (c) Şu sıralarda cinsellikle pek ilgili değilim.
 (d) Artık cinsellikle hiçbir ilgim kalmadı.

CHILDHOOD TRAUMA QUESTIONNAIRE (CTQ)

Bu sorular çocukluğunuzda ve ilk gençliğinizde (20 yaşından önce) başınıza gelmiş olabilecek bazı olaylar hakkındadır. Her bir soru için sizin durumunuza uyan rakamı işaretleyiniz. Sorulardan bazıları özel yaşamınızla ilgilidir; lütfen elinizden geldiğince gerçeğe uygun yanıt veriniz. Yanıtlarınız gizli tutulacaktır.

Çocukluğumda ya da ilk gençliğimde...

	(1) Hiçbir zaman	(2) Nadiren	(3) Zaman zaman	(4) Sık sık	(5) Çok sık
1. Evde yeterli yemek olmadığından aç kalırdım.	☐	☐	☐	☐	☐
2. Benim bakımımı ve güvenliğimi üstlenen birinin olduğunu biliyordum.	☐	☐	☐	☐	☐
3. Ailemdelikler bana "salak", "beceriksiz" ya da "tipsiz" gibi sıfatlarla seslenirlerdi.	☐	☐	☐	☐	☐
4. Anne ve babam ailelerine bakamayacak kadar sıklıkla sarhoş olur ya da uyuşturucu alırlardı.	☐	☐	☐	☐	☐
5. Ailemde önemli ve özel biri olduğum duygusunu hissetmeme yardımcı olan biri vardı.	☐	☐	☐	☐	☐
6. Yırtık, sökük ya da kirli giysiler içerisinde dolaşmak zorunda kalırdım.	☐	☐	☐	☐	☐
7. Sevdiğimi hissediyordum.	☐	☐	☐	☐	☐
8. Anne ve babamın benim doğmuş olmamı istemediklerini düşünüyordum.	☐	☐	☐	☐	☐
9. Ailemden birisi bana öyle kötü vurmuştu ki doktora ya da hastaneye gitmem gerekmişti.	☐	☐	☐	☐	☐
10. Ailemde başka türlü olmasını istediğim bir şey yoktu.	☐	☐	☐	☐	☐
11. Ailemdelikler bana o kadar şiddetle vuruyorlardı ki vücudumda morartı ya da sıyrıklar oluyordu.	☐	☐	☐	☐	☐
12. Kayış, sopa, kordon ya da başka sert bir cisimle vurularak cezalandırılıyordum.	☐	☐	☐	☐	☐
13. Ailemdelikler birbirlerine ilgi gösterirlerdi.	☐	☐	☐	☐	☐

	(1) Hiçbir zaman	(2) Nadiren	(3) Zaman zaman	(4) Sık sık	(5) Çok sık
14. Ailemdekiler bana kırıcı ya da saldırganca sözler söylerlerdi.	☐	☐	☐	☐	☐
15. Vücutça kötüye kullanılmış olduğuma (dövülme, itilip kakılma vb.) inanıyorum.	☐	☐	☐	☐	☐
16. Çocukluğum mükemmeldi.	☐	☐	☐	☐	☐
17. Bana o kadar kötü vuruluyor ya da dövülüyordum ki öğretmen, komşu ya da bir doktorun bunu farkettiği oluyordu.	☐	☐	☐	☐	☐
18. Ailemde birisi benden nefret ederdi.	☐	☐	☐	☐	☐
19. Ailemdekiler kendilerini birbirlerine yakın hissederlerdi.	☐	☐	☐	☐	☐
20. Birisi bana cinsel amaçla dokundu ya da kendisine dokunmamı istedi.	☐	☐	☐	☐	☐
21. Kendisi ile cinsel temas kurmadığım takdirde beni yaralamakla ya da benim hakkımda yalanlar söylemekle tehdit eden birisi vardı.	☐	☐	☐	☐	☐
22. Benim ailem dünyanın en iyisiydi.	☐	☐	☐	☐	☐
23. Birisi beni cinsel şeyler yapmaya ya da cinsel şeylere bakmaya zorladı.	☐	☐	☐	☐	☐
24. Birisi bana cinsel tacizde bulundu.	☐	☐	☐	☐	☐
25. Duygusal bakımdan kötüye kullanılmış olduğuma (hakaret, aşağılama vb.) inanıyorum.	☐	☐	☐	☐	☐
26. İhtiyacım olduğunda beni doktora götürecek birisi vardı.	☐	☐	☐	☐	☐
27. Cinsel bakımdan kötüye kullanılmış olduğuma inanıyorum.	☐	☐	☐	☐	☐
28. Ailem benim için bir güç ve destek kaynağı idi.	☐	☐	☐	☐	☐

BARRATT IMPULSIVENESS SCALE SHORT FORM (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 size en doğru gelen cevabı işaretleyiniz.

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

		Nadiren/ Hiçbir zaman	Bazen	Sıklıkla	Hemen her zaman/ Her zaman
1	İşlerimi dikkatle planlarım.	☐	☐	☐	☐
2	Düşünmeden iş yaparım.	☐	☐	☐	☐
3	Dikkat etmem.	☐	☐	☐	☐
4	Uçuşan düşüncelerim var.	☐	☐	☐	☐
5	Dikkatli düşünen birisiyim.	☐	☐	☐	☐
6	İş güvenliğine dikkat ederim.	☐	☐	☐	☐
7	Düşünmeden bir şeyler söylerim.	☐	☐	☐	☐
8	Düşünmeden hareket ederim.	☐	☐	☐	☐
9	Zor problemler çözmem gerektiğinde kolayca sıkılırım.	☐	☐	☐	☐
10	Aklıma estiği gibi hareket ederim.	☐	☐	☐	☐
11	Düşünerek hareket ederim.	☐	☐	☐	☐
12	Düşünmeden alışveriş yaparım.	☐	☐	☐	☐
13	Hobilerimi değiştiririm.	☐	☐	☐	☐
14	Kazandığımdan daha fazla harcarım.	☐	☐	☐	☐
15	Geleceğini düşünen birisiyim.	☐	☐	☐	☐

STATE-TRAIT ANXIETY INVENTORY (STAI)

Aşağıda kişilerin kendilerine ait duygularını anlatmada kullandıkları bir takım ifadeler verilmiştir. Her ifadeyi okuyun, sonra da o anda nasıl hissettiğinizi ifade eden seçeneği işaretlemek suretiyle belirtin. Doğru ya da yanlış cevap yoktur. Herhangi bir ifadenin üzerinde fazla zaman sarfetmeksizin anında nasıl hissettiğinizi gösteren cevabı işaretleyin.

		HİÇ	BİRAZ	ÇOK	TAMAMIYLA
1.	Şu anda sakinim	(1)	(2)	(3)	(4)
2.	Kendimi emniyette hissediyorum	(1)	(2)	(3)	(4)
3.	Su anda sinirlerim gergin	(1)	(2)	(3)	(4)
4.	Pişmanlık duygusu içindeyim	(1)	(2)	(3)	(4)
5.	Şu anda huzur içindeyim	(1)	(2)	(3)	(4)
6.	Şu anda hiç keyfim yok	(1)	(2)	(3)	(4)
7.	Başıma geleceklerden endişe ediyorum	(1)	(2)	(3)	(4)
8.	Kendimi dinlenmiş hissediyorum	(1)	(2)	(3)	(4)
9.	Şu anda kaygılıyım	(1)	(2)	(3)	(4)
10.	Kendimi rahat hissediyorum	(1)	(2)	(3)	(4)
11.	Kendime güvenim var	(1)	(2)	(3)	(4)
12.	Şu anda asabım bozuk	(1)	(2)	(3)	(4)
13.	Çok sinirliyim	(1)	(2)	(3)	(4)
14.	Sinirlerimin çok gergin olduğunu hissediyorum	(1)	(2)	(3)	(4)
15.	Kendimi rahatlamış hissediyorum	(1)	(2)	(3)	(4)
16.	Şu anda halimden memnunum	(1)	(2)	(3)	(4)
17.	Şu anda endişeliyim	(1)	(2)	(3)	(4)
18.	Heyecandan kendimi şaşkına dönmüş hissediyorum	(1)	(2)	(3)	(4)
19.	Şu anda sevinçliyim	(1)	(2)	(3)	(4)
20.	Şu anda keyfim yerinde.	(1)	(2)	(3)	(4)

		Hemen hemen hiçbir zaman	Bazen	Çok zaman	Hemen her zaman
21.	Genellikle keyfim yerindedir	(1)	(2)	(3)	(4)
22.	Genellikle çabuk yorulurum	(1)	(2)	(3)	(4)
23.	Genellikle kolay ağlarım	(1)	(2)	(3)	(4)
24.	Başkaları kadar mutlu olmak isterim	(1)	(2)	(3)	(4)
25.	Çabuk karar veremediğim için fırsatları kaçıırım	(1)	(2)	(3)	(4)
26.	Kendimi dinlenmiş hissediyorum	(1)	(2)	(3)	(4)
27.	Genellikle sakin, kendine hakim ve soğukkanlıyım	(1)	(2)	(3)	(4)
28.	Güçlüklerin yenemeyeceğim kadar biriktiğini hissedirim	(1)	(2)	(3)	(4)
29.	Önemsiz şeyler hakkında endişelenirim	(1)	(2)	(3)	(4)
30.	Genellikle mutluyum	(1)	(2)	(3)	(4)
31.	Herşeyi ciddiye alır ve endişelenirim	(1)	(2)	(3)	(4)
32.	Genellikle kendime güvenim yoktur	(1)	(2)	(3)	(4)
33.	Genellikle kendimi emniyette hissedirim	(1)	(2)	(3)	(4)
34.	Sıkıntılı ve güç durumlarla karşılaşmaktan kaçınırım	(1)	(2)	(3)	(4)
35.	Genellikle kendimi hüzünlü hissedirim	(1)	(2)	(3)	(4)
36.	Genellikle hayatımdan memnunum	(1)	(2)	(3)	(4)
37.	Olur olmaz düşünceler beni rahatsız eder	(1)	(2)	(3)	(4)
38.	Hayal kırıklıklarını öylesine ciddiye alırım ki hiç unutamam	(1)	(2)	(3)	(4)
39.	Aklı başında ve kararlı bir insanım	(1)	(2)	(3)	(4)
40.	Son zamanlarda kafama takılan konular beni tedirgin ediyor	(1)	(2)	(3)	(4)

Appendix C: Debriefing Form

Araştırma Sonrası Bilgilendirme Formu

Araştırmaya katılımınız için teşekkür ederiz. Katılımcıların araştırma hakkında baştan bilgi sahibi olması, cevaplarını ya da tepkilerini etkilemek yoluyla araştırmanın geçerliliğini bozabilir. Bu nedenle başlangıçta size bu araştırmada karar alma mekanizmaları ile bazı kişisel özellikler arasındaki ilişkiye dair bilgi edinilmesi amaçlandığı söylenmişti. Bu araştırmada esas olarak obezitede zaman perspektifi ve geçmiş negatif yaşantının risk alma davranışı ile ilişkisini incelemek amaçlanmıştır. Araştırmanın sağlıklı yürümesi açısından bu bilgileri henüz araştırmaya katılmamış ancak katılma olasılığı olan kişilerle paylaşmamanızı rica ederiz.

Appendix D: Social and Human Sciences Ethical Committee of Yeditepe University



T.C.
YEDİTEPE ÜNİVERSİTESİ REKTÖRLÜĞÜ

14.06.2021

Sayı : E.50532705-302.14.01-909
Konu : Selin Kılıçkaya Kurul Onayı

İLGİLİ MAKAMA

Üniversitemiz Sosyal Bilimler Enstitüsü Klinik Psikoloji Yüksek Lisans Öğrencisi Selin Kılıçkaya'nın "The Relationship of Time Perspective and Negative Past Experiences with Risk Taking Behavior in Obesity" başlıklı araştırma önerisinin beşeri bilimler etik standartlarına uygunluğuna ilişkin Yeditepe Üniversitesi Beşeri ve Sosyal Araştırmalar Etik Kurul Onayı ekte sunulmuştur.

Gerekli iznin verilmesi hususunu bilgilerinize arz ve rica ederim.

İmza
Prof. Dr. Fatma Yeşim EKİNCİ
Rektör a.
Rektör Yardımcısı

Ek: Etik Kurul Onayı.pdf