T.C.
YEDITEPE UNIVERSITY
INSTITUTE OF HEALTH SCIENCES
DEPARTMENT OF NUTRITION AND DIETETICS

COMPARING FAT PHOBIA ATTITUDES OF FACULTY OF HEALTH SCIENCES STUDENTS IN A FOUNDATION UNIVERSITY

MASTER THESIS

MELİS KARAKAYA

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SUPERVISOR
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ONAY

Bu tez Yeditepe Üniversitesi Lisansüstü Eğitim-Öğretim ve Sınav Yönetmeliğinin ilgili maddeleri uyarınca yukarıdaki jüri tarafından uygun görülmüş ve Enstitü Yönetim Kurulu'nun 03../05/..2019 tarih ve ..2019/03-03... sayılı kararı ile onaylanmıştır.

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Sağlık Bilimleri Enstitüsü Müdürü

DECLARATION

I hereby declare that this thesis is my own work to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which has been accepted for the award of any other degree except where due acknowledgment has been made in the text.

29.04.19
Date

Signature

Melis KARAKAYA

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LIST OF SYMBOLS AND ABBREVIATIONS

US: United States

ASO: Association for the Study of Obesity:

WHO: World Health Organisation

BMI: Body Mass Index

IDF: International Diabetes Foundation

cm: centimeter

NHANES: The National Health and Nutrition Examination Survey

MIDUS: National Survey for Midlife Development in the United States

CON-RCO: The Canadian Obesity Network-Reseau Canadien en Obesite

GSOEP: German Socioeconomic Panel

kg: kilogram

IAT: Implicit Associations Test

ABSTRACT

Karakaya, M. (2019). "Comparing Fat Phobia Attitudes of Faculty of Health Sciences Students in a Foundation University". Yeditepe University Institute of Health Sciences, Department of Nutrition and Dietetics. Master Thesis. Istanbul.

This study was carried out to determine fat phobia scores of Faculty of Health Sciences students in Yeditepe University. For this purpose, 311 students who accepted to participate in the research were given data forms consisting of demographic questions such as age, gender, studying department, height (cm), weight (kg) and 14-item Fat Phobia Scale. Data obtained from data forms was biostatistically analyzed via SPSS Statistics 22 and in a result; fat phobia score of students who are studying Nutrition and Dietetics was determined 3,92, fat phobia score of students studying Physical Therapy and Rehabilitation was 3,54 and fat phobia score of students who are studying Nursing was found 3,82. Fat phobia score of students who are studying Physical Therapy and Rehabilitation was found significantly lower than fat phobia scores of Nutrition and Dietetics and Nursing students. On the other hand, no significant difference was determined between gender and fat phobia score. Students who are in thin BMI range was found to be have significantly higher fat phobia score than students being in healthy BMI range. However, for students that are in other BMI ranges, no significant difference was determined according to their fat phobia score. Consequently, as a future health-care professionals, students who are studying in Health Sciences Faculty were found to have fat phobia that affects individuals' obesity treatment negatively. Thus, for avoiding or decreasing fat phobia, public awareness and new strategies should be developed and broader scientific researches are needed.

Key words: Fat Phobia, Obesity, Weight Stigma, Weight Discrimination

ÖZET

Karakaya, M. (2019). "Bir Vakıf Üniversitesinde Sağlık Bilimleri Fakültesinde Okuyan Öğrencilerin Kilofobi Durumunun Karşılaştırılması". Yeditepe Üniversitesi Sağlık Bilimleri Enstitüsü, Beslenme ve Diyetetik ABD. Master Tezi. İstanbul.

Bu çalışma, Yeditepe Üniversitesi Sağlık Bilimleri Fakültesi'nde eğitim görmekte olan öğrencilerin kilofobi durumunu saptamak amacıyla gerçekleştirilmiştir. Bu amaçla; araştırmaya katılmayı kabul eden 311 öğrenciye yaş, cinsiyet, eğitim almakta olduğu bölüm, boy (cm), kilo (kg) ve 14 maddelik Kilofobi Ölçeği sorularını içeren bilgi edinme amaçlı veri formu dağıtılmış ve katılımcılardan, formu eksiksiz ve doğru bir şekilde doldurmaları istenmiştir. Elde edilen veriler SPSS Statistics 22 programı kullanılarak analiz edilmiştir. Çalışmanın sonucunda, Beslenme ve Diyetetik bölümü öğrencilerinin ortalama kilofobi puanı 3,92; Fizyoterapi ve Rehabilitasyon bölümü öğrencilerinin 3,54; Hemşirelik bölümü öğrencilerinin ise 3,82 çıkmıştır. Fizyoterapi ve Rehabilitasyon bölümünde eğitim görmekte olan öğrencilerin kilofobi puanı; Beslenme ve Diyetetik ve Hemşirelik bölümünde okuyan öğrencilerin kilofobi puanından istatistiksel olarak anlamlı düzeyde düşük bulunurken cinsiyete göre kadın ve erkek öğrencilerin kilofobi puanları incelendiğinde ise, istatistiksel olarak anlamlı bir farklılık çıkmamıştır. Öğrencilerin BKİ değerleriyle kilofobi puanı arasındaki ilişki incelendiğinde; zayıf BKİ aralığında yer alan öğrencilerin kilofobi puanı, normal BKİ aralığında yer alan öğrencilerin kilofobi puanından istatistiksel olarak anlamlı düzeyde yüksek bulunmuş ve diğer BKİ aralığında yer alan öğrencilerin kilofobi puanları açısından istatistiksel olarak anlamlı bir farklılık bulunamamıştır. Çalışmanın sonucunda, geleceğin sağlık çalışanları olarak Sağlık Bilimleri Fakültesi'nde eğitim görmekte olan öğrencilerin, obez bireylerin tedavi süreçlerini negatif yönde etkileyen kilofobiye sahip olduğu ve farkındalık oluşturularak kilofobinin önlenmesi veya azaltılması gerektiğine ulaşılırken; bu alanda yeni stratejilerin oluşturulması ve daha geniş araştırmaların yapılması gerekli görülmektedir.

Anahtar Kelimeler: Kilofobi**,** Obezite, Obezite Önyargısı**,** Kilo Ayrımcılığı

1. INTRODUCTION AND PURPOSE

Along with the developing science and technology, the physical activity level of individuals decreases; nutrition and dietary habits begin to change [1]. Especially in the last 30 years; in developing and developed countries, obesity can be observed to cause a wide range of physical, social and psychological problems [1,2]. Obesity, most commonly known as a chronic disease which is characterized by the increase in adipose tissue in the body, is caused by different genetic or biological susceptibilities; hormonal, metabolic, environmental, psychological or behavioral reasons; low cost of unhealthy food products in the food market of the country; various agricultural policies; and lack of healthy food sources in neighboring countries. It is the most challenging health problem of the 21st century and accepted as a multifactorial and complex health and social problem [3-6]. Apart from these factors that cause obesity; the rapid spread of ready-to-eat foods with high calorific value, the development of technology that tend to increase sedentary life, intensive work life, family and peer effect, stress, insomnia, anxiety, depression, post-traumatic events, some prescribed drugs, endocrine diseases etc. may also cause obesity [6]. Considering all these reasons, obesity is considered to be the major cause of preventable mortality and disease in the United States (US) [7].

In 2014, the National Health and Nutrition Examination Survey found that 35% of the adult population in the US and 17% of the young population were clinically obese. This shows that the prevalence of obesity was increased by 2 times compared to its prevalence of 40 years ago [8,9]. Recent studies also showed that 64% of adults in the US are mildly overweight and 30% are obese, and the prevalence of obesity is now accepted to reach the epidemic level [9]. According to the data of the Association for the Study of Obesity (ASO) in Germany, 50.6% of women and 66% of men were in overweight or obese category [10]. In other words; half of the total adult population in Germany is in the overweight or obese category [11]. In a study conducted in the United Kingdom in 2010 has also found that 26% of adults were obese, and by 2025 it is reported that this ratio will be expected to reach 36% in women and 47% in men [12]. However, nowadays more than 10 million adults are known to be obese in the UK, and the obesity prevalence is rapidly approaching the prevalence of obesity in the US [13,14]. Although overweight and obesity are often seen by many authorities as a health

problem faced by high-income countries; the prevalence of obesity in developing countries is also known to increase rapidly [10].

The report that National Heart, Lung and Blood Institute's has published was stated that overweight and obese are associated with many health problems such as Type 2 diabetes and cardiovascular diseases [15]. Besides Type 2 diabetes and cardiovascular diseases; obesity is also known to increase the risk of other health problems such as hypertension, hypercholesterolemia, liver diseases, sleep apnea, and some psychosocial diseases such as obsessive compulsive disorder, social phobia, anxiety, depression etc. [2,16-19]. Although the serious effects of obesity on the physical health of the individual and the importance of the medical damages that may occur is accepted by many authorities, the social and psychological damages that can bring about serious consequences are not given enough importance [20]. Many studies conducted in the literature shows that obese individuals are not only confronted with physical health problems such as diabetes, cardiovascular diseases, hypertension etc.; at the same time they can also face with some serious social problems and constraints [21]. Despite increase in the prevalence of obesity worldwide, overweight or obese individuals are exposed to various prejudices, negative attitudes, beliefs or behaviors and discrimination by individuals of all age groups due to their weight in every domains of society [9,16,22,23]. In the population studies, 14% of obese individuals and 43% of morbidly obese individuals reported that they are subjected to maltreatment because of their weight [24]. So much so; in recent studies conducted in the US from 1995 to 2006 stated that discrimination based on one's weight has been found to increase by 66% [25]. Obese individuals often face with this weight prejudice and discrimination by their colleagues, peers, family, spouse or medical staff and even social media especially in education and business life [26-31]. Perhaps the most important one from these factors is; the relationship between health care professionals and obese individuals which is vital in the prevention and treatment of obesity [32]. Although it is assumed that the primary health care professionals who lead their patients to a healthy lifestyle would have a lower levels of prejudice and negative attitude towards obese individuals, many studies show that health care professionals such as doctor, nurse, dietitian, psychiatrist etc. have some negative beliefs, thoughts, attitudes and behaviors towards obese individuals [33]. Moreover, in many studies, these negative attitudes and behaviors are not only found in health care professionals; it is also found in students studying in this

field [34]. These negative attitudes, thoughts or prejudices against overweight or obese individuals from health care professionals or students studying in this field may affect their behavior and as a result this behavior may lead to a negative outcome of the clinical treatment of the disease [35]. Because, these behaviors are mostly noticed by obese individuals and result in distance between the patient and the physician [36]. In fact, this may cause the patient to postpone or discontinue treatment [10,37] For this reason, it is necessary to determine the prejudice or negative attitudes of health care professionals and students studying in this field and to make awareness about these prejudice are very important [38].

In this study; it is aimed to determine the negative attitudes, behaviors and prejudices of Faculty of Health Sciences students in a foundation university and to compare results that obtained. For this purpose, a research based on the attached informative data form that named Fat Phobia Scale has been conducted on the study sample.

2. GENERAL INFORMATION

2.1.OBESITY AND ITS PREVELANCE

Obesity expressed by the World Health Organization (WHO) as abnormal and excessive fat accumulation in the body that may negatively affect the health of the person is considered as a multifaceted chronic disease, affecting approximately 700 million adults in worldwide and showing a continuous increase in its prevalence [18,39]. It was declared an epidemic disease by WHO in 2008 and its prevalence in Western countries has reached large numbers today [40]. According to globally accepted cut-off points, individuals with body mass index (BMI) 30 and more are counted in the obese class; with BMI between 30 and 35 are in 1st grade of obese, the ones between 35 and 40 are in 2nd grade of obese and 40 and more are rated as 3rd grade obese [18,41]. Apart from this classification, abdominal obesity classification can be also made according to the waist circumference ratio. According to the International Diabetes Foundation (IDF); waist circumference that is 80 cm and above in women and 94 cm in men is considered as a risk group for obesity [18]. Many studies have shown that individuals with severe obesity in the 2nd and 3rd grades of the BMI are at a much higher level of health risk due to obesity [41]. Besides genetic, hormonal, psychological, cultural, social, environmental, interrelated factors that may cause obesity, it is known that the nutritional habits and behavior patterns of individuals have a very strong effect on obesity as well [3,4,42].

When data from today are compared with data from 10 years ago, it is seen that the adult obese population living in the USA has increased rapidly [43]. The National Health and Nutrition Examination Survey (NHANES) of 2005-2006 was stated that 32.7% of the adult population in the US were overweight, 34.3% of them was obese and 5.92% of them was morbidly obese. By determing these results, for the first time in history, the US adult obese population was reported more than the adult overweight population [44]. Then, NHANES of 2007-2008 was found that 68% of the adult population was either overweight or obese [43]. However, today; it is known that 34.9% of the entire population in the US is obese, while 33% are overweight [27]. Besides US, obesity has high prevelance in other industrial countries as well. In Germany, this rate is seen around 23% and in Canada it is 25% [45] In a study conducted in Australia; 3,71 million people that equals to 17.5% of the population were found to be obese and this

made 23.5% of the total adult population and 10.6% of the child population were obese [39]. Moreover; in a study conducted in the Czech Republic, the rate of obesity was 14% in 2000, whereas it was reported to increase to 21% in a short period of 1 year [40]. In a study conducted in Taiwan also found that approximately 44% of the Taiwanese population was overweight or obese and when the results were compared to the US population; US adult population aged 20 years and older had a rate of 69% [46]. According to Soto; obesity has become a global public issue and is seen as severe in Mexico as well. Especially in Southeastern Mexico, the prevalence of overweight and obesity risk is much higher in Anglo-American children. He also stated that in Mexico, the disease burden associated with diabetes and obesity has increased considerably over the past 15 years [47]. Later, in a study conducted in Mexico in 2015, 34.2% of men and 24.2% of women were found obese. With these rates, the United States and Mexico; have become the first two countries with the highest obesity rate worldwide [48]. A study conducted in the UK has revealed the seriousness of the situation. Today, it is estimated that 1/4 of the adult population in the UK has a BMI 30 and more, but by 2025, it is estimated that this ratio will account for 47% of the total men population and 36% of the total population in women [35]. This rate is almost equal to the prevalence of obesity in the US, and in the US this rate corresponds to 2/3 of the total population [42]. According to WHO; overweight and obesity are becoming a major threat worldwide and affecting the entire population [4]. In fact; in US, obesity began to take the 2nd place in the list of most preventable causes of death after smoking and causes 14% of the preventable causes of death [39]. It significantly reduces the average life expectancy and is reported to be the cause of approximately 500,000 deaths in the US every year [49]. Moreover in worldwide, it is recognized as the fifth leading factor in mortality [10]. But perhaps the feature that makes obesity one of the most important medical problems is not just adults; it affects children and adolescents as well [50]. Childhood obesity is considered to be one of the most important public problems, and by 2020 it is estimated that 80% of the 20-year-old population will be overweight or obese [51]. Recent studies have found that 22 million children under 5 years of age are slightly overweight in all over the world [50]. Because of these high rates and the ever-increasing prevalence, the urgent need for public health interventions aimed at preventing obesity is gaining importance [52].

In the last 30 years, obesity is known to cause many physical, social and psychological problems in developed and developing countries and limits the success of treatment because of these factors [1,2,49,53]. This chronic disease with high morbidity and mortality results in Type 2 diabetes, hypertension, hypercholesterolemia, liver and cardiovascular diseases and many psychosocial diseases [2,16-19]. Especially, it is known that Type 2 diabetes and obesity may generally progress together [30]. These diseases are more likely to be seen in obese individuals, however; besides these diseases many types of infections and cancers can also occur due to obesity [2] In a recent meta-analysis study, it was found that many different types of cancers were associated with obesity in the Asian population. Especially, the risk of breast cancer was found higher with obesity. Similar findings have also been found in a study involving the Chinese population, and it has been reported that obesity increases the risk of mortality by causing many health problems. In addition, it has been shown to cause chronic respiratory diseases, skeletal muscle diseases such as osteoarthritis, and reproductive diseases such as infertility and sexual impotence which are not fatal but may have a negative effect on the general physical health status [49]. It is also known that high BMI or obesity, besides its damages to the physical health of a person, can also reduce health-related quality of life at many different levels and negatively affect mental or psychological health [24,54]. In a study conducted for this purpose, children with obesity were found to have lower health-related quality of life than children diagnosed with cancer [24]. Even; in 1985, the National Institutes of Health underlined the importance of the psychological burden of obesity [55]. Individuals with obesity often experience low quality of life or self-esteem and increased risk of depression, guilt, suicidality, psychiatric disorders and body image disorder. Also a possible relationship with the metabolic syndrome which draws a picture similar to Cushing's Syndrome that is shown up when increase in cortisol stress hormone is focused [27,55]. It is thought that weight discrimination that obese individuals face due to their weight is perceived by the body as a chronic stress factor and may create this effect. Therefore, this types of discrimination or prejudice are thought to increase the severity of obesity much more [24]. In addition, in the long-term scenarios where increased BMI and obesity are seen from childhood, it is emphasized that the risk of BMI and depressive symptoms and body image disorder may become more dangerous and become more dangerous when it comes to adulthood [27].

2.2. THE EFFECT OF OBESITY ON SOCIAL LIFE

Although the effects of obesity on the physical health of individuals have been researched and proven by many authorities, the social and psychological effects of obesity on individuals are not given importance [20]. In recent studies show that obese individuals are not only confronted with physical health problems such as diabetes, cardiovascular diseases, hypertension etc.; they can also face with some social problems and constraints that will affect them negatively [21]. Therefore, when the higher the prevalence of obesity have become, the more intense and serious social consequences of being obese have been intensified [56]. In the studies, it is shown that in every aspect of life, obese individuals are confronted with negative attitudes, beliefs or behaviors; prejudice, discrimination, ridicule, etc. because of their weight [9,16,22,23].It has been found that even bariatric surgery patients are exposed to discrimination because of their weight in their pre and post-op process [39]. However, in worldwide; when the prevalence and global awareness of obesity continue to increase rapidly; the prevalence of social restrictions and negative behaviors due to obesity does not fall, but on the contrary, it continues to increase [41]. Although it is one of the most socially unacceptable type of prejudice and discrimination; the discrimination faced by a person due to his weight is widely seen in many societies [24,57]. Studies have found that prejudice and discrimination against obese individuals in the US are much higher compared to the previous 40 years [58]. For this purpose, a large-scale survey of 20,649 participants was conducted and the prevalence of prejudice, negative attitudes and behaviors of individuals based on their weight were found to reach up from 3.5% to 20.5% [46,59]. When the data of 10 years ago were examined, it was seen that this prejudice and weight discrimination increased by 66% and this level almost equaled with racial discrimination [38]. Given the high prevalence of overweight and obesity in the US at present, it is inevitable that these negative thoughts will exacerbate public health and health inequality [60]. Other than these negative attitudes and beliefs towards obese individuals due to their weight, they can also be associated with negative adjectives such as lazy, non-intelligent, slow, powerless, clumsy, undisciplined, gluttonous etc.; excluded or ignored by society; seen as lower social status compared to non-obese individuals; exposed to various social restrictions; received negative comments and confronted with difficulties in establishing interpersonal relationships [61-65]. So much so; in a study conducted in Hong Kong, some obese individuals may

not even prefer to leave home to avoid these negative attitudes and discrimination [49]. Originally, these negative forms of behavior that have a strong effect in the emotional and physical health of obese individuals included only the definition of degrading individuals with unwanted personal characteristics; however, in time, negative attitudes, beliefs, prejudice, and discrimination have been encompassed in definition [60,66]. Nowadays; all behaviors that are constantly exposed by obese individuals and cause emotional distress on these people such as the exclusion, rejection, mockery, bullying, harassment, hostility etc. included in this definition [67,68]. In particular, the jokes based on the individuals' weight are considered more socially acceptable by the society as compared to other prejudice and discriminating jokes; therefore, such weight jokes become more common and they are tried to be normalized [15]. Moreover; obese individuals who are exposed to this normalized situation may start to see their social identity or status as worthless in time; and be ready to take on the unconventional and unequal treatments and to be able to adopt itself. As a result, it begins to impose a limitation on the their social and economic opportunities by feeling a justification for negative attitude and prejudices because of being overweight and obese [41,68]. For example; they may limit their usual desires such as going to school or gym, changing his/her current job, taking stylish clothes, building a romantic relationship, using of medical service etc. [38,61,69]. In other words, obese individuals who are constantly exposed to these negative attitudes and social messages because of their weight may begin to internalize and adopt these negative messages. In fact, by taking these negative messages from external sources to a higher level and can start to apply negative attitude and discrimination on themselves [68,70,71]. They begin to see obesity as negative as the individuals in the normal weight range, apply in-group devaluation and isolate themselves within the group that they think they are in [19]. According to a recent study, unlike the other groups that have been discriminated against, obese individuals can make devaluation to in-group level and adopt negative attitudes or behaviors towards the group that they belong as well as individuals not included in the group [72,73]. Such level of internalization can lead to even more dangerous and serious consequences than the consequences of discrimination due to race or sex [42]. According to Puhl, it is more likely to internalize this discrimination on obesity, as opposed to other discriminated groups. The reason for this is that obesity has more socially acceptable attitudes and behaviors, but is also seen more widely in society [6]. As a result; individuals who face discrimination and prejudice; jokes tried to normalize;

exclusion by their family, spouse and friends; fail to combat this and may face severe consequences [16,43]. In recent studies; it is seen that individuals who encounter this type of negative attitude, behavior or discrimination and internalize this process have higher risk of obesity and other chronic diseases than individuals who encounter only discrimination and do not internalize this situation [22,71,74]. These diseases associated with obesity and stress-related can be caused by stress induced by these negative behaviors [74]. In addition, they become more susceptible to unhealthy and undesirable behaviors or behaviors that trigger obesity as a response, and as a result, their weight increases with time or instead of advancing in the treatment of obesity, it can achieve psychosocial outcomes that will take a backward course [37,75-77]. According to Soto, when obese individuals are subjected to negative behavior or discrimination related to their weight, they continue to adopt bad eating habits and increase their calorie intake, or decrease their level of physical activity [78]. Also, patients under obesity treatment can disrupt their follow-up process, increase calorie intake, create irregular eating intervals, limit the amount of energy they spend or begin to step out of the treatment program [62,79]. For example, an obese individual who is convinced by the society that his desire of food is weak and internalizing it; he may not stop himself from thinking that he cannot resist this request, when he craves foods containing high calories [71]. As a result, the chances of success in weight loss treatment decrease and therefore; the risk of obesity is increased and the expected quality of life of the individual decreases even more [22,37,80]. Other than inclining to negative/unhealthy behaviors; internalizing the weight discrimination can also cause some psychological and psychiatric disorders such as personality mood disorders, body dissatisfaction, drive for thinness, depression, low self-esteem, anxiety, stress, suicidal tendency, bipolar disorder, helplessness, social isolation, binge eating syndrome, emotional eating, anorexia nervosa etc. Therefore, the risk of mortality is further increased [2,4,16,69,76,81-83]. In many epidemiological studies, internalized weight discrimination has been shown to increase the diagnostic criteria for many different psychiatric disorders [84]. Especially in recent studies; they focus on the relationship between internalized weight discrimination and binge eating syndrome, and obese individuals who have been exposed to such negative attitudes and behaviors have found more tend to have binge eating behavior [76,85,86]. Moreover, in a similar based study, obese individuals showing binge eating behavior have found to be exposed much more weight discrimination compared to obese individuals who do not show binge eating behavior [76]. So much so; it has been reported that weight

discrimination is a more meaningful indicator of binge eating behavior than other specified risk factors [76,85,86]. According to Friedrich, 40% of individuals with a BMI of 30 and over have a binge eating behavior. In addition, obese individuals exposed to weight discrimination reported 3.3 times more risk of binge eating behavior [46]. Besides adult population, in a prospective study of 2516 adolescents who were exposed to weight discrimination was also studied and similar findings were found in adolescents. The eating behaviors of adolescents were examined for 5 years and at the end of the 5th year, all age, race and socio-economic conditions were taken into consideration, and binge eating behavior was observed in both male and female adolescents [56,85]. Unhealthy eating behavior and binge eating behavior were also observed in female and male children who went to a weight loss camp and reported weight discrimination [85]. In another recent study, obese women who were exposed to a film contained weight discrimination and negative messages have found to receive much more calories compared to the group exposed to a film contained neutral messages [67]. Bruchu who also examined binge eating behavior has found similar findigs and reported that participants who were exposed to weight discrimination ordered a higher calorie meal from the menu at a restaurant they went [87]. When obese individuals are in negative mood states such as anger, anxiety, depression etc. they try to suppress this negative mood. However, when they try to suppress these negative mood, they are triggered directly or indirectly by behavioral patterns that cause these mood states; ultimately, they are ineffective with stress state and faces weight gain [46,88]. In many the US studies, a strong relationship was found between the perceived or internalized weight discrimination and stress by obese individuals. Moreover; they found to be 3 times more stressed than the individuals in normal weight who were not exposed to weight discrimination because of the physiological stress responses in the body which perceive this state as a stressor during a weight bias or discrimination and reveal other physiological stress indicators in obese individuals who are found to have increased levels of cortisol hormone [4,24,80]. Then, this situation can cause an increase in eating behavior, thus increasing weight gain and leading to an increase in weight-based prejudice and discrimination [4,89]. The effectiveness of obese individuals' weight loss-based treatments worsen and the persistence of overweight or obesity increases [61,67,90]. After all; this relationship between internalized weight discrimination, obesity and stress continues into a vicious cycle and adversely affects each other [81]. Therefore; in obese individuals who are exposed to weight

discrimination, it is important to determine whether this situation affects their eating behavior and to examine whether these changes cause unhealthy eating habits [56]. In Health and Retirement Study conducted on 13,692 adults and the National Survey for Midlife Development (MIDUS) conducted on 5709 adults reported that the participants who were exposed to such negative attitudes and behaviors was found to have the risk of mortality increased by 60% independent than BMI [36]. Due to its all negative consequences that obesity causes, The Canadian Obesity Network-Reseau Canadien en Obesity (CON-RCO) known as Canada's largest unit for combating obesity is referred weight-based discrimination as one of the most important obstacles to patient-based obesity strategies, a way to lower the process of obesity, tend to unhealthy behaviors that cause obesity, and set aside for the effort to restore one's health [26,85].

According to the MIDUS report on 1136 individuals aged 35-74 years between 2004 and 2006, individuals have not been able to get promoted at work due to their weight, have a lower level of health care compared to individuals with normal weight and have been confronted with 11 different types of discrimination [13]. For MIDUS, these people account for 12.2% of the total population and the rate continues to increase [4,13]. In a retrospective study examining weight discrimination; participants in the study were asked to scored their weight discrimination or negative attitudes and behaviors experience between never and once a month and according to the results obtained from the research, it was found that the participants were exposed to these negative behaviors in their lives at least once. In another study involving 50 female participants during a 1-week period; 3 different weight discrimination and negative behavior patterns were observed on an average day. Also; in a similar study involving both male and female participants during two-week period, average of 2.4 times weight discrimination and negative behavior patterns were observed [61]. Similar results were found in a recent study on individuals with normal weight ranges and 92.5% of these individuals have confirmed that they have at least one of these negative attitudes and behaviors towards obese individuals [91]. Although these prejudices, negative attitudes, beliefs and behaviors and discriminatory practices are based on the individual's weight are seen as socially most unacceptable prejudice and discrimination types in Western countries; nowadays, weight-based discrimination is the third most common type of discrimination among women and the fourth most common type of discrimination among men in the US [92,93].

2.2.1. THE EFFECT OF OBESITY ON SOCIAL LIFE IN CHILDHOOD AND ADOLESCENT PERIOD

Perhaps the most important point that makes weight-based discrimination and prejudice a very dangerous situation is that this type of negative behavior is also encountered in children and adolescents [32,94]. Similar studies have been achieved in recent years and negative beliefs and attitudes towards obese individuals have been found to be quite common among both adults and children [93]. So much so; studies have shown that these negative behaviors occur in early childhood and children aged 5-10 years and children tend to desire to be friends with children in the ideal weight range rather than overweight and obese children [95]. Similar results were found in Staffieri's study of girls between the ages of 7 and 11, and it was stated that the attribution of negative adjectives was higher for endomorphic body types of girls [96]. Moreover, beyond the 7-11 age range, even infants in pre-school age have been found to be subjected to more negative adjectives compared to babies with overweight [95]. In another study conducted on pre-school children, 86% of children have been found to be more unwilling and dissatisfied when they saw picture of overweight child compared to other pictures of 2 children of the same sex but have underweight and normal BMI range [96,97]. When American and Australian children of the same age group are examined, this sympathy for normal weight and antipathy for overweight and obesity were determined to be begin at the age of 3-4 [98-100]. The reason for this, even in 3-year-old, expression of fat ones with messy, sad, lonely etc., thin ones with smart, polite, cute etc. and less choosing fat ones as a playmate began to be seen [98,99,101]. Therefore, it is certain that overweight and obese children are widely exposed to negative attitudes and behaviors by their peers, and this is expected to continue throughout their childhood [101]. Especially, considering the increasing prevalence of childhood obesity, it is inevitable that this weight-based discrimination and negative behavior among overweight and obese children increase as well [98,102]. Moreover; as BMI increases, it is known that these negative behaviors are more common; the morbid obese individuals with a BMI of 40 and more are at a higher risk of experiencing these behaviors than those with a BMI of 40 and below [59,61].

Among obese children; weight bias which is mostly seen as bullying or discrimination by their peers, parents and teachers is one of the most common problems in their school [50,85,103]. In studies, this scenarios has been widely encountered

especially in preschool and primary school children [50,97]. In this time period; obese children can be expressed as more unhealthy, lazy, grumpy and incapable compared to their peers who are mostly in ideal BMI range [94,103]. Positive characteristics such as having more friends or being happy are seen as more suitable for children with an ideal BMI range; however, being more unhealthy and less fit seems to be suitable for obese children [104]. Obese children are often less preferred by their peers as playmates and socially excluded [105]. It is very common for obese child to be rejected as friends, not accepted as playmates or rejected by the opposite sex; and it is seen more among children from the age of 9 and continues to grow stronger in the age of primary school [106].

For example, children in the 7-10 age group stated that they preferred the obese peers in their classrooms as a playmate at least and felt the least affinity for them [97]. In classical study by Richardson in the 1950s, 600 students aged 10-11 years were shown 6 different child pictures: healthy, obese, children with wheel chair, wounded and leg wrapped, lack of one hand, child with disfigurement; respectively and asked to rank them according to their preference to make friends with [36,94]. According to the results, students; instead of making friends with the obese child, they have even preferred to make friends with the child with disabilities [94]. After 40 years, similar repetitive studies have shown that the rate of preference of obese children as friends is much more low [106]. When obese children expose this hypothetical social rejection seen by the selection of photographs in the previous study by their peers in their real life, some behavioral and psychosocial problems which can have highly dramatic and dangerous consequences may occur [66,107]. For example; increased blood pressure; avoidance in going to school, participating in physical education classes or doing physical activity; isolation from many educational or social activities; low self-esteem; anxiety; social isolation; depression etc. can be listed for these dramatic consequences and especially in the case of every weight discrimination or ridicule case, avoidance in going to school was reported to have increased by %5 [52,66,94,103,108,109]. Obese children who think that they are not physically or emotionally safe at school and not supported by their teachers due to these negative condition have also less commitment to school. It was observed that these children who reported that they were bullied or harassed by their peers because of their weight were observed to have less commitment to their school and their belonging to the school decreased. Because of the school

perceived as an environment exposed to stress by obese children, the decrease in school and course performance becomes an expected result. In a study by Puhl, obese children who reported that they were exposed to weight discrimination were found to have lower school grades compared to their peers who were in ideal BMI range [108]. Obese children who have also similar demographic characteristics with their peers who are in the ideal BMI range have found to be less academically successful and this relationship between school performance and grade point average is associated with some psychological problems such as low self-esteem, depression, anxiety etc. other than weight status [110]. It is known that obese children can face many different psychological problems besides avoiding going to school and decreasing in commitment of school. A study with 9-year-old children who are in the clinically obese class stated that obese children had lower self-esteem than their peers with an ideal weight range and the reason for this was they had to be confronted with ridicule, discrimination, exposure to less friends, and exclusion from many social activities due to their weight [20]. Obese children can struggle with mood disorders, anxiety and depression 2.5 times more than their normal weight peers who do not face any weight discrimination [36]. In another study, it was observed that 11.7% of obese children were at increased risk of depression. In addition; in a study conducted by Madowitz on children between the ages of 8 and 12, findings to support this data were found and it was stated that these children who were exposed to discrimination or ridicule due to their weight had much higher depression levels compared to their peers who were not exposed to any weight discrimination. Moreover; Puhl found that 42% of overweight high school students felt sad and depressed when they faced with weight discrimination [102]. However, despite all these potentially dangerous consequences, weight-based negative attitudes and discrimination are very common in childhood and obese children continue to be at great risk. According to a recent study; 2/3 of girls and 1/4 of boys reported being bullied by their peers because of their weight. This rate is almost 60% for children with higher BMI [111].

In the early childhood weight discrimination and prejudice scenarios; these negative social experiences are becoming stronger and more dangerous when they become adolescent [32,94]. Especially, in the early adolescent period, it is highly anticipated and common for the individual to have pubertal and socio-emotional changes, thus; when social pressure about being thin happens to adolescent, it may

cause an individual to obsess his/her weight or become riducule target from their peers [108]. Moreover, due to the fact that the willingness and expectation of approval by peers in this period is quite strong and determination of their social identity and expectations from their life happen in this time period; it makes them highly vulnerable to a possible weight discrimination and prejudice to be exposed. Consequently, its effects become very important issue because of having very dangerous consequences for the adolescent individual in terms of their emotional and social development [112-114]. Especially during the transition period from primary to middle school, adolescents are more exposed to weight discrimination and both girls and boys are aware of their appearance or they start to do comparisons with their peers about their behaviors, bodies and physical characteristics [108]. In a qualitative study of 50 obese adolescent girls, obese adolescent girls were asked whether they had encountered any negative attitude or behavior because of their weight and all of the adolescents except 2 of them stated that they exposed to nicknaming, mockery or ridicule [52]. Almost 40% of overweight and obese adolescents reported that they are exposed to this weight ridicule or mockery along with social exclusion, ignorance and cyber bullying [102,103,111,112]. Discrimination seen in this period is generally started with a weight-based ridicule or teasing; and especially during physical activities in school life; negative comments, mockery and ridicule due to weight are very common [85,90]. In a study of 1555 adolescents, %85 of them stated that they had to become ridicule target due to their weight during their physical activity class in school. Also; in another study with 361 adolescents who went to the weight loss camp stated that they were bullied and ridiculed because of their weight. As a result of all these negative behaviors that may be exposed during physical activity, it is inevitable that the motivation of physical activity decreases and the behavioral pattern affects negatively [85]. In a study conducted on high school students declared that students exposed to such negative attitudes and behaviors had avoided doing physical activity or going to the gym and also increased their caloric intake [115]. Especially, individuals aged 10-14 years become more susceptible to sedentary and isolated behavioral patterns when they expose to discrimination, ridicule or teasing based on their weight [112]. In another study conducted on 1419 primary school students, similar findings were found to support this knowledge and the students who were subjected to bullying due to their weight were found to be less self-efficacy and self-conception of physical activity compared to their peers who were in healthy BMI range [85]. As a result, every physical, verbal or

relational weight discrimination and prejudice that is exposed can be associated with an increase in BMI on adolescents [111].

In a recent study in the US; the prevalence of obese adolescents has been found to be as high as 34% and it makes the situation very sensitive for adolescents who are vulnerable to weight discrimination that brings many dangerous consequences in emotional, social and physical aspects [111]. In some cultures, such negative attitudes and behaviors can be seen as a source of motivation for weight loss and social acceptance of the individual. However, even after weight loss in these individuals; dramatic effects persist due to her experience of being overweight [116]. Exposure to these negative conditions in childhood or adolescent period brings about very harmful and injurious consequences on the individual, regardless of their age [112]. According to a study Grilo conducted on 40 adult obese women; depending on the prevalence of weight discrimination in childhood or adolescence, when they become adult, they may face more body image dissatisfaction, anxiety, binge eating behavior or unhealthy weight control behaviors [52,56,69]. The reason for this is that in this age group, obesity is more severely devalued than other age groups and individuals are exposed to more negative and discriminating attitudes [94,103].

2.2.2. THE EFFECT OF OBESITY ON WORKLIFE

Weight discrimination is in almost all areas of life; from the recruitment process to benefiting from health services or from educational to personal life. It is such social discrimination type that the person is most exposed to by his family and friends and it can only be in personal level such as attitudes and beliefs or be in interpersonal level such as negative comments, ridicule etc. and be in institutional level that may affect the recruitment and training process [62]. In a study conducted with 3437 adults by Carr, interpersonal and institutional weight discrimination confronted by obese individuals was observed and found that obese individuals faced much higher levels of discrimination in their daily life, medical and healthcare source compared to individuals who are in healthy BMI range [117]. They are subject to many unwanted and unfavorable situations or prejudice in the hiring and interview process; not being able to get a higher amount of salary or promotion after hiring; attributing less qualified than other candidates with a normal BMI range; having fewer opportunities in education life such as rejection in school applications [9,20,79]. Even in cases of child adoption and

helping behavior, this inequality and discrimination can be seen [93,79]. In Swami and Chan's hypothetical traffic accident scenario, women who are in the ideal BMI range were more likely to be helped compared to women who are overweight and obese [93]. The similar helping behavior pattern can also be seen in children when they were asked to simple daily tasks such as removing toys or putting fruit juice into the cup. In children, there was seen a greater desire to help non-obese children instead of obese children [118]. Puhl and Brownell argue that the weight of parents in some countries can be used as a selection criterion in the adoption process. However, in all these processes, perhaps the most encountered one that obese individuals may expose and the most one that are involved in researches may be business life process. According to a recent meta-analysis, obese individuals face a lot of disadvantageous situations in the workplace compared to non-obese individuals and these disadvantages begin from the hiring process [93]. For example, these individuals who apply for a job are usually perceived by employers as having low potential, professionalism and ambition for job qualifications [30]. These negative attitudes and behaviors encountered in business life are quite prominent and widespread, and often bring about social and economic inequality on obese individuals [119]. Nowadays, it is determined that the employees in the obese BMI range are exposed to 37 times more discrimination in their work life than the non-obese workers [120]. So much so; according to data from a recent study in the US, the discrimination faced by obese individuals in business life is equal to or higher than gender and racial discrimination [67].

Negative attitudes, beliefs, behaviors, prejudice and discrimination applied in the daily life or workplace due to the person's weight can be applied directly to employee or a potential employee in the hiring process or a former employee. While these people often have similar competences in terms of the qualifications and demographic characteristics required by the job, it does not have equal opportunities compared to those with ideal weight [119,121]. For example; in a study on the recruitment process and including a hypothetical job application scenario, although obese individuals have the same job qualifications; it was found to be less preferred in the recruitment process compared to non-obese individuals [67]. In another recent study, the participants were shown the pictures of women in different weight ranges and asked to find out which of the women in these paintings they would want to hire or promote at least and most, or to put an end to their job in a hypothetical occupational event. At the end of the research;

there has been quite clear evidence of the distinction between overweight and obese individuals in work life, and women in ideal BMI range have been found to be more advantageous [122]. This weight discrimination is very common in worklife and 25% of 2249 overweight and obese adults have reported that they were confronted with difficulties in finding a job and 43% of them reported negative attitudes and behaviors by their employers [60]. Apart from the difficulties during hiring process; negative attitudes and behaviors against overweight or obese individuals can also be experienced after hiring. According to Roehling; obese workers are perceived by their employers as less self-disciplined, committed to work, emotionally unbalanced, and more lazy than those who are in the ideal BMI range [93]. Additionally; they can be paid less than those in the normal BMI range, they can be fired because of their weight, can be cut off from work, or may be less promoted than colleagues with an ideal BMI range, although they have the same job qualification [60,93]. In a study that included some European countries, a 10% increase in one's BMI was found to be caused 1.86% decrease in 1-houring wage for men and 3.27% decrease in 1 houring wage of women workers. This reduction in 1-houring wage is seen more severe particularly in Southern European countries [120]. Another study conducted on female workers stated that when women workers exceed 64 pounds from their ideal weight, their salary is reduced by 9% and this decrease is equal to the salary difference of an employee with extra 1.5 years of education and 3 years of work experience [123]. According to the German Socioeconomic Panel (GSOEP) research data, it was found that obese individuals received lower salaries, were less preferred during the hiring process and had longer periods of unemployment [11]. In fact; in the US, weight discrimination can be seen as salary penalties and even disciplinary work penalties [124]. Some studies have suggested that this negative relationship between the salary and BMI; may also differ according to gender. Therefore, a study was conducted to support this information, and as a result of the study, the salary cuts of obese women were found up to 24%, whereas in men this ratio were found to reach up to 19.6% [123]. The discrimination of obese women in worklife is not only seen in salary. It is also evident in the process of promotion. In a study conducted by Michigan State University and Hope College, chief managers of Fortune 100 and Fortune 1000 companies were examined and it was seen that only 5-10% of female managers were overweight and 5% were obese. However; when the male chief managers were examined, it was found that 45-61% of them were overweight and 5% were obese. With this information, it is concluded that overweight

and obese workers have an invisible barrier in order to reach high places in business life and this barrier is much stronger especially in women [125].

Although negative attitudes and discrimination due to weight in business life are quite common, nowadays; a possible weight discrimination that the person may be exposed to due to his weight is not guaranteed by labor law or federal law unlike other discriminations [126-128]. Therefore, the weight bias or discrimination seen in this area is increasing sharply and the need for legal arrangements to prevent unjust treatment of obese individuals is increasing [124]. However, despite the increasing public support and awareness on legal regulation against weight discrimination in business life, the necessary legal arrangements are still not being made [60,124]. Today, there are still no legal arrangements; it makes many employees or job applicants vulnerable to discrimination due to their weight and there is no practical evidence that they can seek their rights legally when they face such discrimination [123]. Weight-based negative attitudes and discrimination are not prohibited across the world, but only prohibited in the US state of Michigan and in 6 different regions (San Francisco, Santa Cruz, Madison, etc.), and the legislation of Michigan and 6 different regions is particularly focused on the discrimination that obese workers may be exposed to in business life [60,119,125]. Although the necessary legal arrangements have been provided in these regions, weight of the person is still demanded to be consider as human rights protected by The Americans with Disabilities Act such as gender, race, color, religion etc. However only some of these demands were successful [60,124]. This awareness and legal work on weight equality in the United States has also been effective in Canada, and the public's desire to regulate federal or regional law has increased. To this end, Jill Andrews who is a co-founder of the Body Confidence Canada Awards and known for his actions on weight discrimination started a voting for the inclusion of the weight of person in the Ontario Human Rights Code. If this legal arrangement is succeed, weight discrimination is expected to be prevented not only in business life but also in many different professional fields. However, the biggest obstacle in validation of these weight-discrimination cases is weight of person must be accepted as disability in Canada. Also, Bill Bogart who is a law professor at the University of Windsor stated that only barriers/disabilites that can not change in future or likely to change with great effort can be considered as discriminatory features and obesity or weight person is difficult to count among these situations. According to Bogart, although legal

regulations for weight discrimination are absolutely necessary, this is not the only solution of the situation. Individuals who expose this discriminations consciously or unconsciously to obese individuals have to be aware of these negative behaviors or attitudes [125].

2.2.3. THE EFFECT OF OBESITY ON EDUCATIONAL LIFE

As in business life; in education life, overweight or obese students are also seen to have been treated unfairly and have no equal education opportunities when compared to students in the ideal BMI range [46]. Overweight and obese students are often not accepted into prestigious universities, they are represented by their schools at a lower level than they should be, or they are not financially supported in the field of education [29]. In a study of Canning that included 2000 high school students, their school records and university applications were examined and although obese students have the same application rates and academic success compared the students with ideal weight range, it has been concluded that obese students have a much lower rate of admission to the university. Moreover, this discrimination is not only remained in acceptance process; students are considered to be more untidy, more emotional, more open to familial problems and more professionally unsuccessful than the students who are in the ideal BMI range after being admitted to an education system. In fact, they receive academically lower assessments, and they may also be suspended due to their weight [122].

2.3. THE EFFECT OF THE CONVENTIONAL MEDIA ON OBESITY PERCEPTION

In today's society, media use is widespread and according to the 2013 Nielsen report; young population aged between 12-24 years spend at least 22 hours a week watching television [114]. Therefore for modern society; media is aiming to give information, comments, discussion and even entertainment by focusing weight, diet, obesity etc. and is becoming a cultural agenda [129]. However, the studies in this area stated that media is using this power in a negative direction by creating norms and messages that contain weight related bias, discrimination and negative attitude [130]. Obese individuals are generally presented as ugly, non-intelligent, negligent and responsible for his/her weight etc. by many conventional media sources in a

discriminatory and prejudicial way, thus; discrimination is becoming to be reflected as a socially acceptable perception [10]. Apart from this, the negative features that obese individuals may have are presented more than necessary and individuals with a thin or ideal BMI range are generally presented in sympathetic, successful and attractive ways [23]. Such negative perceptions and attitudes that address obese individuals in a discriminatory manner can be seen in cartoon films, daytime programs, films, sitcoms, books, newspaper headlines, and even video sites on social media and these media sources also constitute a structure and model that would cause weight-related humiliation, accusation or condemnation towards obese individuals [38,129]. Greenberg stated that television programs and series that are being broadcasted in prime-time give place to overweight and obese individuals in side roles rather than the leading roles and these roles have generally less romantic interactions in series [114]. In addition; individuals with thin or ideal BMI range are mostly seen as eligible for roles that are sympathetic, attractive or honored by the audience, on the other hand; overweight or obese individuals are chosen for roles that are tend to receive negative comments or weight-related humor by viewers [23]. A study that examined especially the weight-based comments made in this area and television programs concluded that overweight and obese characters have been seen to have received much more negative comments from viewers compared to the ideal weight characters [114]. Fout also conducted a similar based study and examined the positive and negative verbal comments of the viewers towards characters in the series or programs. In the end of the study, the characters in the television programs and series were found to be exposed to a negative behavior model due to their weight or body size [130,131]. Apart from the conventional media, in entertainment-based media; weight or weight-based discrimination is also addressed in a humorous and critical manner rather than as a social problem. For example; in famous American film named The Nutty Professor, Dr. Klump's boss asked him to come his office by calling him "You fat tub of goo!". Moreover, this quote used in the film is preferred to describe only the weight of the character [131]. Perhaps one of the most dangerous perceptions of conventional media present is, it is shown thin/slim body as normal and easily achievable by the society; and normalize weight/obesity-related prejudice, negative attitudes and behaviors by showing these in acceptable level [38,132]. This cultural message is reflected as a very strong source by media; and therefore; the unrealistic bodies are shown as the ideal body size and creating an undesirable relationship between thinness, attractiveness and healthy living standards

[23]. The perception of this ideal thinness in the media is generally represented in two different ways; the first one is; thin and successful women are presented in a very attractive way and create a message that other women should imitate these women or they should be similar to these women. Second one is created by making the opposite situation of this perception and overweight or obese individuals are presented in negative and undesirable way, thus; strengthen the perception of thinness [131]. Even though this perception which was adopted by the media appeared as "slimness" in the 1900s, this perception shifted to "thinness" in the 1950s, and the idealized body became even thinner and thinner [5]. From 1950 to the present, in the years that followed, the ideal weight value for women has decreased dramatically and especially the thinness of the models has increased [23]. The Miss American Pageant beauty contest can be given as the most important proof of the thinness of the ideal weight in the 1950s and when the perception of thinness in the Western countries [133,134]. The winner of the beauty contest in 1922 had a height of 170 cm and weight of 64 kilograms (kg). However, by the 1980s, the average length of the contestants was 173 cm, but their average weight dropped to 53 kg [133]. In a study conducted in New Zealand University students in 1988, although; 80% of female participants were clinically found at their ideal BMI level, only 18% stated that they saw themselves in normal weight [135]. Nowadays, television programs continue to show that extreme thinness is more ideal and attractive, and a person's social identity is often described by his/her physical appearance [5,134]. The thinner women and the more muscular or fit men are seen as more successful and attractive. So much so; overweight and obese individuals are perceived as more negative than minority groups that contains individuals who have physical disability, facial disfigurement or amputee by society. These negative attitudes and behaviors are more widespread in society. As it reaches a severe level, obese individuals have such negative thoughts about themselves and their bodies and begin to depreciate their own bodies [5]. Studies that carried out for many years and examined the negative effects of conventional media sources such as television, magazines, etc. on individuals' perception of their own body stated that many individuals is starting to have an obsessive mindset about weight and weight loss because of conventional media [133,136,137]. In the media; their is scientifically wrong thoughts and beliefs that claim person should have the same ideal weight no matter what their height, the person's weight and fat ratio can fully be controlled by their own and the person can live with minimum calories in a healthy way. Therefore; these wrong thoughts and beliefs can

cause exacerbation of further obsessive mindset about weight [133]. However; recent studies suggest that when overweight and obese individuals are reflected in positive way and perception instead of being reflected in such a negative way and perception in conventional media, prejudice and discrimination based on weight in the community can be reduced [38]. Nevertheless, especially with the increasing popularity of internet and social media among adolescents, it is clear that this suggestion cannot be enough to solve the problem and the effect of new media formats on the body image of individuals should be investigated. The power of social media is indisputable when considering that the 12-17 age group which constitutes a large part of social media use has a great importance to social media sharing [136,138,139]. By Perloff; it is stated that due to the fact that social media has this great power and feature that is available at any time with personal devices when accessing of internet is on; it can generate the perception of thinness maybe even more effective than conventional media [140].

2.4. THE EFFECT OF INTERNET AND SOCIAL MEDIA ON OBESITY PERCEPTION

Unlike conventional media, social media provides social information that will enable people to have self-presentation, self-portrait and self-promotion, and this provides a continuous flow of information to their users [139,141]. Social media users usually share their ideal or optimal state on social media sites or upload the images that they find most attractive to their accounts [136]. Nowadays, although it is seen as a platform where many different people share mostly pictures; the fact that users can also communicate with their friends or peers and play a much more active role in the communication process is one of the most important features of social media [136,141]. Therefore; thousands of pictures shared through social media accounts and the most ideal images that users have been exposed from their peers or celebrities are making them to open comments and criticism because of their apperance. However; recent studies argued that when person is continuously comparing his own appearance or body with another person's appearance or body, they start to perceive or devalue his own body negatively and creating an inconsistency between his own perception of body and ideal body image [136,139]. Especially, women who are exposed to the images shared by the models who have bodies that are considered ideal by the society start to internalize the idea of being too thin to is normal and healthy and begin to dislike their own bodies or not be satisfied with their body [23]. According to Bandura's Social

Cognitive Theory; bodies that are too perfect to be true or healthy and shared in the media creates the perfect body perception/image that is almost impossible to obtain for individuals [142,143]. Over the years, women in the US are exposed to the perception in the media that their body must be thin or slim, and that the physical appearance is more important than health [138]. For this reason, most women in developed countries, including Western culture; focus on being thinner istead of being in weight which they are healthy [135]. Dissatisfaction or negative evaluation of the body they have is very common among women, and it is very important to identify and evaluate the factors that cause this dissatisfaction [144]. In studies conducted in this area, body dissatisfaction is found in 85% of the female population, especially in developed countries [142,145]. While women in the US refer to thinness as the most important rule of being physically attractive, almost 50% of them state that they do not like their physical apperance and have a doubt in their mind about their weight [141]. Moreover; Grogan found that the women in the United Kingdom believe that their lives will change in better way if they are thinner [135]. Also, in a survey conducted by Enquire magazine in the 1990s showed that half of the female readers expressed that they are willing to be crushed by a bus rather than being fat and 2/3 of them preferred not to be clever rather than fat [146]. Similar based study was also conducted by Garner and in the end of the study, 89% of US women were found to be not happy with their current weight and want to lose weight and 24% stated that they are ready to sacrifice 3 years of their lives to fall to their desired weight [135]. Moreover; this perfect body image which is very thin and unrealistic is not only cause body dissatisfaction; it can also lead to unhealthy, impaired, anorexic or bulumic eating behaviors in order to reach this body [134,138,142,143]. Especially; body dissatisfaction, drive for thinness and impaired eating behaviors that appear during adolescence and affect health negatively are originally caused by beauty and body depictions which are reflected in the media and far from reality [139]. Depending on the perception of social media; in his study, Achtenberg examined how the perception of 9th grade students on their bodies has changed. He found that media's female and male body depictions that are far from reality affect the students' mindset and lead them to make some unhealthy and harmful decisions such as apply unhealthy nutrition programs, use dieting pills, do extra or excessive exercise etc. [138]. Apart from that, unhealthy body image created by social media may also cause some psychological problems such as stress, anxiety, depression, loneliness, negative mood, low self-esteem, suicidal tendency, etc. [135,138,141,145]. For example, in a recent

study, 20 minutes of Facebook social media application usage has been found to cause a more negative mood than spending time on the Internet other than social media [147].

It is known that men are often exposed to similar social media perceptions and pressures, although the focus is mostly on women in terms of body dissatisfaction or negative perspective about body [141]. In a study conducted in Germany, half of women in the 25-74 age range and 1/3 of men were found to have body dissatisfaction [137]. However; it is seen that the media does not apply equal standards when it presents how women and men should be. On conventional and social media; women are only introduced in a very thin way, and restricted in a very firm sense of what their ideal body measurements should be, however; for men, many different body sizes are represented and their ideal body size is not kept within a single or sharp border. In conclusion, this difference in perception between men and women causes men to feel less dissatisfaction with their bodies compared to women [135]. Apart from this difference between men and women, the relationship between social media and body perception is also known to be related to some demographic characteristics, physical characteristics, psychological status etc. For example; in a study conducted by Groesz, it was revealed that young people were more affected from the unrealistic body image created by social media than adults. In addition to Groesz, Egbert also conducted a study on this area and found that individuals with low self-esteem and self-concept were more susceptible to unrealistic body image from social media, as in young individuals [138]. Like age and psychological factors; studies have been conducted to examine the differences of cultural factors on social media effect as well. In one study, American and Korean social media users were examined and according to the results, Korean social media users were found to be more susceptible to social norms and social media effects because of their collectivistic society origin. Similar findings are found in all Korean-like collectivistic societies that prioritize social tasks and norms imposed by society, and instead of the individual's own perception and thought, the thoughts of others are considered more important. In addition, in these societies, it was observed that there was a greater desire to make a socially superior comparison to other individuals [141]. Similar cultural studies have also been conducted on women in the Caucasian region, and Caucasian women have been found to have much higher levels of body dissatisfaction compared to Afro-American women. According to these studies, Afro-American women considered higher BMI ranges as ideal and were less susceptible

to the thin body image that created by social media. On the other hand; women in the Caucasian region considered the lower BMI ranges as ideal and prefered to have the ideal weight rather than being healthy. This is due to the fact that Afro-American women are exposed to higher weight samples in social media or in conventional media, while women in the Caucasus region are exposed to thinner or slimmer samples in these media sources [132]. Therefore; although the impact of social media use and social media on body image is universal, it should be noted that the extent of this impact on individuals varies according to many different factors such as demographic, psychological, cultural factors etc. [141].

The relationship between the social media and the body image it creates is a very large area of study and still contains many unknown, important points. Although many studies in this area have been made on female population in adolescence and adulthood; it is necessary to work on larger and diverse populations in order to more clearly define the unrealistic body image of social media. Nowadays, even if more studies are needed for scientific findings; according to current findings, it is indisputable that body image and media literacy intervention programs should provide explanatory information about this effect on social media users. With these programs, behind the scenes of idealized or unrealistic sharings or contents in social media can be explained; and children and adolescents can be trained on the possible psychological effects of comparisons based on physical appearance [136]. Moreover; instead of perceiving his/her body negatively and make a constant self-criticism; it is also possible to teach that it is a normal process for human beings to have defects due to their nature by approaching their body more positively. According to Kelly; being more sensitive and positive towards own body can preclude depersonalisation, prevent body image concerns and accelerate the process of accepting the person himself/herself as it is. Individuals passing through this process become are less embarrassed from their bodies, make less social comparisons and be less concerned about their appearance. In this way; it is thought that the internalization of this drive for thinness can be precluded by preventing the perception and pressure of being thin created by social media [148].

2.4.1. THE EFFECT OF FACEBOOK USE ON OBESITY PERCEPTION

Other than conventional media sources such as television, newspapers, magazines in which unrealistically thin body image is created; when considering that various social media applications such as Facebook, Instagram, Twitter, Pinterest, Tumblr etc. are quite popular nowadays and used very intensely by the adolescents. Thus; it is inevitable that these social media sources will be more effective in individuals to perceive thin body image [139,140,144]. Although social media consists of many different platforms and applications, nowadays; Facebook is known to be more than 1 billion active users worldwide and is also known as the most popular social media application [136]. Social media users can create public or publicly closed profiles via Facebook application and in Facebook; family members, close friends and acquaintances can also communicate with each other and can customize their pages by sharing photos and information about them on these pages [147,149]. Also, before uploading photos to these customized profiles, the application offers them to the ability to edit photos so they can show themselves in the most perfect and ideal way and manage their self-presentation in any way they want [147]. Due to the ability to present the most ideal and perfect photographs; users of this application become continuously subject to exposure to photos with such content from pages that support celebrities, and the ads within the application. Therefore, while the popularity of the application continues to increase rapidly; it is important to determine the body image that is mostly shown in adolescent group [149].

Facebook users are exposed to at least 10 million photos shared by other users during the day. In most of these photographs, the bodies of the people who share it are the closest to perfection, ideal and thin, and the life that they live is pictured in a most perfect way [141,147]. The typical Facebook profiles which especially select and share these unrealistically ideal pictures get comments on how thin and perfect bodies they have under photographs [144]. It is almost impossible not to be exposed to these unrealistic photos and comments on Facebook. Thefore; when users are continuously exposed them, their ideal body image starts to change [141]. Exposure to photos, images or profiles that are displayed on Facebook as an ideal or optimum shared by a some users; it adversely affects the assessment of users' own body, state of health and physical appearance [147]. In a study on young adolescent girls and high school

students, Facebook users were found to be more susceptible to drive for thinness, internalization of thin body image and making a comparisons about physical appearance compared to their peers who do not use Facebook [136]. Also; in another study conducted on female high school students in the US; students using Facebook have found to have higher levels of self-objectification and as in the previous study; social comparison was found to be more common in Facebook users compared to students who do not use Facebook [149]. Similar findings have also been found in studies on men, and a positive relationship between social media use and self-objectification and social comparison has been found in male Facebook users [136]. When Facebook users interpret profiles that they see similar and equivalent, they tend to make an downward or lateral comparison. However; when they interpret profiles with better or more ideal bodies, they mostly make an upward comparison. Especially it is commonly seen in university students and students generally tend to make an upward comparison when comparing their close friends, peers or celebrities with themselves. As a result, this mediates the relationship between body image perception and Facebook use [138]. In addition; another recent study found that spending a lot of time on Facebook and therefore being a susceptible to making social comparisons regularly can lead to higher levels of body dissatisfaction and drive for thinness [136,142]. However, recent studies have shown that social comparisons of both upwards and laterally can cause self-devaluation that is shown up when discrepancy occurs between negative body image, drive for thinness, eating disorders, or the lack of realistic bodies in the social media and the real/natural bodies that users encountered in real life [138,139]. Other than general Facebook use; individuals' exposure to the photos in this application is known to be more effective in creating this negative result and these photographs which are far from reality or especially edited also trigger unhealthy desire to lose weight [142,144,149]. However; in a study that examines the effects of Facebook on weight and body image, university students were found to have no adverse effect on weight or body image when spending time on Facebook is less than 20 minutes [136]. In contrast to similar based studies in this area; spending time on Facebook was found to reduce concerns of body, weight or shape. Also; a positive relationship was found between the number of friends one has on Facebook and one's subjective health [136,141]. It is thought that users who have more friends in the application perceive their social connections strong and thus support their self-esteem [141]. However, it should be kept

in mind that the time spent on Facebook in this study is shorter than the usual time spent by Facebook users in the world [136].

Although the negative impact of Facebook on the body and weight image has been proven by many studies; recent studies show that this effect may vary according to the gender of the users. According to these studies, female users were found to be more susceptible to body dissatisfaction and more likely to make social comparisons [139,147]. In one meta-analysis study, these findings were supported and results showed that female users are more affected by social comparisons made through Facebook compared to male users in terms of body image dissatisfaction. Also; according to a study by Pew Research Center; 54% of female Facebook users stated that they use Facebook for picture and video sharing, while only 39% of male users said that they use Facebook for this purpose. In this study, it is seen that female users prioritize their physical appearance while they are sharing photos on Facebook. However; in male users; it was determined that they prioritize sense of humor, jokes and logical profile content. This shows that female social media users may more prioritize the self-presentation and interpersonal aspects of social media and tend to make lateral social comparisons while viewing other Facebook profiles compared to men users [139].

2.4.2. THE EFFECT OF INSTAGRAM AND PINTEREST ON OBESITY PERCEPTION

Like Facebook, Instagram application also appeals to many social media users. However, in contrast to other applications, it is more based on photo sharing and therefore gives more opportunities for physical apperance based social comparisons [136]. In a study examining 600 different Instagram profiles, the majority of photos shared in the application were observed and in photos, just one uniform body shape is found for both women and men (a very thin body in women and muscular body in men). Continuous exposure to photos with this content can lead to unhealthy perception that supports women have to be thin or slim, men have to have muscular body and these bodies are ideal and healthy [137]. Apart from that; especially with Instagram; the users of the Pinterest application are also exposed to images and profiles based on “fitspiration” and “thinspiration” which encourages its followers to exercise, or encourages healthy eating for becoming fit and having an attractive body. However; in a recent study, as in Facebook users; the users of these social media applications were also found to have more negative mood state and body dissatisfaction when they were

continuously exposed to images that induce thin body image rather than be exposed to images that not induce such body image and be more neutral [136,140]. Pinterest known as an application where users can create a content of their own with the pictures that they receive from different websites or blogs, and organize them in a visual board; also contains such weight-based images and messages been called as “thinspiration” or in the abbreviated form as “thinspo”. So much so, application is starting to be expressed as “Thinterest”. For this reason, managers who are concerned about the misperception of the application on thin body image and the possible effects on the users of it have decided to write warning messages on certain parts of the application by developing a protection shield. In this way; users entering Pinterest and searching the word “thinspiration” encounter with message that says “Eating disorders are not a lifestyle choice, they are a mental illness that can bring with serious health problems and life-threatening difficulties “. However; despite all these precautions; Pinterest users can still share contents that include idealized thin body image unless the content only supports fitness and health and does not support self-harm. For this reason, posts that cannot be shared under the name of thinspiration are shared with the same or similar contents as “fitspiration” [140]. In a recent study with Australian university students, students who were exposed to “fitspiration” content via Pinterest application were found to have higher levels of body dissatisfaction and negative mood state, and lower levels of self-esteem compared to students who exposed to posts without these contents [148]. Therefore; these posts originally aimed to motivate and encourage, these posts start to be out of purpose and users tend to have a perception that these content is unattainable or unsuccessful. On the contrary; these posts cause the person to feel guilty, to perceive his/her own weight or body as negative, to exercise more than necessary, and to lean to diet lists that are thought to be cleansing [137,148]. While similar posts and messages can be seen as motivating for some users and cause person to be more resistant to healthy eating and physical exercise, they may have an adverse effect for some users and cause them to feel as if they have an inadequate or defective body. Therefore; users who have been exposed to these photos for a long time and spend a lot of time in social media applications; it is no surprise to expect these negative effects or perceptions occur and progress to eating behavior disorders [137].

2.5. THE EFFECT OF OBESITY ON HEALTHCARE SERVICE AND HEALTHCARE PROFESSIONALS

While the prevalence of obesity continues to increase rapidly across the worldwide, the number of obesity patient that healthcare professionals confront is increasing as well [53]. Although the most effective treatment of healthcare professionals to their obese patient is quiet impossible due to the course of disease; it has a great importance that healthcare professionals have a neutral, unbiased, trustful and positive attitude towards their obese patients [8]. This communication is expected to be established between the healthcare professional and the patient is vital for reducing the risk factors of the disease, prevention of the disease, or the management of the disease when the disease occurs [32]. Although primary healthcare professionals are trained to encourage their patients to a healthy lifestyle and thus; expected to be not have a weight-based negative attitude or behavior towards their patients; in recent studies, it is found that healthcare professionals may have negative attitudes, beliefs and behaviors against obese individuals [33]. However; these prejudice, negative attitudes, beliefs or discrimination against obese individuals are not only seen in primary healthcare professionals; the students studying in healthcare services such as medicine, nursing, nutrition and dietetics, psychology, physical education etc. have also been reported to have these weight-based attitudes [2,76,78,150]. Moreover; even social workers who are effective in the multidisciplinary treatment of obesity and involved in the psychosocial development of patients have found to have many prejudice and discrimination [151]. In a study conducted by Puhl in which 2671 overweight and obese adults were included; 69% of them reported that they have been subjected to these negative attitudes from their doctors, 46% of them reported to subjected from nurses, and 37% of them reported having been subjected to a negative attitude or behavior from their dietititians [6]. Although there are many different reasons for these negative attitudes and behaviors seen in healthcare professionals, generally their main reasons are the inadequacy or inconvenience of the clinical instruments required for the treatment and hesitation from the complications during the complicated course of obesity treatment [45,53]. Apart from this, healthcare professionals may not feel ready to treat the obese patients or think that he/she does not have the necessary qualification and competence to provide weight loss treatment. These attitudes frequently encountered in healthcare professionals were mostly determined due to healthcare

professionals' thoughts which state that obese patients were more inconvenient to treatment process compared to patients with ideal weight and less motivated against lifestyle changes. These negative beliefs against obese individuals and the belief that they are the only one responsible for their weight exacerbate these negative attitudes and discrimination of healthcare professionals towards obese individuals [45]. As a result; these negative attitudes and beliefs of healthcare professional affect their behaviors towards obese patients and thus; some serious problems and negative consequences can occur in the treatment process of the patient [35]. The quality of communication between healthcare professional and patient decreases; the patient's clinical prognosis proceeds in a negative direction; the expectation of treatment decreases and the expected results cannot be achieved [45,152].

Due to the negative attitudes and behaviors that obese individuals may be exposed; they feel themselves as second-class citizens in the area of healthcare, and in many studies; female obese patients ranked in the first; male obese patients in the second most source prejudice and discrimination faced by the health care personnel are reported to be physicians [4,42]. According to Hebl; many physicians behave differently to obese patients compared to their patients with ideal weight [83]. For this purpose, a similar study was conducted among obese individuals and they were asked to list the obesity bias and discrimination that can be seen from 20 different sources. At the end of the study; obese individuals stated that they were exposed to negative attitudes and behaviors by their family members in the first place and by their physicians in the second place. Also, in this study, 53% of obese female participants were found to be exposed to poor comments about their weight by their physicians [38]. In another recent study involving 2449 participants; while 69% of the participants stated that they were subjected to weight discrimination by their physicians once in their lives; 52% stated that they were faced with this discrimination in many times [28]. Apart from the perspective of obese patients, Jay conducted a study from the perspective of physicians and in the study which included 250 physicians, 40% of them were found to have negative attitudes and behaviors towards their obese patients [38]. Physicians in their study stated that they felt mostly irritable when treating obese individuals and more than 50% of them represent obese individuals as strange, unattractive, ugly, dishonest and incompatible with treatment [10,38]. As a result of this study; it was determined that these negative attitudes and thoughts of the physicians affected the behaviors of the

physician; and therefore; physicians can spare less time, less respect compared to patients with ideal weight, demand more tests and examinations to avoid personal contact, less encourage preventive services such as mammography and Pap smear testing, avoid analyzing treatment options needed to lose weight and be reluctant to perform pelvic examinations [10,37,38,76,150]. Moreover, it is known that overweight and obese patients are at risk for endometrial and ovarian cancer, and pelvic examination is of great importance in early detection of these types of cancer [36]. However; it is an undeniable fact that due to the patient's weight; the consultative behavior of the physician and physician's intervention to the patient can change [37]. In addition to physicians; prejudice and discrimination against obese individuals are frequently encountered in nurses, personal trainers and dietitians who play a primary and effective role in the treatment of obesity [9]. Jung found that 37% of obese patients were exposed to negative attitudes or behavior by their dietitians or nutritionists [4]. In a similar based study, although they have a fundamental role in the prevention or treatment of obesity; it has been found that dietitians have a high level of fat phobia and a implicit prejudice against obese individuals [76,153]. In a recent study; the fact that dietitians feel anger towards obese individuals has emerged as a result of the fact that they are far away from reality in the expectations of weight loss process, often fail to comply with the diet program that is recommended and that their lack of motivation [154]. Although dietitians are aware of their primary role in the weight management and obesity treatment as healthcare professional; it is important that they should realize that they are not immune to fat phobia and they do not consider environmental, psychological and genetic factors as a causes of obesity [37,83]. However, in a study by Mc Arthur and Ross on 439 dietitians, most of them saw failure in diet recommendations, physical activity, goal-setting as only causes of obesity [64]. In addition to dietitians; students of the Faculty of Nutrition and Dietetics may also have similar negative attitudes and behaviors. According to Puhl's study; although obese patients have the same nutritional, medical and biomedical history compared to other patients; dietetic students have perceived obese patients as having lower health status and unhealthier nutritional habits [76]. Berryman also found a high level of fat phobia in 16% of the students of the faculty of nutrition and dietetics in his study [12]. Besides fat phobia in dietitians; although it is known that physical activity and exercise play a very important role in the treatment of obesity; fitness coaches and physical education teachers may also think that overweight and obese individuals are reluctant, inconsistent

and having lower social skills compared to individuals with ideal weight [150]. However; in nurses, the situation is much more serious; and while many nurses are expected to provide counseling and help in the process of weight loss for obese patients, many recent studies have found negative attitudes and behavior similar to prejudice and discrimination against obese individuals in the society [49]. Considering that nurses have the most labor force in the treatment of health services or obesity and spend the most time and effort with obese individuals; although the results are surprising, they are not immune to negative attitudes against patients and thoughts that involves their patients are lazy, incompatible, unattractive, unhealthy etc. is also an undeniable fact [6,155]. But on the contrary; it is also considered that nurses may be vulnerable and not immune to such discrimination and prejudice because they are in close contact with obese patients in health services [45]. In a study conducted on 358 nurse practitioners who participated in a national congress; nurses were found to have a negative attitudes and thoughts towards overweight and obese patients; and these patients were found to be not perceived as good, successful, healthy, clean and suitable for marriage compared to their patients with ideal weight. In another study involving 398 nurses in the United Kingdom, it was found that BMI values of nurses affect their perception towards obese patients; and nurses with high BMI have been reported to have lower levels of negative attitude and behavior towards obese patients [38]. While 69% of them believed that personal choices such as food consumption and exercise habits cause obesity; it has been observed that 1/3 of them believed that they are faced with obesity because they do not have sufficient determination in food consumption [6]. Other than the BMI of nurses; age, professional experience and gender factors should not be forgotten that they may affect perception, attitude and behaviors of nurses about overweight and obese individuals. However, in a study conducted for this purpose; the nurses who were women and had low BMI values were found to be have higher levels of weight-based prejudice; and no significant relationship was found between age and occupational experience and weight bias [45]. However; whatever the outcome is, negative attitudes and behaviors towards obese individuals are known to be very common among nurses, and it is also possible to encounter such perceptions and attitudes among other healthcare professionals other than nurses and even students studying in this field [12]. Especially the students who are studying to become healthcare professionals were found be one of the most important sources of weight discrimination, together with the physicians; and it was seen that they perceived obese individuals as ugly, lazy,

undisciplined, depressed, clumsy, ineffective in applying the recommended diet list or responding to consultancy services [10,76,83]. Moreover; some medical students treat their obese patients with a humiliating manner in a hospital setting and see these patients as an additional workload for hospital workers [10]. According to the students studying in this field; such negative traits are the main reason for obesity and genetic and environmental factors are avoided or not considered [76]. So much so; a view is embraced that a person is the only responsible one in controling his/her own weight, and obesity is regarded as a personal irresponsibility and blame [156]. In other words; the genetic, environmental and psychological factors associated with obesity are avoided; and only personal and controllable factors regarding obesity are taken into account. As a result; this misperception brings negative attitudes and behaviors towards obese individuals [5,76]. This misperception about the factors causing obesity in medical students shows that the weight-based prejudice and negative attitudes can occur not only in clinical experience but also in educational process, and it shows that there is not enough attention to weight discrimination and prejudice in the medical curriculum or occupational integration in health departments [12,64,83]. For this reason, it should be emphasized that the focus should be on the behavioral approach to be applied within the health sciences curriculum and healthcare programs. In today's curricula and programs, attention is drawn to the fact that the focus of change is only an individual, while the patient is held solely personally accountable without considering environmental and socio-ecological factors [5]. For example; in a study with 255 physicians, Harvey asked physicians to list 5 factors that were thought to cause obesity and found a rankings of results like sedentary lifestyle, food addiction, personal traits, binge eating due to depression, and inconsistency. However; the factors that are less controllable by person such as metabolic disorders, adipose cell defects, age, etc. were found to be at the bottom of the rankings. Thuan and Avignon were conducted a similar study with 607 physicians and included that physicians placed inconsistency and incompatibility of obese individiual as the highest level of obesity cause in the rankings [8]. In this way, obesity is only seen as a disease caused by personal failures and inadequacies and ignoring the biological, genetic and environmental causes can affect the psychological health of the obese individuals and leads to a negative progression of the health services they receive [2,4]. For this reason, it is important that healthcare professionals or students in this field should understand the etiology of obesity in a

whole perspective and recognize that obesity is a multifactorial disease and is not always controllable by individuals [81].

The negative attitudes and behaviors of many healthcare professionals and students in this field are often noticed and felt by obese patients [83]. When patients feel this distance between the physician, they start to think that they are not cared enough in the medical setting and are not welcomed by the physician [36]. As a result; the relationship between the patient and the physician which is essential for the patient to obtain the best result in the process from disease prevention to treatment is negatively affected [154]. This negative message received and felt by the patient's physician may even cause the patient to stop taking the treatment of obesity which is vital for him or to discontinue his ongoing treatment [10,33,37]. When these individuals, even if they have high self-esteem, feel that physicians have a negative attitude and belief about them, they delay or cancel the treatment. Especially during the dietitian service; they can hesitate from dietitians to say that they cannot lose weight, fear before getting on scale or fear being undressed before getting on a scale. Thus, they may postpone or cancel their appointment [83]. In particular, if patients who were said to be gaining weight by the dietitian in their previous appointment, they do not want to take the next appointment or they do not want to get on scale for measurement during their next appointment [38]. According to studies, obese patients also refrain from taking preventive healthcare services or screening services for early detection of diseases in order to avoid these negative attitudes and discrimination which they are exposed by their physicians [33,53]. These negative behaviors and discrimination which are exposed by physicians to obese patients due to their weight often trigger the fight or flight mechanism in obese patients; therefore, it has been reported that it increases the level of anxiety and affects the cognitive functions. As a result; patients' communication efficiency decreases and some defensive behaviors such as isolation from society or treatment opportunities can develop [6]. Especially obese female patients who do not want to experience humiliating or degrading behavior from healthcare professional, embarrassment during weight measurement or discomfort due to inconvenience of medical equipment during examination may delay taking preventive healthcare service or starting obesity treatment [10]. For example; in a study with 498 obese women, the female participants were asked whether their gynecological cancer screenings that were expected to be performed routinely is affected due to their weight. At the end of the

study 52% of them stated that they are affected from negative, discourteous, rude attitude or behavior of the physician; feel embarrassed during weight measurement and also feel embrassed of potential inconvenience of medical equipment. Also in study, it is found that as BMI increases, avoidant behavior in preventive health services and cancer screening also increases [38]. So much so that many healthcare professionals have stated that as the patient's BMI increases, their respect for the patient and belief for the treatment's success decrease [76]. In particular, it is also known that female patients with BMI 35 or more expose 3 times higher levels of negative attitudes, beliefs and discrimination compared to male patients during healthcare service [33]. Therefore; weight bias and discrimination that may be exposed by healthcare professionals are become major problem for society when considering their negative effects on optimal quality of healthcare service [10]. These negative behaviors do not only prevent the clinical judgment of the physician, it also prevents obese patients from receiving medical help and treatment which is essential for weight loss [7,9,26]. For these patients, frequent consultation and contact with the physician are the primary rules of treatment, although many of them postpone or cancel their treatment [83]. Therefore, the expected outcome of treatment results cannot be obtained and the risk of obesity-related mortality continues to increase [7,9,26]. In conclusion; whatever the reason for the overweight or obese individual to postpone health services; lack of communication between the obese patient and his physician or physician's fat phobia that perceived from patient cause a vicious cycle between negative attitudes or behaviors due to weight and obesity and aggravates obesity state. When considering all these aspects, it is important to know that devaluation or misjudgment of obese individuals do not motivate them to lose weight, but rather to prevent their treatment process [38]. Especially, as the prevalence of obesity continues to increase, the possibility of healthcare professionals' confrontation with these patients increase as well. Thus; when they are confronted with these individuals, it is one of the most important points for them to approach without being biased and having a negative attitude [35,38]. As a result; medical staff should be willing to treat these patients and have adequate qualification and psychological basis for empathizing with these patients [35].

2.6. THE EFFECT OF SOCIODEMOGRAPHIC AND PERSONAL CHARACTERISTICS ON OBESITY PERCEPTION

Although negative perceptions, attitudes and behaviors towards obese individuals are seen effectively in many different populations in terms of gender, age, race, ethnic origin, socio-economic level etc.; in recent studies, it was revealed that this negative weight-based attitudes and behaviors may vary according to age, gender, physical activity level of the person and BMI. For example; in a study examining the effect of sociodemographic characteristics on weight bias and discrimination; it has been found that women are exposed to more prejudice and negative behaviors compared to males and individuals with having not higher levels of physical activity and those with higher BMI ranges were found to be confronted with higher levels of weight bias compared to those with having higher levels of physical activity and lower BMI ranges [14,65]. Although it has been found that women are exposed to higher levels of weight bias and discrimination compared to male obese individuals, these results are still controversial and contradictory [116]. Some studies conclude that there is no difference between men and women in the exposure of weight bias, while some argue that women are more exposed to these negative attitudes and behaviors compared to men [61,116]. In these studies which mostly emphasized women; obese women were found to have higher levels of lower self-esteem, depressive symptoms, and body image dissatisfaction associated with obesity [91]. In addition to adult obese individuals, the effect of gender on weight discrimination was also examined in obese adolescents, and similar differences were found between female adolescents and male adolescents. In the studies; adolescent girls were found to be more concerned with their physical appearance and body than adolescent boys, and this could have reached an obsession level [146]. In addition; it has been reported that obese adolescent girls face much more prejudice and discrimination because of their weight compared to their male peers; as adults obese women do [105]. Apart from the gender factor; the BMI of individuals is thought to affect the extent of weight bias and discrimination [61,65]. Especially in studies conducted on obese women, the women with higher BMI were found to have lower rates of making a relationship with the opposite sex than with women with lower BMI. Likewise; it was determined that the income levels of these individuals decreased as the BMIs of these individuals increased. However; when the obese male individuals were examined, although the BMI increased, a decrease was observed in the income level; this drop in income level in women has been observed to start at much lower

BMIs [61]. In addition; while it was observed that female individuals were exposed to these negative attitudes and behaviors at a lower BMI levels compared to male individuals; men individuals were exposed to similar attitudes and behaviors at a higher BMI level of 35 and above which considered as obesity. On the other hand; women are exposed to these attitudes and behaviors at BMI level of 27 which is only 2 points higher than 25 which is considered to be healthy. Therefore; by the society, male individuals who are overweight or obese are seen as normal or acceptable; while similar situation is not valid in female individuals [118]. The reason for this difference between male and female individuals was investigated in many different studies and in a study conducted for this purpose, women were reported to consider lower BMI ranges (BMI: 23.7) as overweight or obese while men were reported to consider higher BMI ranges (BMI: 26.1) as overweight and obese. In other words; while the BMI ranges that women individuals consider as overweight are clinically accepted as healthy range in literature; it shows that although women are taken part in BMI ranges; they perceive themselves as more overweight or obese compared to male subjects. However; in male subjects, the BMI cut-off value which they found themselves overweight or obese was found to be 25 or higher [61]. In William's study, it was observed that girls aged between 5-10 years perceived their body as overweight and chose the thinner body as the ideal. On the other hand; no difference was found between boys' own weight and their ideal weight [100]. It is also known that while female individuals consider lower BMI ranges as overweight or obese compared to male individuals; they have also higher levels of drive for thinness than men [73]. Even in girls 5 and 6 years of age, the desire to be thin was observed and the perception that the most important factor for social success was the physical appearance [100]. On the other hand; in male subjects, this desire is seen as having a lower fat content or higher amount of muscle mass [73]. As a result; the perception difference between male and female individuals about their current weight can lead to risk of weight bias and discrimination in female individuals compared to male individuals. A recent study has suggested that whether male individuals consider lower ranges of BMI as overweight and obese like female individuals, they may become more susceptible to weight discrimination [61]. Although there have been many studies in the literature that women have been exposed to a higher level of weight bias and discrimination compared to male individuals; there are also studies suggesting that male subjects are frequently exposed to this discrimination, even if this ratio may be equal to or higher than that of women [118]. However, it is known that for years, especially in

countries with Western culture, conventional media impose a inappropriate perception that women should have a very thin body, and that this causes a greater pressure and weight bias on female individuals [116]. For this reason, it should not be ignored the sociocultural beauty or body perception of the society and the effect of this perception on obese individuals [47,66]. The impact of the sociocultural perception of the society in which the individual takes place is felt strongly in women living in countries with Western culture especially where the extremely thin bodies are idealized and seen as attractive. In Western societies, being overweight and obese is regarded as a fault or a mistake, while being slim or thin is considered as a reward [100]. Also, in these societies, while the body of the individual is dominant, thinness is perceived as healthiness, beauty, intelligence, youth, charm and elegance. On the other hand; obesity is considered as ugliness, laziness, non-attractive, irresponsibility etc. [157]. In the Western culture, it is emphasized that the female individuals should be thin and slim, while male individuals should have muscular and v-shaped body [66]. In other words; although both the female and male individuals have pressure to have a certain body shape by the society, male individuals are not being put into a narrow range for having a ideal body type and ideal for males is generally considered as being muscular and fit, having a high amount of muscle or low amount of fat etc. Due to this difference of perception, body dissatisfaction or drive for thinness is less common in male individuals compared to female individuals [100]. As a result; the difference between the idealized body perceptions cause differences between gender in negative attitudes and behaviors of overweight and obese individuals [33,105].

Along with the image of ideal thin body created by Western culture, the effects of other cultures and these cultures on body image were also examined and different results were obtained. In the studies conducted in this area, black individuals are frequently included and these individuals, even if they have a higher BMI, were found to have higher levels of body satisfaction and positive body image compared to individuals of white race [94]. Also; in a similar based study, black individuals were found to have less weight/body concerns or body dissatisfaction than those of the white race; and they stated overweight or obesity as more acceptable [47]. While considering that individuals of black and white race are exposed to the same level of conventional media body image, the factor that causes this difference can be said that the perception of beauty of women is culturally different or that the weight pressure created by the

family or close friends of the individual is at a minimum level. Also, as considering that weight-based attitudes and behaviors of children and adolescents are mostly acquired from the family; in families with black race, there is not a great emphasis on physical apperance, however; in families with white race there is a great importance on views/comments of others such as family or peers. Thus, this difference between race becomes effective in the development of inter-racial differences in adulthood [94]. For this purpose, Brown et al. conducted a study and found that black mothers were more tolerant to their children's weight. Moreover; in an experimental study involving Afro-American individuals, it was reported that Afro-American individuals were subjected to less weight discrimination and prejudice compared to white individuals [94,158]. However, in a recent study, it was found to be the opposite that white individuals were exposed to less weight discrimination and prejudice compared to Afro-American individuals [158]. Researches have also been carried out in this field in Malaysia and Malaysian individuals living in urban areas were found to have higher levels of body dissatisfaction than Malaysian individuals living in rural areas, like in other Western countries. Therefore, like Malaysia; especially in socioeconomic and industrialized Asian countries, it is thought that the thin body image may arise due to the modernization and westernization movement with conventional media [73]. Although it is known that socioeconomic level causes high body dissatisfaction especially in Asian societies; the relationship between the individual's ethnicity or race and the weight discrimination remains unclear [73,158].

Finally, when the effect of the BMI on the attitudes and behaviors of individuals towards obese people is examined; individuals with high BMI have less negative attitudes and behaviors towards obese individuals, and it is found that these attitudes and behaviors increase as the BMI decreases [25,116]. While these results are seen in adult individuals, inconsistent results are obtained when examining the relationship between BMI and negative attitudes and behaviors of children and adolescents against obese individuals. In some studies conducted in this area, it has been found that overweight children have more negative attitudes and behaviors towards obese individuals than their peers who are in the ideal BMI range. On the other hand; in some studies; it was stated that there was no significant relationship between BMI ranges of children and their negative attitudes and behaviors towards obese individuals [105].

2.7. FAT PHOBIA AND FAT PHOBIA SCALE

In its simplest form; The term weight phobia can be referred as pathological fear of gaining weight, becoming fat or obese and having a negative attitudes or prejudice towards overweight or obese individuals [159]. While Harris refers it as negative perception and attitude against obese individuals; Wooley refers to prejudice against obese individuals. Although many studies have been conducted in this field and different expressions have been used to describe fat phobia, instead of expressing itself seperately as prejudice, discrimination, negative attitudes, beliefs or thoughts etc. it is generally preferred to use the term fat phobia which can replace all of these words [44,159,160]. Considering that the worldwide prevalence of obesity continues to increase day by day; it is inevitable to determine the most suitable measurement tool to be used for this purpose and to identify the negative attitude, behavior and discrimination that the obese individuals are exposed to. Moreover, this tool or scale to be used is not only for the determination of fat phobia; it is also important to assess weight discrimination or negative behaviors due to fat phobia and to reduce it with appropriate interventions [21]. For this purpose; many different techniques or methods have been used for measuring and evaluating fat phobia over the years. For example; case studies, personal files, Likert scale, descriptive studies etc. Many different techniques or methods have been used [159]. Other than these, self-reporting questionnaires, experimental field studies and neurological imaging methods were also frequently preferred [160]. However; nowadays, the most frequently used and valid method is Fat Phobia Scale which was developed by Robinson in 1984 and includes 50 different materials and 5 semantic diffential scales. While developing the scale, Robinson used adjectives frequently used by the society in describing obese individuals and in the determination of potential adjectives to be listed, he has benefited from data which was from a small sample enrolled in a driving license course for motor vehicles in Minnesota/USA. Then, he has applied main components factor analysis to obtained data and 6 different subscales were acquired [69]. Although Robinson's 50-point fat phobia scale is the pioneer of this field; nowadays, its most commonly used form is developed in 2001 by Bacon, Scheltema and Robinson by shortening it to 14-point. Yuker, Allison and Faith were examined 23 different scales or methods which are currently used for assessing negative attitudes, behaviors and discriminations against obese individuals and stated that Fat Phobia Scale which developed by Robinson and

shortened by Bacon, Scheltema and Robinson is the most effective scale in evaluating and determining these behaviors [21]. Therefore, it is recommended that the researches planned to be performed in this area in the future should be included in this scale, as long as there is no new theoretical knowledge proving the opposite in the scientific field and it is stated that there are no obstacles to the development of new scales or new studies that will make the existing scales more valid and reliable [69].

3. MATERIAL AND METHOD

The study was conducted in departments (Nursing, Physical Therapy and Rehabilitation and Nutrition and Dietetics) of Faculty of Health Sciences in Yeditepe University and approval of Ethics Committee of the study was received from Ethics Committee of Yeditepe University Hospital on 31.05.2018 (Appendix-1).

The sample of the study consists of Nursing, Physical Therapy and Rehabilitation and Nutrition and Dietetics students who are studying in Faculty of Health Sciences in Yeditepe University between June 2018 and November 2018. Participation in the study is based on a volunteer basis and 311 students accepted to participate the study voluntarily. 281 of the 311 participants are female and 30 of them are male; and the age range of participants is 18-25 years.

In order to determine the level of fat phobia of the students in Faculty of Health Sciences, Fat Phobia Scale which developed as 50-items by Robinson in 1984, shortened to 14-items by Bacon, Scheltema and Robinson in 2001 and adapted to Turkish version by Koçak, Saraç and Hürmeriç in 2015 was used (Appendix-2). Its validation was analyzed with test-retest method and the result was found 0.82 [161].

Before filling out the data form, the students who participated in the study between June 2018-November 2018 were distributed a consent form and informed that the participation was voluntary. Then; 311 students who signed the informed consent form and agreed to participate in the study were given the data form which consists of demographic-based questions such as age, gender, studying department in the Faculty of Health Sciences, height (cm), weight (kg); and Fat Phobia Scale which involves 14 pairs of adjectives that are often used to express obese individuals. The participants were asked to fill out data form correctly and precisely. Then; in the list of 14 adjective pairs used to express obese individuals, participants were asked to mark their the closest option related to obese individuals; in accordance with the options while 1 point means perception with at least fat phobia, 5 points means perception with the most fat phobia. The scores of the options marked in 14 items were added and divided into 14 and a fat phobia score between 1 and 5 was obtained. According to the scored obtained; 2.5 and below means neutral or positive fat phobia; between 2.5-3.6 corresponds to low-negative fat phobia; between 3.6-4.4 means moderate negative fat phobia and finally 4.4 and above refers to high-negative fat phobia. This classification was also developed by

Bacon, Scheltema and Robinson who also designed Fat Phobia Scale [161]. Finally; BMI values were calculated by using the height (cm) and weight (kg) values that the participants indicated self-reportedly in the data form and BMI values that were found 18.5 kg/m² and below considered as underweight; BMIs that were between 18,5-24,9 kg/m² considered as normal; BMIs that are between 25,0-29,9 kg/m² as overweight and BMIs that are 30 kg/m² and obese were considered as obese.

In assessing the results obtained from the study, IBM SPSS Statistics (IBM SPPS, Turkey) was used for statistical analysis. Shapiro Wilks test was preferred for analyzing whether parameters have normal distribution or not. Besides descriptive statistical methods (mean, standard deviation, frequency); in the comparison of quantitative data, Kruskal-Wallis test was used for the comparison of groups which did not show normal distribution and Mann Whitney U test was used for the comparison of the two groups of the parameters that did not show normal distribution. Chi-square test, Fisher's Exact test and Fisher Freeman Halton test were used to compare qualitative data and Pearson correlation analysis was used to examine the relationships between the parameters that are compatible with normal distribution and the significance was accepted as $p < 0.05$.

4. FINDINGS

It was determined that 30 (9.6%) of 311 participants were men and 281 (%90.4) were women. The ages of the students ranged from 18 to 25, with a mean age of 20.65 ± 1.33. 107 of the participants (34.4%) were Nutrition and Dietetics, 102 (32.8%) were Physical Therapy, and 102 (32.8%) were found to be Nursing students. 125 of these students (40.3%) were freshmen, 104 (33.5%) were junior, 59 (19%) were sophomore and 23 (7.1%) were senior. The height of the students in the study ranged from 150 cm to 192 cm; and the mean was found 166.66±7.18 cm. Their weight was between 40 kg and 100 kg and the mean was 59.19 ± 10.51 kg.

When the BMI values of the participants were examined; this value was found between 16,12 and 34,72 and the mean was 21.24 ± 2.99 kg/m^2. It was also found that 165 (53.1%) of students were normal, 118 (37.9%) were underweight, 24 (7.7%) were overweight and 4 (1.3%) were obese BMI. Finally, when the fat phobia scores of the participants were examined between 1.5-5; the mean was found 3.76 ± 0.62 and the media was seen as 3.8. As seen in Table 4.1; 176 (57.6%) of 311 students were found to have moderate-negative fat phobia, 73 (23.5%) of them had low-negative fat phobia, 48 (15.4%) of them had high-negative fat phobia and 11 /3.5%) of them had neutral or positive fat phobia.

Table 4.1. Distribution of findings related to research

		Min-Max	Mean±SD
Age		18-25	20,65±1,33
Height (cm)		150-192	166,66±7,18
Weight (kg)		40-100	59,19±10,51
BMI		16,12-34,72	21,24±2,99
Fat phobia score (median)		1,5-5	3,76±0,62 (3,8)
Gender *n(%)*	**Male**	30	9,6
	Female	281	90,4
Studying department *n(%)*	**Nutrition and Dietetics**	107	34,4
	Physical Therapy and Rehabilitation	102	32,8
	Nursing	102	32,8
Grade (n=311) *n(%)*	**Freshmen**	125	40,3
	Junior	59	19
	Sophomore	104	33,5
	Senior	23	7,1
BMI *n(%)*	**Underweight**	118	37,9
	Normal	165	53,1
	Overweight	24	7,7
	Obese	4	1,3
Fat phobia status *n(%)*	**Neutral or positive fat phobia**	11	3,5
	Low-negative fat phobia	73	23,5
	Moderate-negative fat phobia	179	57,6
	High-negative fat phobia	48	15,4

As the distribution of responses given to Fat Phobia Scale's 14 different adjective pairs seen in Table 4.2, the most chosen ones to adjective pairs between 1-5 points are as follows; in industrious/lazy option 125 of participants marked 3 point, in has willpower/no willpower option 108 of participants marked 4 point, in attractive/unattractive option 102 of participants selected 3 point, in good self-control/poor self-control option 105 of participants marked 5 point, in fast/slow option 121 of participants chose 5 point, in having endurance/no endurance option 104 of 311 participants selected 3 point, in active/inactive option 134 of participants selected 5 point, in strong/weak option 135 of participants chose 3 point, in self-sacrificing/self-indulgent option 121 of participants marked 5 point, in dislikes food/likes food option

209 of them selected 5 point, in shapely/shapeless option 150 of them selected 5 point, in undereats/overeats option 178 of participants marked 5 point, in secure/insecure option 107 of them selected 3 point and finally, in high self-control/low self-control option 137 of them marked 3 point. On the other hand; the least chosen ones to adjective pairs between 1-5 points are as follows; in industrious/lazy option 11 of participants marked 1 point, in has willpower/no willpower option 8 of participants marked 1 point, in attractive/unattractive option 13 of participants selected 2 point, in good self-control/poor self-control option 17 of participants marked 1 point, in fast/slow option 19 of participants chose 1 point, in having endurance/no endurance option 25 of 311 participants selected 1 point, in active/inactive option 14 of participants selected 1 point, in strong/weak option 21 of participants chose 1 point, in self-sacrificing/self-indulgent option 16 of participants marked 1 point, in dislikes food/likes food option 8 of them selected 2 point, in shapely/shapeless option 5 of them selected 1 point, in undereats/overeats option 3 of participants marked 2 point, in secure/insecure option 15 of them selected 2 point and finally, in high self-control/low self-control option 17 of them marked 1 point.

Table 4.2. Distribution of responses to fat phobia scale items

	1	2	3	4	5
	n (%)	n (%)	n (%)	n (%)	n (%)
Industrious/lazy	11 (%3,5)	23 (%7,4)	125 (%40,2)	98 (%31,5)	54 (%17,4)
Has willpower/no willpower (n=308)	8 (%2,6)	22 (%7,1)	87 (%28,2)	108 (%35,1)	83 (%26,9)
Attractive/unattractive (n=310)	20 (%6,5)	13 (%4,2)	102 (%32,9)	89 (%28,7)	86 (%27,7)
Good self-control/poor self-control (n=310)	17 (%5,5)	31 (%10)	59 (%19)	98 (%31,6)	105 (%33,9)
Fast/slow	19 (%6,1)	21 (%6,8)	48 (%15,4)	102 (%32,8)	121 (%38,9)
Having endurance/no endurance	25 (%8)	58 (%18,6)	104 (%33,4)	81 (%26)	43 (%13,8)
Active/inactive (n=310)	14 (%4,5)	23 (%7,4)	44 (%14,2)	95 (%30,6)	134 (%43,2)
Strong/weak (n=310)	21 (%6,8)	64 (%20,6)	135 (%43,5)	55 (%17,7)	35 (%11,3)
Self-sacrificing/self-indulgent (n=309)	16 (%5,2)	17 (%5,5)	68 (%22)	87 (%28,2)	121 (%39,2)
Dislikes food/likes food (n=309)	11 (%3,6)	8 (%2,6)	26 (%8,4)	55 (%17,8)	209 (%67,6)
Shapely/shapeless(n=310)	5 (%1,6)	18 (%5,8)	47 (%15,2)	90 (%29)	150 (%48,4)
Undereats/overetas	7 (%2,3)	3 (%1)	43 (%13,8)	80 (%25,7)	178 (%57,2)
Secure/insecure	18 (%5,8)	15 (%4,8)	107 (%34,4)	89 (%28,6)	82 (%26,4)
High self-esttem/low self-esteem	17 (%5,5)	27 (%8,7)	137 (%44,1)	75 (%24,1)	55 (%17,7)

When the relationship between fat phobia scores of students and gender was examined, mean fat phobia score of female students was found 3,77±0,60 and mean fat phobia score of male students was found 3,72±0,73. However, as seen in Table 4.3, no statistically significant difference was found between the female students and male students in terms of fat phobia scores (p>0.05).

In Table 4.2, distribution of fat phobia status of female and male students can also be seen. As seen in table; while 15 (50%) of the male students had moderate-negative fat phobia, 10 (33.3%) had low-negative fat phobia, 4 (13.3%) had high-negative fat phobia, 1 (3.3%) had neutral or positive fat phobia; 164 (58.4%) of the female students had moderate-negative fat phobia, 63 (22.4%) had low-negative fat phobia, 44 (15.7%) had high-negative fat phobia, and 10 (3.6%) neutral or positive fat phobia. No statistically significant difference was found between female and male students in terms of their fat phobia status (p>0.05).

Table 4.3. Evaluation of fat phobia score and fat phobia status according to gender

	Gender		**p**
	Male	**Female**	
	Mean±SD (median)	**Mean±SD (median)**	
Fat phobia score	3,72±0,73 (3,7)	3,77±0,60 (3,8)	**[1]0,824**
Fat phobia status *n(%)*			
Neutral or positive fat phobia	1 (3,3%)	10 (3,6%)	**[2]0,595**
Low-negative fat phobia	10 (33,3%)	63 (22,4%)	
Moderate-negative fat phobia	15 (50%)	164 (58,4%)	
High-negative fat phobia	4 (13,3%)	44 (15,7%)	

[1]Mann whitney U test *[2]Fisher freeman halton test*

When the relationship between the fat phobia scores of students and their studying department in the Faculty of Health Sciences was examined, the mean fat phobia score of Nutrition and Dietetics students was found 3.92 ± 0.48; the mean fat phobia score of Physical Therapy and Rehabilitation students was found 3.54 ± 0.65, and Nursing students' mean fat phobia score was found 3,82 ± 0,65. Also; a significant difference was found in terms of students' studying department in the Faculty of Health Sciences (p: 0.000; p <0.05). Fat phobia score of Physical Therapy and Rehabilitation students were found significantly lower than fat phobia scores of Nutrition and Dietetics

and Nursing students' fat phobia score (p_1:0.000; p_2:0.003; $p<0.05$). However; as it can be seen in Table 4.3, no statistically significant difference was found between Nutrition Dietetics students' fat phobia score and Nursing students' fat phobia score ($p>0.05$).

In Table 4.3, distribution of fat phobia status of Nutrition and Dietetics, Physical Therapy and Rehabilitation and Nursing students can also be seen. As seen in table; in the Department of Nutrition and Dietetics, 72 (67.3%) of them had moderate-negative fat phobia, 19 (19.8%) of them had high-negative fat phobia, 15 (14%) of them had low-negative fat phobia and 1 (0.9%) of them had positive fat phobia. While; in the Department of Physical Therapy and Rehabilitation, 54 (52.9%) of them had moderate-negative fat phobia, 33 (32.4%) of them had low-negative fat phobia, 8 (7.8%) of them had high-negative fat phobia and 7 (6.9%) of them had positive fat phobia; in the Department of Nursing, 53 (52%) of them had moderate-negative fat phobia, 25 (24.5%) of them had low-negative fat phobia, 21 (20.6%) of them had high-negative fat phobia and finally 3 (2.9%) of them had positive fat phobia. Also, a statistically significant difference was found between students' fat phobia status and their studying department in the Faculty of Health Sciences ($p:0.001$; $p<0.05$). Nutrition and Dietetics students who had moderate-negative fat phobia (67.3%) were found to be significantly higher than Nursing (52%) and Physical Therapy and Rehabilitation students (52.9%) who had moderate-negative fat phobia (p_1:0.000; p_2:0.033; $p<0.05$). Also; Nursing students who had high-negative fat phobia (20.6%) were found to be significantly higher than Physical Therapy and Rehabilitations students who had high-negative fat phobia (7.8%) ($p:0.036$; $p<0.05$).

Table 4.4. Evaluation of fat phobia score and fat phobia status according to studying department

	Studying Department in Faculty of Health Sciences			p
	Nutrition and Dietetics	Physical Therapy and Rehabilitation	Nursing	
	Mean±SD (median)	Mean±SD (median)	Mean±SD (median)	
Fat Phobia score	3,92±0,48 (3,9)	3,54±0,65 (3,6)	3,82±0,65 (3,8)	[1]**0,000***
Fat Phobia status *n(%)*				
Neutral or positive fat phobia	1 (0,9%)	7 (6,9%)	3 (2,9%)	[2]**0,001***
Low-negative fat phobia	15 (14%)	33 (32,4%)	25 (24,5%)	
Moderate-negative fat phobia	72 (67,3%)	54 (52,9%)	53 (52%)	
High-negative fat phobia	19 (19,8%)	8 (7,8%)	21 (20,6%)	

[1]*Kruskal wallis test* [2]*Chi-square test*

Finally; when the relationship between the students' BMI value and their fat phobia score was examined; while the mean fat phobia score of students in the underweight BMI range was found 3.88 ± 0.61, the mean fat phobia score of the students in the normal BMI range was found 3.69 ± 0.60, the mean fat phobia score of the students in the overweight BMI range was 3.68 ± 0.68 and the mean fat phobia score of the students in obese BMI range was found 3.74 ± 0.63. A statistically significant difference was found between students' BMI ranges and their fat phobia scores (p:0.040; $p<0.05$). As seen in Table 4.5, fat phobia score of the students in the underweight BMI range was significantly higher than the fat phobia score of the students in the normal BMI range (p:0.008; $p<0.05$). However; no statistically significant difference was found between other BMI ranges in terms of fat phobia scores ($p>0.05$).

In Table 4.5, distribution of students' fat phobia status according to their BMI range can also be seen. As seen in table; in students who were in underweight BMI range, 73 (61.9%) of them had moderate-negative fat phobia, 24 (20.3%) of them had high-negative fat phobia, 17 (14.4%) of them had low-negative fat phobia and 4 (3.4%) of them had positive fat phobia. In students who were in normal BMI range, 93 (56.4%) of them had moderate-negative fat phobia, 45 (27.3%) of them had low-negative fat phobia, 21 (12.7%) of them had high-negative fat phobia, 6 (3.6%) of them had positive

fat phobia; and students who were in overweight BMI range, 11 (45.8%) of them had moderate-negative fat phobia, 9 (37.5%) of them had low-negative fat phobia, 3 (12.5%) of them had high-negative fat phobia and 1 (4.2%) of them had positive fat phobia. Finally; in students who were in obese BMI range, 2 (50%) of them had moderate-negative fat phobia, 2 (50%) of them had low-negative fat phobia and 1 of them had positive fat phobia. Also, no statistically significant difference was found between students' BMI range and status of fat phobia (p>0.05).

Table 4.5. Evaluation of fat phobia score and fat phobia status according to BMI

	BMI group				**p**
	Underweight	**Normal**	**Overweight**	**Obese**	
	Mean±SD (median)	**Mean±SD (median)**	**Mean±SD (median)**	**Mean±SD (median)**	
Fat phobia score	3,88±0,61 (3,9)	3,69±0,60 (3,7)	3,68±0,68 (3,8)	3,74±0,63 (4,1)	**[1]0,040***
Fat phobia status *n(%)*					
Neutral or positive fat phobia	4 (3,4%)	6 (3,6%)	1 (4,2%)	1 (25%)	**[2]0,104**
Low-negative fat phobia	17 (14,4%)	45 (27,3%)	9 (37,5%)	2 (50%)	
Moderate-negative fat phobia	73 (61,9%)	93 (56,4%)	11 (45,8%)	2 (50%)	
High-negative fat phobia	24 (20,3%)	21 (12,7%)	3 (12,5%)	0 (0%)	

*[1]Kruskal wallis test [2]Fisher's Exact test *p<0.05*

There was a negative and poor correlation between BMI value and fat phobia scores of students (11.1%), however; a statistically significant relationship was found (p:0.049; p<0.05). Evaluation of the correlation between BMI values and fat phobia score can be seen in Table 4.6.

Table 4.6. Evaluation of correlation between BMI values and fat phobia score

		BMI
Fat phobia score	**r**	-0,111
	p	0,049*

*Pearson correlation *p<0.05*

5. DISCUSSION

The study which was approved by Ethics Committee of Yeditepe University Hospital on 31.05.2018 held on June 2018-November 2018 in order to determine the fat phobia status of 311 students studying in Nutrition and Dietetics, Physical Therapy and Rehabilitation and Nursing Department at Faculty of Health Sciences in Yeditepe University. Results obtained by the data form were analyzed by using SPSS Statistics 22.

30 (9.6%) of the 311 participants who agreed to participate in the study voluntarily were male and 281 (90.4%) were female; and it was found that the age of the students varied between 18-25 and the mean age was 20.65 ± 1.33. This numerical difference between female participants and male participants is related to the fact that the total number of female students studying at Yeditepe University Faculty of Health Sciences is higher than the number of male students. Many studies in the literature stated that negative perceptions, attitudes and behaviors towards obese individuals, in other words, fat phobia varies according to gender and female individuals have a higher level of fat phobia than male individuals [61,116]. Especially in these studies; it is emphasized that women had higher levels of body dissatisfaction, body image disturbance and drive for thinness compared to men; and thus; women generally internalize these negative attitudes and this internalization can lead to many psychosocial problems such as binge-eating, anxiety, stress, depression, low self-esteem, social isolation etc. [37,69,76,91]. In addition, it was found that men were more tolerant to their own bodies, and that women perceived being overweight and obese as strictly controllable feature compared to men, and perceived being obese and obese as a source of embarrassment [14]. For example; in a study conducted in New Zealand University students in 1988, 80% of female participants were clinically at the ideal weight, but only 18% reported that they perceived themselves in normal weight [135]. In a study conducted in Germany, half of the women in the 25-74 age group were found to have body dissatisfaction, while only 1/3 of men had body dissatisfaction [137]. In addition, it is also known that while women perceived lower BMI levels as overweight or obese; men perceived higher BMI levels as overweight and obese [61]. This perception difference in the male and female individuals may be caused by conventional and social media's unequal standards while reflecting how ideal body should be in men and women. In these media sources; while there is a perception that suggests female

individuals should be thinner and this thinness is ideal; there are many suggested different body measurements in male individuals and the ideal body size is not kept within a single or sharp border. In conclusion; this difference in the perception of media between men and women has been shown to cause men to feel less body dissatisfaction compared to women [135]. In other words; for years, conventional media has been imposing a wrong perception that implies women should be very thin, especially in countries with Western culture and this is the reason for greater pressure and weight bias on women [116]. Although it has been determined by many studies in the literature that female individuals are exposed to higher levels of weight bias or discrimination compared to male individuals and therefore have higher fat phobia; there are also studies suggesting that male subjects are frequently exposed to this discrimination, even if this ratio may be equal to or higher than women [118]. For example; a survey conducted with individuals aged 50 years in the UK found that gender did not make a significant difference on the level of fat phobia; however; in a study of 2380 adults by Flint, it was found that male individuals had more negative attitudes and behaviors towards obese individuals than female individuals. On the other hand; Cetinkaya and Sert's study with 2100 Sakarya University students included that female students' fat phobia scores are significantly higher than weight phobia scores of male students [14,18,24]. In the present study, the relationship between the fat phobia and gender was examined; and although the number of female students was significantly higher than the number of male students, no significant difference was found between female and male students according to their fat phobia score ($p>0.05$). In summary, the studies in this area are open to debate and contradictory results continue to be achieved [116]. Therefore, it is not certain whether the status of fat phobia varies by gender and there is a need for more studies in this area [33,105]. For this purpose, a study which excludes all other demographic factors (age, BMI, socio-economic level, etc.), and considers only gender factor will be more accurate in examination of the gender effect on the person's fat phobia [61].

When the BMI values of the participants in the study were examined, the mean BMI was found 21.24 ± 2.99 kg/m^2 and it was determined that 165 (53.1%) of participants were in normal, 118 (37.9%) were in underweight, 24 (7.7%) were in overweight and 4 (1.3%) were in obese BMI range. It is stated by many studies that BMI values of the individuals determine their attitudes and behavior towards obese

individuals and affect the status of fat phobia. In this study, a significant difference was found between students' BMI value and their fat phobia score (p: 0.040; p <0.05) and students in underweight BMI range was found to have higher fat phobia scores compared to students in normal BMI range (p: 0.008; p <0.05). However; no statistically significant difference was found between other BMI ranges and fat phobia scores (p>0.05). In the literature, similar results were obtained and in a study by Soto and Jimenez-Cruz on the 1st and 5th grade students studying in a medical school in Mexico; it was found that the students with underweight and normal BMI range had a higher level of fat phobia compared to students with overweight and obese BMI [162]. A study conducted by Alperin, Hornsey and Hayward in 2014 and included 1176 US participants has examined how the BMI value of individuals changed their attitudes and thoughts about obese individuals and fat phobia score of participants with low BMI values was found in higher level. Unlike participants with a low BMI; participants who had higher BMI values and had more communication with obese individuals were found to have lower levels of fat phobic behaviors [57]. Schwartz, Vartanian and Nosek conducted a similar study and included 4283 adult individuals who visited a web site containing information about fat phobia and it has been reported that weight-based prejudice is exacerbated as individuals' weight decreases [58]. The reason for this fat phobia difference between the individuals with underweight BMI and the individuals who have overweight and obese BMI values may be based on many different points. However the first of which is; it has been associated with the ability of individuals with high BMI to understand obese individuals which have similar characteristics with them, to be able to put themselves into their shoes and to empathize with them [12,28,78]. In other words; ego defense mechanism which are expressed as the behavior of protecting one's own self-concept to keep oneself superior to other individuals work more passively in these individuals [12]. According to The Contact Hypothesis expressed by Gordon Allport in 1954; individuals with high BMI are more in contact with the group with overweight or obese individuals who have similar characteristics and therefore with empathize with them; their prejudice to this group or negative attitudes decreases. In addition; this in-group communication reduces their body image disturbance or body dissatisfaction, and when they face with a possible fat phobia behavior, it was found to be able to cope with the situation much more easily. On the other hand; in individuals with low BMI, it is stated that intergroup contact develops more negatively compared to individuals with high BMI [57]. In addition; it is also thought that some individuals

with a high BMI value have a lower level of fat phobia because they embrace their body and be comfortable in their weight. These individuals were also found to have higher self-esteem and be mentally and psychosocially strong in a possible weight-based discrimination scenario [145]. However, contrary to these results; some individuals with high BMI can devalue their social identity or social status and start to be ready to approve weight-based attitudes that they were exposed. Even, they begin to apply these negative attitudes and discriminations against group that they are involved [68,70,71]. In other words; they start to perceive obesity as negatively as individuals with underweight and normal BMI do and adopt negative attitutes and behaviours towards group in which they were included by making in-group devaluation [72,73].

In the literature, there are not only evidences that suggest that as the BMI of the person increases, fat phobia decreases. There are also studies suggesting that there is no significant relationship between BMI value and fat phobia. For example; in a study by Akan and Durukan including 1. and 2. grade students studying at Faculty of Health Sciences and Fine Arts Faculty in Yeditepe University; although no statistically significant difference was found between the BMI value and fat phobia, fat phobia score of students with underweight BMI was found higher compared to fat phobia score of students with obese BMI [2]. Similar results were obtained in a study by Diversi, Hughes, and Burke; and dietitians with lower BMI values were found to have higher levels of fat phobia. However; this result was found not statistically significant [83]. In summary; the results obtained from the studies examining the relationship between BMI and fat phobia are contradictory and open to discussion; while some studies have argued that individuals with a high BMI value have a lower level of fat phobia, some studies report no relationship. This difference in researches is associated with different socio-demographic characteristics of the participants [2]. Moreover; the BMI values analyzed in the present study were obtained as a result of self-reporting of the participants' own weight (kg) and height (cm) values, thus; it may not reflect an objective result [90]. Although it is thought that the participants in the study can express their height and weight values objectively due to their educational level, in studies based on self-reporting, overweight and obese individuals may not report their actual weight or understate their own weight for avoiding possible weight-based attitudes or judgment [12]. Finally; 91% of the students participating in the current study are in the underweight and normal BMI range, while only 9% are in the overweight and obese

BMI range. The fact that the BMI value range of the sample is quite narrow and insufficient prevents the outcome of the BMI to determine precisely how the BMI value affects fat phobia [10,64]. For this reason, there is a need for studies where the BMI interval is kept broader and more diverse, in data analysis based on the participants' self-report should be obtained, while social desirability can be controlled [10].

When the fat phobia values of the participants were examined, it was determined that these values ranged between 1.5-5 and the overall mean was 3.76 ± 0.62. This value corresponds to the moderate-negative fat phobia as Bacon states in his study; be only 1.2 point above from the average negative-fat phobia boundary and be consistent with the results obtained from literature [69]. For example; in Swift, Hanlon and El-Redy's study with dietitians, nurses and physicians in United Kingdom, overall fat phobia score was found 3.8; and in a study by Puhl, Wharton and Heuer with 182 nutrition and dietetics students, the overall fat phobia score was determined 3.7 [12,64]. Although these values are in the range of moderate-negative fat phobia, there are many different studies that obtain values in the low-negative fat phobia range. Sarikaya, Ozturk and Afyon determined 3.06 fat phobia score in their study with students studying Physical Education and Sports Management in Sakarya University. Also; Berryman and Gauri found 3.66 fat phobia score in their study which compares fat phobia scores of Nutrition and Dietetics, Nursing and Physical Therapy and Rehabilitation students [1,9]. This difference between the results is thought to be caused by demographic differences between the participants in the study. In the present study, although there is no control group to determine the fat phobia score of the students who are not studying in the Faculty of Health Sciences, it can be concluded that the students who are studying in this field have negative attitudes and behaviors towards obese individuals [83]. However, it should be noted that the Fat Phobia Scale used in the present study is only able to identify the explicit negative attitudes and behaviors of the obese individuals, whereas these negative attitudes and behaviors can be in many different forms. Explicit negative attitudes and behaviors that individuals consciously have are mostly obtained by the individuals' own feelings and thoughts, and by data form studies aimed at acquiring information based on self-report. Therefore; it can only reflect the emotions and thoughts that the person is consciously aware of. In this way, when the participants think that they will not be welcomed by the society or that they will be treated negatively and that they have inappropriate feelings and thoughts; they tend to hide or

not report these feelings and control their answers in any direction. Because these feelings and thoughts are not subconscious or implicit and individuals are fully and concsciously aware of what they have [58,73]. Therefore; it should be noted that current study and other studies in this field may susceptible to social desirability bias [58]. For this purpose; in new studies, instead of identifying explicit negative attitudes or behaviors that individuals are consciously aware of; determination of implicit attitudes that individuals unconsciously have and do not cause social desirability bias; and thus enable a more comprehensive and detailed evaluation of the fat phobia has a great importance [20,28]. In the literature, studies have been carried out to examine implicit attitudes and behaviors. For this purpose; Teachman and Brownell applied the Implicit Attitudes Test (IAT) to healthcare professionals in order to determine their implicit attitudes and thoughts against obese individuals and in this test partipicants were asked to classify some words and pictures into a higher category. In the end of the study; it is determined that healthcare professionals were found to put negative attributes and obese individuals into same category very quickly and have implicit negative attributions such as bad, lazy, ugly etc. towards obese individuals [16,20,21]. Therefore; identifying the implicit negative attitudes and thoughts that individuals unconsciously have is really important in order to understand why weight-based discrimination is still being implemented, although there are positive response towards attempts to reduce weight-based discrimination in society. Especially, identification of implicit attitudes that individuals unconsciously have is really essential in healthcare professionals who think that they are unbiased and objective. Thus, individuals can be aware of their negative attitudes ot thought and take due precautions [20]. Therefore, one of the most effective ways to treat obesity is to identify individuals with these implicit emotions and thoughts and to be aware of their conscious or unconscious negative attitudes and thoughts to eliminate weight-based fundamental discrimination [38].

Finally; when the relationship between the fat phobia and studying department of participants was examined in the current study, mean fat phobia score of 107 Nutrition and Dietetics students was found 3.92; 102 Physical Therapy and Rehabilitation students' were found 3.54 and 102 Nursing students' were found 3.82. In current study, it is seen that higher negative fat phobia score was obtained in the Nutrition and Dietetic students when the results were compared with other studies' fat phobia scores in literature. In the present study, the mean fat phobia score of the

Nutrition and Dietetics students was found to be 3.92; however; in the study of Puhl, Wharton and Heuer's 297 Nutrition and Dietetics students' mean fat phobia score was determined 3.7; and in the study of Berryman and Gauri, Nutrition and Dietetics students' mean fat phobia score was found 3.66 [9,64]. However, in Berryman and Gauri's study; some demographic characteristics such as gender, BMI, age, etc., which are known to affect the individual's status of fat phobia were not included in the study [9]. Fat phobia which is seen at a very high level among dietitians or students studying in this field is associated with many different situations. According to Teachman and Brownell; healthcare professionals are mistaken about assuming that a person's weight depends only on the factors under his control, and they perceive obesity as a personal irresponsibility or mistake [156]. In other words; genetic, environmental and psychological factors associated with obesity are ignored; and only personal and controllable factors regarding obesity are considered. Thus; this misperception brings negative attitudes and behaviors towards obese individuals [5,76]. However, it is known that healthcare professionals who are aware of the fact that obesity is a multifactorial disease and have a more comprehensive knowledge have a more constructive and positive attitude towards obese individuals [4,53]. This misperception regarding the factors that cause obesity in the students studying in the field of health shows that weight-based discrimination and prejudice may not only occur during the clinical experience, but also during the training and studying phase, and these negative attitudes and behaviors cannot be eliminated by the current curriculum. Moreover, it is shown that there is not enough focus on weight-based discrimination and prejudice on current health curriculum or occupational integration [12,64,83]. Therefore, it should be emphasized that the basis of prevention of weight bias and discrimination in the field of health services should be focused on the behavioral approach that be applied within the health sciences curriculum and health services programs or on education programs that indicate that obesity also depends on uncontrollable factors [5,83,153]. In today's curricula and programs, attention is drawn to the fact that the focus of change is only an individual, while the patient is held solely personally accountable without considering environmental and socio-ecological factors [5]. For this reason, Weise conducted a study with students studying in this field and developed an intervention program to reduce fat phobic attitudes and behaviors. In the end of his study, he observed that students' fat phobia behaviors improved in a much more positive way than the control group [20]. Crandall also conducted a study and reported that when experimental group

was given a verbal material that emphasizes the importance of genetics in weight control; their fat phobic attitudes and behaviours decreased to a much lower level compared to control group [40].

There are also studies that state that the attitudes of fat phobia in healthcare professionals or students studying in this field may change with age and occupational experience. According to Puhl and Latner, healthcare professionals who are more professional or more experienced in the treatment of obesity have a much lower level of fat phobia than younger and inexperienced healthcare professionals [4,37]. However; Schwartz attributed this to the fact that healthcare professionals who are younger were more vulnerable to social pressure to be thin and did not have a sufficient life experience due to their inability to show sufficient maturity when they expose this perception; also implied that there is an inverse relationship between the direct contact with obese individuals and the negative attitude and behavior towards obese individuals [4]. Because when the communication with obese individuals increases, the chance of empathy with those individuals, analyzing their processes, and having more positive approach towards obese individuals are greater [153]. However, in the present study, no comparison was made between age and departments of the students studying at the Faculty of Health Sciences; and broader researches are needed to identify the effect of occupational experience and age on individuals' fat phobia status.

Fat phobia occurring in healthcare professionals or students studyinh in this area may also be caused by the fact that the treatment processes of obese individuals are more challenging than other treatment processes or they may hesitate over complications during treatment [45,53]. These thoughts frequently encountered in healthcare professionals are mostly caused by their perception about obese patients. For example, they may consider obese patients as incompatible and less motivated to do healthy lifestyle changes. Therefore; Pantenburg, Sikorski and Luppa stated that before starting to professional worklife; students in the healthcare field should be have adequate clinical experience, thus; their training period should not be only in last year [10]. In the present study, due to their participation in a clinical internship outside of the school; sufficient number of 4th grade students could not be reached and only 7.1% of the them was included. Therefore; more studies are needed to examine whether students' clinical experience in treating obese individuals affect their fat phobia status.

Finally; when the relationship between the department of the participants and the status of fat phobia was compared; it is found that fat phobia scores of the students studying in the Physical Therapy and Rehabilitation were significantly lower than the fat phobia scores of the students in the Department of Nutrition and Dietetics and Nursing (p_1:0.000; p_2:0.003; $p<0.05$). However; no statistically significant difference was found between Nutrition and Dietetics and Nursing students according to their fat phobia score ($p>0.05$). When this result is compared with the literature, it is seen that different results have been obtained in many studies. For example; in Sikorski, Luppa and Glaesmer's study which included 682 physicians, nurses and physiotherapists, it is found that nurses had a statistically significant lower level of fat phobia than other healthcare professionals; however; in Swift and Hanlon's study with 1130 Nutrition and Dietetics, Medicine and Nursing students, nursing students fat phobia score was found 3.6, Nutrition and Dietetics students' fat phobia score was determined 3.9 and finally, Medicine students' score was found 3.8 and with these results nursing students' score was reported to be statistically significantly lower than other students' scores [12,53]. The lower level of fat phobia score of nurses or nursing students has been associated with the fact that nurses are more often and in close contact with obese individuals and have direct physical contact with these patients than other healthcare professionals [53]. In addition; in the study which includes the students of Nutrition and Dietetics, Nursing and Physical Therapy and Rehabilitation and conducted by Hayran, Akan and Durukan in Yeditepe University, mean fat phobia scores of students studying those departments was found as follows; 3.78, 3.63 and 3.51; and as in the present study, Physical Therapy and Rehabilitation students were found to have the lowest fat phobia score, while Nutrition and Dietetics students were determined to have the highest level. However; this difference was not found to be statistically significant [2]. In many studies conducted in the literature, Nutrition and Dietetics students were found to have the highest fat phobia score. Thus; although dietitians who are primarily involved in the treatment of obesity suggest that their prejudice and negative attitude towards obese individuals will be at a lower level, it is shown that they have a very serious fat phobia against obese individuals [33].

6. CONCLUSION

As a result of the present research, no statistically significant relationship between fat phobia and gender was found; and when the relationship between BMI and fat phobia was examined, it was determined that the fat phobia score of the students in the underweight BMI range was significantly higher than the fat phobia score of the students in the normal BMI range. This may be caused by individuals with high BMI to understand the obese individuals who think they have similar characteristics, to put themselves in their shoes and to be able to do empathy. Furthermore; since the individuals with high BMI are more in contact with the group of overweight and obese individuals who have similar characteristics with them and therefore they can empathize with them and thus; the prejudice or negative attitude towards this group may decrease. In addition, when the relationship between students' studying department in the Faculty of Health Sciences and the status of fat phobia was examined; it is understood that the fat phobia score of the students studying in the Physical Therapy and Rehabilitation was significantly lower than the fat phobia score of the students studying in the Department of Nutrition and Dietetics and Nursing. This fat phobia score which is seen at a very high level among dietitians and students studying in this field can be attributed to healthcare professionals' misperception in which states that person's weight depends only on the factors under his/her control and consideration of obesity as only personal irresponsibility. In other words; the genetic, environmental and psychological factors associated with obesity are ignored; and only personal and controllable factors regarding obesity may be considered. Therefore; this misperception brings negative attitudes and behaviors towards obese individuals.

As a result, it is known that the healthcare professionals who take primary role in the treatment of obesity or the students who are studying in this field have negative attitudes and behaviors towards obese individuals and have fat phobia. These negative behaviors are often noticed by the obese individual and may cause obese individuals to postpone or discontinue their treatment. Thus; the patient has a negative result from the treatment for weight loss and the risk of mortality increases. Therefore; while obesity prevelance increases, it is a great importance to detect, evaluate and prevent negative attitudes and behaviors towards obese individuals.

7. RECOMMENDATIONS

While it is very important to design intervention programs and combat the increasing prevalence of obesity in the world, protection of the physical and psychosocial health of obese individuals and prevention of the possible fat phobic attitudes are very essential as well. Thus; the sources and effects of fat phobia should be determined and how they can be reduced and prevented should also be indicated. It is known that healthcare professionals who play a primary role in the treatment of obesity and students studying in this field have negative attitudes and behaviors towards obese individuals. Thus, it shows that weight-based discrimination and prejudice may not only occur during the clinical experience, but also during studying phase, and these negative attitudes and behaviors cannot be eliminated by the current curriculum and occupational integration. Moreover, it is shown that there is not enough focus on weight-based discrimination and prejudice on current health curriculum or occupational integration. For this reason, the health sciences curriculum and health services programs should focus on the behavioral approach and the educational intervention programs should be included to raise awareness among the students about the potential risk of fat phobia. Students should be clarified in detail about what fat phobia is, how it occurs, how it affects people and patients, and how to deal with it. In addition; in these programs, awareness about how obesity is a multifactorial disease and it can also be caused by uncontrollable factors such as biological, genetic, hormonal, environmental, psychological etc. should be noted.

Finally, it is known that the communication and experience with obese individuals increase; negative attitudes towards obese individuals decrease because of the chance to develop empathy. For this reason, students who are studying in the healthcare field should have sufficient clinical experience before working professionally and their training period should not be only in final year.

8. REFERENCES

1. SARIKAYA, Recep, et al. Examining university students' attitudes towards fat phobia. Turkish Journal of Sport and Exercise, 2013, 15.2: 70-74.

2. HAYRAN, Osman, et al. Fat phobia of university students: attitudes toward obesity. Journal of Allied Health, 2013, 42.3: 147-150A.

3. STEIN, Janine, et al. Measuring negative attitudes towards overweight and obesity in the german population–psychometric properties and reference values for the german short version of the fat phobia scale (FPS). PloS One, 2014, 9.12: e114641.

4. JUNG, Franziska UCE, et al. Dietitians and nutritionists: stigma in the context of obesity. A systematic review. PloS One, 2015, 10.10: e0140276.

5. YAMAOKA, Tunteeya ve STAPLETON, Peta. Exploring the Links Between Culture, Locus of Control and Self-Compassion and their Roles in the Formation of Weight Stigmatization. The New School Psychology Bulletin, 2016, 13.2: 32-46.

6. WAKEFIELD, Kerry, et al. Confronting obesity, stigma and weight bias in healthcare with a person centred care approach: A case study. Australian Nursing and Midwifery Journal, 2017, 25.1: 28.

7. PUHL, Rebecca M., et al. The role of stigma in weight loss maintenance among US adults. Annals of Behavioral Medicine, 2017, 51.5: 754-763.

8. DIGIACINTO, Dora, et al. Weight-Biased Health Professionals and the Effects on Overweight Patients. Journal of Diagnostic Medical Sonography, 2015, 31.2: 132-135.

9. BERRYMAN, Darlene E., et al. Dietetics students possess negative attitudes toward obesity similar to nondietetics students. Journal of the American Dietetic Association, 2006, 106.10: 1678-1682.

10. PANTENBURG, Birte, et al. Medical students' attitudes towards overweight and obesity. PLoS One, 2012, 7.11: e48113.

11. KATSAITI, Marina-Selini ve SHAMSUDDIN, Mrittika. Weight discrimination in the German labour market. Applied Economics, 2016, 48.43: 4167-4182.

12. SWIFT, J. A., et al. Weight bias among UK trainee dietitians, doctors, nurses and nutritionists. Journal of Human Nutrition and Dietetics, 2013, 26.4: 395-402.

13. JACKSON, Sarah E., et al. Perceived weight discrimination in England: a population-based study of adults aged⩾ 50 years. International Journal of Obesity, 2015, 39.5: 858.

14. FLINT, Stuart W., HUDSON, Joanne ve LAVALLEE, David. UK adults' implicit and explicit attitudes towards obesity: a cross-sectional study. BMC Obesity, 2015, 2.1: 31.

15. OH, Yujung, HASS, Norah C. ve LIM, Seung-Lark. Body Weight Can Change How Your Emotions Are Perceived. PloS One, 2016, 11.11: e0166753.

16. WOOD, Matthew ve SHUKLA, Paurav. Weight bias, health consciousness and behavioral actions (activities). Eating Behaviors, 2016, 23: 200-205.

17. MUENNIG, Peter, et al. Gender and the burden of disease attributable to obesity. American Journal of Public Health, 2006, 96.9: 1662-1668.

18. CETINKAYA, Serap, et al. Sakarya University students' fat phobia levels and attitudes towards obese individuals and their correlation with healthy lifestyle behaviours: Knowledge, attitude and practice (KAP) study. Internal Medicine Nursing, 2018, 68:9: 1358-1362.

19. LATNER, Janet D., et al. Greater history of weight-related stigmatizing experience is associated with greater weight loss in obesity treatment. Journal of Health Psychology, 2009, 14.2: 190-199.

20. TEACHMAN, Bethany A. ve BROWNELL, Kelly D. Implicit anti-fat bias among health professionals: is anyone immune?. International Journal of Obesity, 2001, 25.10: 1525.

21. SCHWARTZ, Marlene B., et al. Weight bias among health professionals specializing in obesity. Obesity, 2003, 11.9: 1033-1039.

22. LILLIS, Jason, et al. Self-stigma and weight loss: The impact of fear of being stigmatized. Journal of Health Psychology, 2017, 1359105317739101.

23. SMIRLES, Kimberly Eretzian ve LIN, Linda. Changes in anti-fat weight bias in women after exposure to thin and plus-sized models. The Social Science Journal, 2018, 55.2: 193-197.

24. JACKSON, Sarah E. ve STEPTOE, Andrew. Obesity, perceived weight discrimination, and hair cortisol: a population-based study. Psychoneuroendocrinology, 2018, 98: 67-73.

25. AMBWANI, Suman, et al. Obesity stigmatization as the status quo: structural considerations and prevalence among young adults in the US. Eating Behaviors, 2014, 15.3: 366-370.

26. RAMOS SALAS, X., et al. Addressing weight bias and discrimination: Moving beyond raising awareness to creating change. Obesity Reviews, 2017, 18.11: 1323-1335.

27. STEVENS, Serena D., et al. Adult and childhood weight influence body image and depression through weight stigmatization. Journal of Health Psychology, 2017, 22.8: 1084-1093.

28. CAVALERI, Rocco, et al. Weight stigmatisation in physiotherapy: a systematic review. Physical Therapy Reviews, 2016, 21.1: 1-9.

29. FRIEDMAN, Kelli E., et al. Weight stigmatization and ideological beliefs: relation to psychological functioning in obese adults. Obesity Research, 2005, 13.5: 907-916.

30. POTTER, Lindsey, et al. Attributing discrimination to weight: associations with well-being, self-care, and disease status in patients with type 2 diabetes mellitus. Journal of Behavioral Medicine, 2015, 38.6: 863-875.

31. BARLÖSIUS, Eva ve PHILIPPS, Axel. Felt stigma and obesity: Introducing the generalized other. Social Science & Medicine, 2015, 130: 9-15.

32. PUHL, R. M., et al. The effect of physicians' body weight on patient attitudes: implications for physician selection, trust and adherence to medical advice. International Journal of Obesity, 2013, 37.11: 1415.

33. HANSSON, Lena M. ve RASMUSSEN, Finn. Association between perceived health care stigmatization and BMI change. Obesity Facts, 2014, 7.3: 211-220.

34. PHELAN, Sean M., et al. The adverse effect of weight stigma on the well-being of medical students with overweight or obesity: Findings from a national survey. Journal of General Internal Medicine, 2015, 30.9: 1251-1258.

35. SWIFT, Judy Anne, et al. Are anti-stigma films a useful strategy for reducing weight bias among trainee healthcare professionals? Results of a pilot randomized control trial. Obesity Facts, 2013, 6.1: 91-102.

36. TOMIYAMA, A. Janet, et al. How and why weight stigma drives the obesity 'epidemic'and harms health. BMC Medicine, 2018, 16.1: 123.

37. HELLBARDT, M., RİEDEL-HELLER SG. Dietitians' attitudes towards obese patients. Ernaehrungs Umschau International, 2014 78-81.

38. FRUH, Sharon M., et al. Obesity stigma and bias. The Journal for Nurse Practitioners, 2016, 12.7: 425-432.

39. HAYDEN, Melissa J., et al. Perceived discrimination and stigmatisation against severely obese women: age and weight loss make a difference. Obesity Facts, 2010, 3.1: 7-14.

40. KSINAN, A. J., ALMENARA, Carlos A. ve VACULIK, M. The effect of belief in weight controllability on anti-fat attitudes: An experimental manipulation. Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology, 2017, 67.3: 117-124.

41. SCHAFER, Markus H. ve FERRARO, Kenneth F. The stigma of obesity: does perceived weight discrimination affect identity and physical health?. Social Psychology Quarterly, 2011, 74.1: 76-97.

42. BEEKMAN, Janine B., et al. Effects of perceived weight discrimination on willingness to adopt unhealthy behaviours: influence of genomic information. Psychology & Health, 2016, 31.3: 334-348.

43. ALMEIDA, Liliana, SAVOY, Sarah ve BOXER, Paul. The role of weight stigmatization in cumulative risk for binge eating. Journal of Clinical Psychology, 2011, 67.3: 278-292.

44. COTUGNA, Nancy ve MALLICK, Anum. Following a calorie-restricted diet may help in reducing healthcare students' fat-phobia. Journal of Community Health, 2010, 35.3: 321-324.

45. TANNEBERGER, Anne ve CIUPITU-PLATH, Cristina. Nurses' Weight Bias in Caring for Obese Patients: Do Weight Controllability Beliefs Influence the Provision of Care to Obese Patients?. Clinical Nursing Research, 2018, 27.4: 414-432.

46. WU, Ya-Ke, et al. Weight-related stigmatization and binge eating among overweight adults in Southern Taiwan. Asia Pacific Journal of Clinical Nutrition, 2014.

47. BACARDI-GASCÓN, Montserrat, LEON-REYES, Maria Juana ve JIMÉNEZ-CRUZ, Arturo. Stigmatization of overweight Mexican children. Child Psychiatry and Human Development, 2007, 38.2: 99.

48. ALAMEDA, Miriam Wood ve WHITEHEAD, James. Comparing Levels of Anti-Fat Bias Between American and Mexican Athletes and Undergraduate Physical Education and Exercise Science Students. The Physical Educator, 2015, 72.5.

49. POON, Man-Yuk ve TARRANT, Marie. Obesity: attitudes of undergraduate student nurses and registered nurses. Journal of Clinical Nursing, 2009, 18.16: 2355-2365.

50. KORONI, Maria, et al. The stigmatization of obesity in children. A survey in Greek elementary schools. Appetite, 2009, 52.1: 241-244.

51. TANNER, Claire, MAHER, JaneMaree ve FRASER, Suzanne. 'I DON'T WANT HER TO BE OVERWEIGHT LIKE I WAS AS A GIRL' Mother/Child Bodily Connections in Nutritional Carework. Australian Feminist Studies, 2013, 28.76: 177-194.

52. NEUMARK-SZTAINER, Diane, et al. Weight-teasing among adolescents: correlations with weight status and disordered eating behaviors. International Journal of Obesity, 2002, 26.1: 123.

53. SIKORSKI, Claudia, et al. Attitudes of health care professionals towards female obese patients. Obesity Facts, 2013, 6.6: 512-522.

54. LATNER, Janet D., et al. Weight and health-related quality of life: The moderating role of weight discrimination and internalized weight bias. Eating Behaviors, 2014, 15.4: 586-590.

55. JACKSON, Sarah E., BEEKEN, Rebecca J. ve WARDLE, Jane. Obesity, perceived weight discrimination, and psychological well-being in older adults in England. Obesity, 2015, 23.5: 1105-1111.

56. PUHL, Rebecca M. ve BROWNELL, Kelly D. Confronting and coping with weight stigma: an investigation of overweight and obese adults. Obesity, 2006, 14.10: 1802-1815.

57. ALPERIN, Anandi, et al. Applying the contact hypothesis to anti-fat attitudes: Contact with overweight people is related to how we interact with our bodies and those of others. Social Science & Medicine, 2014, 123: 37-44.

58. SCHWARTZ, Marlene B., et al. The influence of one's own body weight on implicit and explicit anti-fat bias. Obesity, 2006, 14.3: 440-447.

59. UDO, Tomoko ve GRILO, Carlos M. Perceived weight discrimination, childhood maltreatment, and weight gain in US adults with overweight/obesity. Obesity, 2016, 24.6: 1366-1372.

60. PUHL, R. M., HEUER, C. ve SARDA, V. Framing messages about weight discrimination: impact on public support for legislation. International Journal of Obesity, 2011, 35.6: 863.

61. SATTLER, Krystal M., et al. Gender differences in the relationship of weight-based stigmatisation with motivation to exercise and physical activity in overweight individuals. Health Psychology Open, 2018, 5.1: 2055102918759691.

62. WOTT, Carissa B. ve CARELS, Robert A. Overt weight stigma, psychological distress and weight loss treatment outcomes. Journal of Health Psychology, 2010, 15.4: 608-614.

63. VARTANIAN, Lenny R., THOMAS, Margaret A. ve VANMAN, Eric J. Disgust, contempt, and anger and the stereotypes of obese people. Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity, 2013, 18.4: 377-382.

64. PUHL, Rebecca, WHARTON, Christopher ve HEUER, Chelsea. Weight bias among dietetics students: implications for treatment practices. Journal of the American Dietetic Association, 2009, 109.3: 438-444.

65. PUHL, R. M., et al. A multinational examination of weight bias: predictors of anti-fat attitudes across four countries. International Journal of Obesity, 2015, 39.7: 1166-1173.

66. TANG-PÉRONARD, J. L. ve HEITMANN, B. L. Stigmatization of obese children and adolescents, the importance of gender. Obesity Reviews, 2008, 9.6: 522-534.

67. GIEL, Katrin E., et al. Stigmatization of obese individuals by human resource professionals: an experimental study. BMC Public Health, 2012, 12.1: 525.

68. PUHL, Rebecca M., et al. Weight stigmatization and bias reduction: perspectives of overweight and obese adults. Health Education Research, 2007, 23.2: 347-358.

69. BACON, Jane G., SCHELTEMA, Karen E. ve ROBINSON, Beatrice E. Fat phobia scale revisited: the short form. International Journal of Obesity, 2001, 25.2: 252.

70. PEARL, Rebecca L., PUHL, Rebecca M. ve DOVIDIO, John F. Differential effects of weight bias experiences and internalization on exercise among women with overweight and obesity. Journal of Health Psychology, 2015, 20.12: 1626-1632.

71. PEARL, Rebecca L., et al. Group cognitive-behavioral treatment for internalized weight stigma: a pilot study. Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity, 2018, 23.3: 357-362.

72. PUHL, Rebecca M., MOSS-RACUSIN, Corinne A. ve SCHWARTZ, Marlene B. Internalization of weight bias: Implications for binge eating and emotional well-being. Obesity, 2007, 15.1: 19-23.

73. JIANG, Weiting, TAN, Janice ve FASSNACHT, Daniel B. Implicit and explicit anti-fat bias among Asian females. Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity, 2017, 22.3: 457-465.

74. SUTIN, Angelina R., STEPHAN, Yannick ve TERRACCIANO, Antonio. Weight discrimination and risk of mortality. Psychological Science, 2015, 26.11: 1803-1811.

75. SUTIN, Angelina R. ve TERRACCIANO, Antonio. Perceived weight discrimination and high-risk health-related behaviors. Obesity, 2017, 25.7: 1183-1186.

76. PUHL, Rebecca M., et al. Weight bias among professionals treating eating disorders: attitudes about treatment and perceived patient outcomes. International Journal of Eating Disorders, 2014, 47.1: 65-75.

77. DURSO, Laura E., et al. Internalized weight bias in obese patients with binge eating disorder: associations with eating disturbances and psychological functioning. International Journal of Eating Disorders, 2012, 45.3: 423-427.

78. SOTO, Lucero, et al. Beliefs, attitudes and phobias among Mexican medical and psychology students towards people with obesity. Nutrición Hospitalaria, 2014, 30.1.

79. SUTIN, Angelina, et al. Weight discrimination and unhealthy eating-related behaviors. Appetite, 2016, 102: 83-89.

80. SUTIN, Angelina R., et al. Perceived weight discrimination, changes in health, and daily stressors. Obesity, 2016, 24.10: 2202-2209.

81. PUIA, Ion C., et al. Patients' perception of weight-related stigma in a Romanian sample. Journal of Evidence-Based Psychotherapies, 2017, 17.2: 147-157.

82. VIERNES, Nonna, et al. Tendency toward deliberate food restriction, fear of fatness and somatic attribution in cross-cultural samples. Eating Behaviors, 2007, 8.3: 407-417.

83. DIVERSI, Tara M., HUGHES, Roger ve BURKE, Karena J. The prevalence and practice impact of weight bias amongst Australian dietitians. Obesity Science & Practice, 2016, 2.4: 456-465.

84. UDO, Tomoko, PURCELL, Katherine ve GRILO, Carlos M. Perceived weight discrimination and chronic medical conditions in adults with overweight and obesity. International Journal of Clinical Practice, 2016, 70.12: 1003-1011.

85. PUHL, Rebecca ve SUH, Young. Health consequences of weight stigma: implications for obesity prevention and treatment. Current Obesity Reports, 2015, 4.2: 182-190.

86. SEACAT, Jason D., DOUGAL, Sarah C. ve ROY, Dooti. A daily diary assessment of female weight stigmatization. Journal of Health Psychology, 2016, 21.2: 228-240.

87. ARAIZA, Ashley M. ve WELLMAN, Joseph D. Weight stigma predicts inhibitory control and food selection in response to the salience of weight discrimination. Appetite, 2017, 114: 382-390.

88. FRIEDMAN, Kelli E., ASHMORE, Jamile A. ve APPLEGATE, Katherine L. Recent experiences of weight-based stigmatization in a weight loss surgery population: psychological and behavioral correlates. Obesity, 2008, 16.S2: S69-S74.

89. MOLINA, Kristine M., et al. It Weigh (t) s on You: Everyday Discrimination and Adiposity Among Latinos. Obesity, 2018, 26.9: 1474-1480.

90. HÜBNER, Claudia, et al. Weight-related teasing and non-normative eating behaviors as predictors of weight loss maintenance. A longitudinal mediation analysis. Appetite, 2016, 102: 25-31.

91. ALMENARA, C. A., et al. Weight stigmatization and disordered eating in obese women: The mediating effects of self-esteem and fear of negative appearance evaluation. Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology, 2017, 67.3: 155-162.

92. JACKSON, Sarah E., BEEKEN, Rebecca J. ve WARDLE, Jane. Perceived weight discrimination and changes in weight, waist circumference, and weight status. Obesity, 2014, 22.12: 2485-2488.

93. SWAMI, Viren, et al. An investigation of weight bias against women and its associations with individual difference factors. Body Image, 2010, 7.3: 194-199.

94. PAPP, Ildikó ve TÚRY, Ferenc. The stigmatization of obesity among Gypsy and Hungarian children. Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity, 2013, 18.2: 193-198.

95. RUFFMAN, Ted, et al. Toddlers' bias to look at average versus obese figures relates to maternal anti-fat prejudice. Journal of Experimental Child Psychology, 2016, 142: 195-202.

96. WOROBEY, John ve WOROBEY, Harriet S. Body-size stigmatization by preschool girls: In a doll's world, it is good to be "Barbie". Body Image, 2014, 11.2: 171-174.

97. KRAIG, Katherine Anne ve KEEL, Pamela K. Weight-based stigmatization in children. International Journal of Obesity, 2001, 25.11: 1661.

98. DAVISON, Kirsten K., et al. Overweight girls who internalize fat stereotypes report low psychosocial well-being. Obesity, 2008, 16.S2: S30-S38.

99. HARRIGER, Jennifer A. Age differences in body size stereotyping in a sample of preschool girls. Eating Disorders, 2015, 23.2: 177-190.

100. HARRIGER, Jennifer A., et al. Body size stereotyping and internalization of the thin ideal in preschool girls. Sex Roles, 2010, 63.9-10: 609-620.

101. RICH, Shannon S., et al. Predictors of body size stigmatization in Hispanic preschool children. Obesity, 2008, 16.S2: S11-S17.

102. GREENLEAF, C., PETRIE, T. A. ve MARTIN, S. B. Exploring weight-related teasing and depression among overweight and obese adolescents. Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology, 2017, 67.3: 147-153.

103. AIMÉ, A., LEBLANC, L. ve MAÏANO, C. Is weight-related bullying addressed in school-based anti-bullying programs?. Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology, 2017, 67.3: 163-169.

104. GREENLEAF, Christy, et al. Weight stereotypes and behavioral intentions toward thin and fat peers among White and Hispanic adolescents. Journal of Adolescent Health, 2006, 39.4: 546-552.

105. GRAY, Wendy N., et al. Moderators of weight-based stigmatization among youth who are overweight and non-overweight: the role of gender, race, and body dissatisfaction. Journal of Developmental & Behavioral Pediatrics, 2011, 32.2: 110-116.

106. HARRISON, Sarah, ROWLINSON, Madaleine ve HILL, Andrew J. "No fat friend of mine": Young children's responses to overweight and disability. Body Image, 2016, 18: 65-73.

107. CHARSLEY, J. S., COLLINS, S. C. ve HILL, A. J. The bigger picture: young children's perception of fatness in the context of other physical differences. Pediatric Obesity, 2018.

108. GOLASZEWSKI, Natalie M., et al. Perceived Weight Discrimination and School Connectedness Among Youth: Does Teacher Support Play a Protective Role?. Journal of School Health, 2018, 88.10: 754-761.

109. LATNER, Janet D. ve STEFANO, Emily C. Obesity Stigmatization and the Importance of the Research of AJ Stunkard. Current Obesity Reports, 2016, 5.1: 121-125.

110. KRUKOWSKI, Rebecca A., et al. Overweight children, weight-based teasing and academic performance. International Journal of Pediatric Obesity, 2009, 4.4: 274-280.

111. PUHL, Rebecca M., LUEDICKE, Joerg ve HEUER, Cheslea. Weight-based victimization toward overweight adolescents: observations and reactions of peers. Journal of School Health, 2011, 81.11: 696-703.

112. HAND, Wren B., et al. The identity threat of weight stigma in adolescents. Western Journal of Nursing Research, 2017, 39.8: 991-1007.

113. JUVONEN, Jaana, et al. Emotional implications of weight stigma across middle school: The role of weight-based peer discrimination. Journal of Clinical Child & Adolescent Psychology, 2017, 46.1: 150-158.

114. EISENBERG, Marla E., et al. A content analysis of weight stigmatization in popular television programming for adolescents. International Journal of Eating Disorders, 2015, 48.6: 759-766.

115. SUTIN, Angelina R. ve TERRACCIANO, Antonio. Perceived weight discrimination and obesity. PloS One, 2013, 8.7: e70048.

116. TUCCI, Sonia A., et al. Stigmatisation of a formerly obese young female. Obesity Facts, 2013, 6.5: 433-442.

117. PUHL, Rebecca M., ANDREYEVA, Tatiana ve BROWNELL, Kelly D. Perceptions of weight discrimination: prevalence and comparison to race and gender discrimination in America. International Journal of Obesity, 2008, 32.6: 992.

118. RANDALL, Jason G., et al. Weight discrimination in helping behavior. Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology, 2017, 67.3: 125-137.

119. SUH, Young, et al. Support for laws to prohibit weight discrimination in the United States: public attitudes from 2011 to 2013. Obesity, 2014, 22.8: 1872-1879.

120. PUHL, Rebecca M., et al. Potential policies and laws to prohibit weight discrimination: public views from 4 countries. The Milbank Quarterly, 2015, 93.4: 691-731.

121. RANDLE, Natasha W. Can generalized self-efficacy overcome the effects of workplace weight discrimination?. Journal of Applied Social Psychology, 2012, 42.3: 751-775.

122. SWAMI, Viren ve MONK, Rachael. Weight bias against women in a university acceptance scenario. The Journal of General Psychology, 2013, 140.1: 45-56.

123. PUHL, Rebecca M. ve HEUER, Chelsea A. Public opinion about laws to prohibit weight discrimination in the United States. Obesity, 2011, 19.1: 74-82.

124. PEARL, Rebecca L., PUHL, Rebecca M. ve DOVIDIO, John F. Can Legislation Prohibiting Weight Discrimination Improve Psychological Well-Being? A Preliminary Investigation. Analyses of Social Issues and Public Policy, 2017, 17.1: 84-104.

125. HAYWOOD, Sharon. Sizing up weight bias. Herizons, 2017, 16-19.

126. VANHOVE, Adam ve GORDON, Randall A. Weight discrimination in the workplace: a meta-analytic examination of the relationship between weight and work-related outcomes. Journal of Applied Social Psychology, 2014, 44.1: 12-22.

127. MERRITT, Stephanie, et al. Imagine Me and You, I Do: Effects of imagined intergroup contact on anti-fat bias in the context of job interviews. Journal of Applied Social Psychology, 2018, 48.2: 80-89.

128. O'BRIEN, Kerry S., et al. Obesity discrimination: the role of physical appearance, personal ideology, and anti-fat prejudice. International Journal of Obesity, 2013, 37.3: 455.

129. MALTERUD, Kirsti ve ULRIKSEN, Kjersti. "Norwegians fear fatness more than anything else"—A qualitative study of normative newspaper messages on obesity and health. Patient Education and Counseling, 2010, 81.1: 47-52.

130. HUSSIN, Mallory, FRAZIER, Savannah ve THOMPSON, J. Kevin. Fat stigmatization on YouTube: A content analysis. Body Image, 2011, 8.1: 90-92.

131. HIMES, Susan M. ve THOMPSON, J. Kevin. Fat stigmatization in television shows and movies: a content analysis. Obesity, 2007, 15.3: 712-718.

132. BRUNS, Gina L. ve CARTER, Michele M. Ethnic differences in the effects of media on body image: The effects of priming with ethnically different or similar models. Eating Behaviors, 2015, 17: 33-36.

133. SILVERSIDES, Ann. Have North Americans taken" fat phobia" too far?. CMAJ: Canadian Medical Association Journal, 1999, 160.12: 1690.

134. MITRA, Sonia Agnes, RAY, Deepshikha ve DAS, Sudeshna. Influence of media on body image satisfaction an exploratory study on urban Bengali females. Indian Journal of Health and Wellbeing, 2015, 6.11: 1100.

135. MILLER, Evonne ve HALBERSTADT, Jamin. Media consumption, body image and thin ideals in New Zealand men and women. New Zealand Journal of Psychology, 2005, 34.3: 189-195.

136. FARDOULY, Jasmine ve VARTANIAN, Lenny R. Social media and body image concerns: Current research and future directions. Current Opinion In Psychology, 2016, 9: 1-5.

137. CLARK, Nancy. Social Media and Body Image:# Fitspiration at Its Worst.

138. ECKLER, Petya, KALYANGO, Yusuf ve PAASCH, Ellen. Facebook use and negative body image among US college women. Women & Health, 2017, 57.2: 249-267.

139. HO, Shirley S., LEE, Edmund WJ ve LIAO, Youqing. Social Network Sites, Friends, and Celebrities: The Roles of Social Com parison and Celebrity Involvement in Adolescents' Body Image Dissatisfaction. Social Media+ Society, 2016, 2.3: 2056305116664216.

140. Jennifer ve BEHM-MORAWITZ, Elizabeth. Pinterest or thinterest?: Social comparison and body image on social media. Social Media+ Society, 2016, 2.1: 2056305116640559.

141. LEE, Hye-Ryeon, et al. Social media use, body image, and psychological well-being: A cross-cultural comparison of Korea and the United States. Journal of Health Communication, 2014, 19.12: 1343-1358.

142. HICKS, S. ve BROWN, A. Higher Facebook use predicts greater body image dissatisfaction during pregnancy: The role of self-comparison. Midwifery, 2016, 40: 132-140.

143. PERLOFF, Richard M. Social media effects on young women's body image concerns: Theoretical perspectives and an agenda for research. Sex Roles, 2014, 71.11-12: 363-377.

144. COHEN, Rachel ve BLASZCZYNSKI, Alex. Comparative effects of Facebook and conventional media on body image dissatisfaction. Journal of Eating Disorders, 2015, 3.1: 23.

145. MURAKAMI, Jessica M. ve LATNER, Janet D. Weight acceptance versus body dissatisfaction: Effects on stigma, perceived self-esteem, and perceived psychopathology. Eating Behaviors, 2015, 19: 163-167.

146. FAHS, Breanne ve SWANK, Eric. Exploring stigma of "extreme" weight gain: The terror of fat possible selves in women's responses to hypothetically gaining one hundred pounds. In: Women's Studies International Forum. Pergamon, 2017. p. 1-8.

147. FARDOULY, Jasmine, et al. Social comparisons on social media: The impact of Facebook on young women's body image concerns and mood. Body Image, 2015, 13: 38-45.

148. SLATER, Amy, VARSANI, Neesha ve DIEDRICHS, Phillippa. # fitspo or # loveyourself? The impact of fitspiration and self-compassion Instagram images on women's body image, self-compassion, and mood. Body Image, 2017.

149. FARDOULY, Jasmine ve VARTANIAN, Lenny R. Negative comparisons about one's appearance mediate the relationship between Facebook usage and body image concerns. Body Image, 2015, 12: 82-88.

150. FONTANA, Fabio, et al. Anti-fat bias by professors teaching physical education majors. European Physical Education Review, 2017, 23.1: 127-138.

151. SHINAN-ALTMAN, Shiri. Medical social workers' perceptions of obesity. Journal of Social Work, 2017, 17.3: 343-357.

152. BANNON, Katie L., et al. The effects of causal beliefs and binge eating on the stigmatization of obesity. International Journal of Eating Disorders, 2009, 42.2: 118-124.

153. BACARDÍ-GASCÓN, Montserrat, et al. Fat phobia in Mexican nutrition students. Nutricion Hospitalaria, 2015, 32.6: 2956-2957.

154. CAMPBELL, K. ve CRAWFORD, D. Management of obesity: attitudes and practices of Australian dietitians. International Journal of Obesity, 2000, 24.6: 701.

155. GARCIA, Janelle T., AMANKWAH, Ernest K. ve HERNANDEZ, Raquel G. Assessment of weight bias among pediatric nurses and clinical support staff toward obese patients and their caregivers. Journal of Pediatric Nursing: Nursing Care of Children and Families, 2016, 31.4: e244-e251.

156. HARVEY, Emma L., et al. Dietitians' views of overweight and obese people and reported management practices. Journal of Human Nutrition and Dietetics, 2002, 15.5: 331-347.

157. BREWIS, Alexandra A., et al. Body norms and fat stigma in global perspective. Current Anthropology, 2011, 52.2: 269-276.

158. DUTTON, Gareth R., et al. Perceived weight discrimination in the CARDIA study: differences by race, sex, and weight status. Obesity, 2014, 22.2: 530-536.

159. ROBINSON, B. BE, BACON, Jane G. ve O'REILLY, Julia. Fat phobia: Measuring, understanding, and changing anti-fat attitudes. International Journal of Eating Disorders, 1993, 14.4: 467-480.

160. LACROIX, Emilie, et al. Weight bias: a systematic review of characteristics and psychometric properties of self-report questionnaires. Obesity Facts, 2017, 10.3: 223-237.

161. YILMAZ, Cem Y., et al. BEDEN EĞİTİMİ VE SPOR YÜKSEKOKULU'NDA ÖĞRENİM GÖREN GENÇ KADIN VE ERKEK ÖĞRENCİLERİN KİLOFOBİ DÜZEYLERİNİN KARŞILAŞTIRILMASI. Spormetre Beden Eğitimi ve Spor Bilimleri Dergisi, 2010, 8.1: 29-34.

162. SOTO, Lucero, et al. Fat phobia among first and fifth year medical students in Tijuana, México. Gaceta Sanitaria, 2015, 29: 153-153.

9. APPENDIX

APPENDIX-1. Approval Form of Ethics Committee

T.C. YEDİTEPE ÜNİVERSİTESİ

Sayı : 37068608-6100-15-1499 **31/05/2018**
Konu: Klinik Araştırmalar
Etik kurul Başvurusu hk.

İlgili Makama (Melis Karakaya)

Yeditepe Üniv. Beslenme ve Diyetetik Bölümü Gıda Mühendisi Dr. Öğretim Üyesi Arzu Durukan'ın sorumlu olduğu **"Bir Vakıf Üniversitesinde Sağlık Bilimleri Fakültesinde Okuyan Öğrencilerin Kilofobi Durumunun Karşılaştırılması"** isimli araştırma projesine ait Klinik Araştırmalar Etik Kurulu (KAEK) Başvuru Dosyası (**1475** kayıt Numaralı KAEK Başvuru Dosyası), Yeditepe Üniversitesi Klinik Araştırmalar Etik Kurulu tarafından **30.05.2018** tarihli toplantıda incelenmiştir.

Kurul tarafından yapılan inceleme sonucu, yukarıdaki isimi belirtilen çalışmanın yapılmasının etik ve bilimsel açıdan uygun olduğuna karar verilmiştir (**KAEK Karar No: 858**).

Prof. Dr. Turgay ÇELİK
Yeditepe Üniversitesi
Klinik Araştırmalar Etik Kurulu Başkanı

Yeditepe Üniversitesi 26 Ağustos Yerleşimi, İnönü Mahallesi Kayışdağı Caddesi 34755 Ataşehir / İstanbul
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APPENDIX-2. Data Form

KİLOFOBİ DEĞERLENDİRME VERİ FORMU

-Yaşınız: ……

-Cinsiyet: Kadın ☐ Erkek ☐

-Okuduğunuz Bölüm ve Sınıf: Bölüm: …….

Sınıf: 1. Sınıf: ☐
2. Sınıf: ☐
3. Sınıf: ☐
4. Sınıf: ☐

-Boy(cm): ……..

-Kilo(kg): ……..

-Obez veya kilolu bireyler için sıklıkla kullanılan 14 sıfat çifti aşağıda listelenmiştir. Her sıfat çiftinden, obez veya kilolu bireyler için duygu ve düşüncelerinizi en iyi ifade eden sıfata en yakın olan çizginin üzerine "X" işareti koyunuz.

1. Tembel	_____	_____	_____	_____	_____	Çalışkan
	5	4	3	2	1	
2. İsteksiz	_____	_____	_____	_____	_____	İstekli
	5	4	3	2	1	
3. Çekici	_____	_____	_____	_____	_____	Çekici olmayan
	1	2	3	4	5	
4. Öz-kontrollü	_____	_____	_____	_____	_____	Öz-kontrolsüz
	1	2	3	4	5	
5. Hızlı	_____	_____	_____	_____	_____	Yavaş
	1	2	3	4	5	
6. Dayanıklı	_____	_____	_____	_____	_____	Dayanıksız
	1	2	3	4	5	
7. Hareketli	_____	_____	_____	_____	_____	Hareketsiz
	1	2	3	4	5	
8. Güçsüz	_____	_____	_____	_____	_____	Güçlü
	5	4	3	2	1	

9. Kendi isteklerine düşkün _____ _____ _____ _____ _____ Kendinden ödün

5 4 3 2 1 veren

10. Yemekten hoşlanmayan _____ _____ _____ _____ _____ Yemekten hoşlanan

1 2 3 4 5

11. Biçimsiz (vücudu) _____ _____ _____ _____ _____ Biçimli(vücudu)

5 4 3 2 1

12. Az yiyen _____ _____ _____ _____ _____ Çok yiyen

1 2 3 4 5

13. Kendine güven duymayan _____ _____ _____ _____ _____ Kendine

5 4 3 2 1 güven duyan

14. Özsaygısı düşük _____ _____ _____ _____ _____ Öz saygısı yüksek

5 4 3 2 1

APPENDIX-3. Curriculum Vitae

Kişisel Bilgiler

Adı	Melis	**Soyadı**	Karakaya
Doğum Yeri	Antalya	**Doğum Tarihi**	29.08.1993
Uyruğu	T.C.	**TC Kimlik No**	16069026820
E-mail	dytmeliskarakaya@gmail.com	**Tel**	+90 535 344 55 52

Öğrenim Durumu

Derece	Alan	Mezun Olduğu Kurumun Adı	Mezuniyet Yılı
Doktora			
Yüksek Lisans	Beslenme ve Diyetetik A.B.D.	Yeditepe Üniversitesi-Sağlık Bilimleri Enstitüsü	2019
Lisans	Beslenme ve Diyetetik	Yeditepe Üniversitesi-Sağlık Bilimleri Fakültesi	2016
Lise	-	Antalya (Anadolu) Lisesi	2011

Bildiği Yabancı Dilleri	**Yabancı Dil Sınav Notu (#)**
İngilizce	Çok iyi- YDS: 85 (2016)
Almanca	Literatür düzeyinde

Başarılmış birden fazla sınav varsa(KPDS, ÜDS, TOEFL; EELTS vs), tüm sonuçlar yazılmalıdır

İş Deneyimi (Sondan geçmişe doğru sıralayın)

Görevi	Kurum	**Süre (Yıl - Yıl)**
Diyetisyen	NutriFit Sağlıklı Beslenme ve Diyet Danışmanlığı Merkezi-ANTALYA	01.2018-(Devam ediyor)
Diyetisyen	OkyanusFly Sports Center-İSTANBUL	03.2017-09.2017

Bilgisayar Bilgisi

Program	**Kullanma becerisi**
Microsoft Office	Çok iyi

*****Çok iyi, iyi, orta, zayıf olarak değerlendirin

Bilimsel Çalışmaları

SCI, SSCI, AHCI indekslerine giren dergilerde yayınlanan makaleler

Diğer dergilerde yayınlanan makaleler

Uluslararası bilimsel toplantılarda sunulan ve bildiri kitabında (*Proceedings*) basılan bildiriler

Hakemli konferans/sempozyumların bildiri kitaplarında yer alan yayınlar

Diğer (Görev Aldığı Projeler/Sertifikaları/Ödülleri)