

K. SELVİ

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EXPLORING MEN'S BODY IMAGE CONCERNS AND PREDISPOSING
FACTORS FOR MUSCLE DYSMORPHIA IN THE FRAMEWORK OF SELF-
DETERMINATION THEORY

KERİM SELVİ

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FACTORS FOR MUSCLE DYSMORPHIA IN THE FRAMEWORK OF SELF-
DETERMINATION THEORY

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Approval of the Graduate School of Social Sciences

Prof. Dr. Tlin Genz
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Doctor of Philosophy.

Prof. Dr. H. Canan Smer
Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Doctor of Philosophy.

Prof. Dr. zlem Bozo zen
Supervisor

Examining Committee Members

Prof. Dr. Tlin Genz	(METU, PSY)	_____
Prof. Dr. zlem Bozo zen	(METU, PSY)	_____
Prof. Dr. Bengi ner zkan	(METU, PSY)	_____
Assist. Prof. Meltem Anafarta Őendağ	(Ufuk Uni., PSİ)	_____
Assist. Prof. Gaye Zeynep enesiz	(Yznc Yıl Uni., PSİ)	_____

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Name, Last name : Kerim Selvi

Signature :

ABSTRACT

EXPLORING MEN'S BODY IMAGE CONCERNS AND PREDISPOSING FACTORS FOR MUSCLE DYSMORPHIA IN THE FRAMEWORK OF SELF- DETERMINATION THEORY

Selvi, Kerim

Ph.D., Department of Psychology

Supervisor: Prof. Dr. Özlem Bozo Özen

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This dissertation aimed to provide a deeper understanding of body image concerns of males and to enlighten the underlying mechanism of muscle dysmorphia. In line with this aim, three studies were designed. In the first study, body image concerns were compared across genders, and the predictive effects of basic psychological needs on these concerns were investigated. The results revealed that although there was no gender difference in terms of body image concerns, there was a gender difference in terms of the manifestation of these concerns. Besides, significant effects of basic needs on these concerns were found. In the second study, semi-structured interviews were carried out with six males engaging in regular bodybuilding activities to understand their motivation for these activities. According to the results, with the aim of compensating for inferiority feelings, men engaged in bodybuilding activities, these activities resulted in muscle-contingent self-worth and positive or negative emotions, which forced men to think that they should constantly improve their muscles. In the last study, the predictors of muscle dysmorphia and life satisfaction were examined based on Basic Psychological Needs Theory. The findings indicated that frustrated basic needs are predisposing factors of muscle dysmorphia. Additionally, the

significant associations of life satisfaction with basic needs were found. Overall, the findings suggested that (1) males experience a similar level body image concerns with females but their concerns are more related to their muscles, (2) trying to compensate inferiority feelings and unsatisfied basic needs through having a muscular body may lead to muscle dysmorphia.

Keywords: Body Image Concerns, Basic Psychological Needs, Muscle Dysmorphia, Bodybuilding

ÖZ

ERKEKLERDE BEDEN İMAJI KAYGISI VE KAS ALGI BOZUKLUĞUNUN ÖZ-BELİRLEME KURAMI ÇERÇEVESİNDE ARAŞTIRILMASI

Selvi, Kerim

Ph.D., Psikoloji Bölümü

Tez Yöneticisi: Prof. Dr. Özlem Bozo Özen

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Bu tez kapsamında, erkeklerin vücut görünümüne dair kaygılarının derinlemesine anlaşılması ve kas algı bozukluğuna zemin hazırlayan etmenlerin belirlenmesi amaçlanmıştır. Bu amaç doğrultusunda üç çalışma tasarlanmıştır. Birinci çalışmada vücut görünümüne ilişkin kaygılar erkekler ve kadınlar arasında karşılaştırılmıştır. Ayrıca, temel psikolojik ihtiyaçların bu kaygılar üzerindeki yordayıcı etkisi araştırılmıştır. Sonuçlar, erkeklerin ve kadınların benzer seviyede bu kaygıları hissettiklerini ancak bu kaygıların tezahürlerinde farklılaştıklarını göstermiştir. Ek olarak, karşılanmamış ihtiyaçların bu kaygıları yordadığı bulunmuştur. İkinci çalışmada ise, vücut geliştirmeye ilişkin motivasyonları tespit edebilmek için düzenli olarak vücut geliştiren altı erkek ile yarı yapılandırılmış görüşmeler gerçekleştirilmiştir. Sonuçlara göre aşağılık hislerini telafi etme isteği, erkekleri vücut geliştirme aktivitelerine yönleltmekte, bu aktiviteler de kas kütlesine bağlı öz-değere ve duygulanıma sebep olmaktadır. Bu nedenle erkekler, kaslı olmanın getirdiği yüksek öz-değer ve olumlu duygulanımdan yararlanmak için sürekli olarak vücutlarını geliştirmeleri gerektiğini düşünmektedir. Bu mekanizma da, erkeklerin kas algı

bozukluęu deneyimleme riskini artırmaktadır. Son alıřmada ise kas algı bozukluęunun ortaya ıkmasında etkili olabileceęi dřnlen etmenler ile yařam doyumunu yordayan etmenler Temel Psikolojik İhtiyalar Kuramı erevesinde arařtırılmıřtır. Nitekim sonular engellenmiř psikolojik ihtiyalar ile kas algı bozukluęu arasında anlamlı bir iliřki olduęunu gstermiřtir. Ayrıca, karřılanmıř ihtiyaların yařam doyumunu pozitif ynde, engellenmiř ihtiyaların ise negatif ynde yordadıęı bulunmuřtur. Toplu olarak deęerlendirildięinde bu tezin bulguları (1) erkeklerin kadınlarla benzer dzeyde vcut grnmlerine iliřkin kaygı yařadıklarını ancak kaygılarının kaslı grnmekle iliřkili olduęunu, (2) sahip olunan ařaęılık hislerini ve karřılanmamıř temel psikolojik ihtiyaları kaslı bir vcut ile telafi etme abasının kısa vadede olumlu sonular doęursa da uzun vadede kas algı bozukluęu gibi psikopatolojik sonular ortaya ıkarabileceęini gstermiřtir.

Anahtar Kelimeler: Vcut Grnmne İliřkin Kaygılar, Temel Psikolojik İhtiyalar, Kas Algı Bozukluęu, Vcut Geliřtirme

To my beloved wife Ünran and dear son Toprak

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CHAPTER 1

GENERAL OVERVIEW

For a long time, body image concerns have been generally perceived as a female problem because of eating disorders (see Cohane & Pope, 2001); since eating disorders are predominantly more common among females, they have attracted the attention of many researchers, which in turn led to emerging of a limiting view that body image concerns are only related to females (Cash, 2004; Pearson, Heffner, & Follette; 2010). This female-sample domination resulted in the development of measurement tools that are more appropriate to assess female's body image concerns. Thus, many studies using these measurement tools reported females as experiencing higher body image concerns than males do (e.g., Chng & Fassnacht, 2016; Dion et al., 2015). In this sense, some researchers criticized these findings by stating that the questionnaires used in the literature are insufficient ones to measure males' body image concerns (concerns related to muscularity), and concluded that if body image concerns of males had been measured accurately, the level of body image concerns for females and males might have been similar (e.g., McCabe & Ricciardelli, 2004). Consistent with this statement, some studies have demonstrated that males and females have a similar level of body image concerns (Hale & Smith, 2012; Tiggemann, 1994). However, the researchers have not reached a consensus yet on whether the level of body image concerns changes depending on gender difference or not.

In addition, actions that can be considered as a result of body image concerns of males –engaging in bodybuilding activities and consequently having a muscular body– are perceived as indicators of healthiness/wellness by society (Grogan, 2008; McCabe & Ricciardelli, 2005). However, bodybuilding may not be as innocent as perceived by the social environment, because this sports may result in one of the psychopathological conditions, muscle dysmorphia (Lantz, Rhea, & Cornelius, 2002; Pope, Katz, & Hudson, 1993), which is characterized by being pathologically preoccupied with muscle mass, eating huge portions of food, striving to be more muscular, perceiving body less muscular than it actually is, and consuming anabolic steroids that might increase risks of kidney failure, heart attack, suicide and consequently risk of death (e.g., Griffiths, Mond, Murray, & Touyz, 2015; Murray et al., 2010; Murray et al., 2012; Olivardia, 2001). Although muscle dysmorphia highly threatens physical and psychological health and may lead to several health compromising consequences, there is very limited research in Turkey and all over the world focusing on this subject (e.g., Devrim, Bilgiç, Aslantaş, & Hongu, 2017; Devrim, Bilgiç, & Hongu, 2018; Lantz et al., 2002; Pope et al., 1993). Besides, the predisposing factors of it have not been clarified yet.

Considering these shortcomings in the literature about body image concerns of males, within this dissertation, it was mainly aimed to advance our understanding of body image concerns of males and to identify possible predisposing factors of muscle dysmorphia. To achieve this aim, three separate studies were designed. In the first study, data were collected from 632 participants and a comparison between males' and females' body image concerns was made. Besides, Basic Psychological Needs Theory (Deci & Ryan, 2000) was used as the theoretical framework to explore the predictors of body image concerns in males and females. Within the second study, semi-structured interviews were conducted with six men, who have been engaging regular (at least two times a week) bodybuilding activities for at least two years, to understand why they began and maintained bodybuilding activities. Then the data were analyzed with Interpretative Phenomenological Analysis, and thematic structures were constructed. Lastly, in the third study, the associations of basic psychological needs (i.e., autonomy, competence, and relatedness) with muscle dysmorphia and life

satisfaction were investigated through the data obtained from 245 men engaging in regular bodybuilding activities for at least a year. Within this context, the current dissertation included five chapters. In the present chapter, the shortcomings in the body image literature and general information about three sub-studies were provided. In the second, third, and fourth chapters introduction, method, result, and discussion sections of the first, second and third study of the current dissertation were presented, respectively. In the last chapter, the findings of the three studies summarized and discussed collectively, and the contribution of the dissertation to the existing literature was emphasized.

CHAPTER 2

FIRST STUDY: A GENDER-BASED COMPARISON OF BODY IMAGE CONCERNS AND AN INVESTIGATION OF PREDICTOR ROLE OF BASIC PSYCHOLOGICAL NEEDS ON THESE CONCERNS

2. 1. Introduction

There has been a recent increase in bodybuilding activities, cosmetic surgeries, tattoos and unhealthy behaviors (e.g., using steroids and non-prescription diet pills) to change/improve physical appearance. In this regard, the number of plastic surgery operations performed in 2016 increased by %132 compared to the number in 2000 (American Society of Plastic Surgeons, 2017). A similar trend exists for the number of newly opened gyms (International Health, Racquet & Sportsclub Association, 2017a), gym memberships (International Health, Racquet & Sportsclub Association, 2017b), and the use of diet pills (Blanck, Khan, & Serdula, 2001). Thus, it can be suggested that in the last decades enhancing body image has become one of the major concerns of individuals.

2. 1. 1. Body Image

Body image was firstly defined as “the picture of our own body which we form in our mind, that is to say the way in which the body appears to ourselves.” (Schilder, 1950, p. 11); however, it is more complex than a body picture in our mind. It includes

perceptual (how we perceive our bodies), cognitive (what we think about our bodies), affective (what we feel about our bodies), and behavioral (what kind of behaviors we do in the case of body dissatisfaction exists) aspects (Grogan, 2008), which interact with culture, media, social environment, and individual factors, and in turn, this interaction leads to positive or negative body image (Healey, 2014).

Having a positive or a negative body image plays a critical role in psychological health. While positive body image is associated with higher self-esteem, self-acceptance, quality of life, and healthy behaviors (Healey, 2014); negative body image is related to several negative consequences, such as body-dissatisfaction (Stice, 1994), low self-esteem (Clay, Vignoles, & Dittmar, 2005), interpersonal anxiety, sexual difficulties, depression (Cash, 2008), eating disturbances (Stice & Shaw, 2002), and steroid abuse (Ricciardelli & McCabe, 2004).

Due to its complex nature and close association with psychological outcomes, research on body image has gained momentum. It has been studied under different constructs, such as body surveillance (Arroyo & Brunner, 2016), body dissatisfaction (Fallon, Harris, & Johnson, 2014), body esteem (Xu, 2017), body shame (Moreira & Canavarro, 2017), and social appearance anxiety (Trekels & Eggermont, 2017); however, as Ricciardelli and Yager (2016) stated, one of these concepts –body dissatisfaction– has been studied more commonly than others. Therefore, body dissatisfaction was determined as one of the main variables of the current study.

2. 1. 2. Body Dissatisfaction

Body dissatisfaction is generally defined as a negative subjective evaluation of one's own physical body (Stive & Shaw, 2002), and this negative evaluation is related not only to body shape and weight but also to body size, body parts and muscle tone. This problem affects people of all ages; it has been observed among children (Dion et al., 2016), adolescents (McCabe & Ricciardelli, 2004), adults (Silva, Nahas, de Sousa, Duca, & Peres, 2011), older adults (Mangweth-Matzek et al., 2006), and even among pre-school children (Kerkez, Tatal, & Akçınar, 2013).

Although it has been considered as a problem of Western culture, there are several studies supporting that it is a widespread and global psychological problem despite some cultural differences (e.g., Swami et al., 2010). For instance, its prevalence was found between 13% and 32% for females and between 9% and 28% for males in USA (Fallon et al., 2014); 71% for females and 52% for males in Nigeria (Ejike, 2015); between 44% and 57% for females and 38% for males in Turkey (Cansever, Uzun, Dönmez, & Özşahin, 2003; Ozmen et al., 2007).

In addition to its high prevalence and global nature, body dissatisfaction is an important risk factor for several psychological problems, such as eating disorders (Cattarin & Thompson, 1994; Dakanalis et al., 2015; Stice, 2002), unhealthy weight control behaviors (Neumark-Sztainer, Wall, Story, & Perry, 2003), steroid abuse (McCabe & Ricciardelli, 2004), depression (Laporta-Herrero, Jauregui-Lobera, Barajas-Iglesias, & Santed-German, 2016; McCreary & Sasse, 2000), low self-esteem (Laporta-Herrero et al., 2016; Tiggemann, 2005), and poor psychological well-being (Ganem, de Heer, & Morera, 2009).

Considering aforementioned prevalence rates and relevant negative consequences of body dissatisfaction, the need to focus on its development process emerges. *Ideal body image* plays a critical role in this development process. To state more precisely, in modern world, individuals are bombarded with unrealistic body shapes by media and society. Slim female and V-shaped muscular male silhouettes are continuously presented in magazines, television, advertisements as ideal body images (Tiggemann, 2011). Also, while slimness and muscularity are reinforced by society because these body shapes are perceived as an indicator of attractiveness, happiness and success by society, in compliance with these ideal body images is evaluated as a sign of laziness, unattractiveness, and negative character for both females and males (Grogan, 2008; McCabe & Ricciardelli, 2005). Therefore, individuals try to reach these ideal body shapes to experience positive outcomes; however, most of the time attaining these unrealistic ideal images is not possible. Hence, a discrepancy between the ideal body image and the actual one occurs, which in turn leads to body dissatisfaction (Clay et al., 2005; Tiggemann, 2011). However, the etiology of body dissatisfaction cannot be

that simple; although everyone is exposed to almost the same sociocultural factors, i.e., the same ideal body shapes, not all of them suffer from this problem. For this reason, it would be very useful to review the risk/predisposing factors of body dissatisfaction (i.e., biological, sociocultural, and psychological factors).

2. 1. 2. 1. A Biological Factor: Body Mass Index (BMI)

BMI (kg/m^2) is a commonly used measure to classify individuals as underweight ($\text{BMI} < 18.50$), normal weight ($18.50 \leq \text{BMI} < 25.00$), overweight ($25.00 \leq \text{BMI} < 30.00$), or obese ($30 \leq \text{BMI}$; World Health Organization, 2000). This index has been considered as one of the biological risk factors for body dissatisfaction, and there has been extensive support for its association with body dissatisfaction (Lawler & Nixon, 2011). It has been well-established by both meta-analytic studies (e.g., Stice, 2002; Weinberger, Kersting, Riedel-Heller, & Luck-Sikorski, 2016) and longitudinal studies (e.g., Paxton, Eisenberg, & Neumark-Sztainer, 2006; Stice & Whitenton, 2002) that BMI has an impact on body dissatisfaction.

However, BMI influences females and males with different patterns. For females, there is a linear association between BMI and body dissatisfaction. In other words, having average or high BMI is a predisposing factor for females' body dissatisfaction (Dion et al., 2015; Fallon et al., 2014; Presnell, Bearman, & Stice, 2004). Given the negative correlation between BMI and thinness (World Health Organization, 2000), this linear relation between BMI and body dissatisfaction is sensible. On the other hand, the influence of BMI is not linear for males. More precisely, some males want to have a muscular or a large body, whereas some others want to have a slimmer body (Filiault, 2007; McCabe & Ricciardelli, 2004). Probably for this reason, the influence of BMI shows bilateral characteristics that both low and high BMI increase the risk of body dissatisfaction in males (Dion et al., 2015; Fallon et al., 2014; Presnell et al., 2004).

Despite this differential effects of BMI for females and males, all of the aforementioned findings supported the effect of BMI on body dissatisfaction. However, there are some other studies supporting the null hypothesis. For instance,

Stice and Bearman (2001) conducted a longitudinal study with adolescent females and did not find any significant effect of body mass on body dissatisfaction. Similarly, Byely, Archibald, Graber and Brooks-Gunn (2000) supported the null hypothesis.

Considering the aforementioned findings, it can be summarized that (1) although there are many studies supporting the predictive effect of BMI on body dissatisfaction, there are some others supporting the null hypothesis, (2) while having an average or a high BMI is a risk factor for females' body dissatisfaction, having a low or a high BMI is a risk factor for males' body dissatisfaction.

2. 1. 2. 2. Sociocultural Factors: Awareness of Thin Ideal, Internalization of Thin Ideal, Perceived Pressures to be Thin, and the Influence of Family, Peers and Media

Awareness of thin ideal, internalization of thin ideal, perceived pressures to be thin, and the influence of family, peers and media are the main sociocultural factors investigated in body dissatisfaction literature (e.g., Cafri, Yamamiya, Brannick, & Thompson, 2005; Fitzsimmons-Craft et al., 2012; Stice, 1994; 2002; Stice & Shaw, 2002). These factors play a central part in Sociocultural Model (Thompson & Stice, 2001) which provides an explanation for the development process of body dissatisfaction. According to this model, fashion magazines consistently present very thin models, and in this way, a beauty standard of females is identified with ultra-thinness. This beauty standard is transmitted to individuals by several sociocultural sources, such as family members, peers, and media, and this leads to internalization of ideal thin body shape, which in turn leads females to struggle to reach this ideal body shape to get approval from others. However, since it is often not possible to reach this ideal thin body (the ultra-thin body), females experience disappointment and body dissatisfaction. For males, this sociocultural process is almost the same except one difference; ideal body shape for males is a V-shaped and hyper-muscular body. In other words, males struggle to reach this muscular ideal body. If they could not, they also experience body dissatisfaction (Thompson & Stice, 2001; Tiggemann, 2011).

Three factors of the sociocultural model –awareness of a thin ideal, internalization of a thin ideal, and pressures to be thin– have received considerable attention in literature with respect to their association with body dissatisfaction (Halliwell & Dittmar, 2004; Stice, 2002; Stice & Bearman, 2001; Stice & Whitenton, 2002; Thompson & Stice, 2001). Findings established that awareness of thin ideal, internalization of thin ideal and pressures to be thin have significant association with body dissatisfaction (Cafri et al., 2005; Lawler & Nixon, 2011; Stice, 2002; Stice & Bearman, 2001; Stice & Shaw, 2002; Stice & Whitenton, 2002; Thompson & Stice, 2001). However, awareness of thin ideal was not found to be a strong predictor of body dissatisfaction as much as internalization of thin ideal and pressures to be thin (Cafri et al., 2005; Halliwell & Dittmar, 2004).

When interpreting aforementioned results, it is important to consider that almost all of these studies involved female participants and did not focus on experiences of males in terms of sociocultural influences. Considering the female-sample dominance in the literature, concluding that males are not affected by sociocultural factors would be an optimistic point of view. Rather, this domination can be explained based on two possible reasons. First, these three factors are not appropriate for males, whose preoccupation is related to muscularity. Therefore, investigating the effects of the same sociocultural factors (related to being thin) on males' body dissatisfaction could lead to misleading results. Second, methods of assessing muscularity are not common in the literature (Cafri et al., 2005). Despite these shortcomings, there is limited evidence to support the influence of sociocultural factors on males' body dissatisfaction. For instance, in their meta-analytic study Karazsia and Pieper (2011) established that when sociocultural variables related to muscularity were included, more variance in males' body dissatisfaction was explained, which was similar to the variance explained in studies involving female participants.

Another sociocultural factor that influences body dissatisfaction is mass media which includes magazines, television, the Internet, advertisements, video games etc. (Levine & Chapman, 2011). Mass media displays thin female and muscular male models to sell their products by impressing people (Barlett, Vowels, & Saucier, 2008). By doing

this, media gives an intensive and frequent message that thinness and muscularity are standards of beauty for females and males, respectively. Therefore, being exposed to appearance-related mass media increases the risk of body dissatisfaction (Barlett et al., 2008; Groesz, Levine, & Murnen, 2002; Leit, Gray, & Pope, 2002; Levine & Chapman, 2011; Lorenzen, Grieve, & Thomas, 2004; Nerini, 2015; Yamamiya, Cash, Melnyk, Posovac, & Posovac, 2005). For this reason, the features of the body shape that media presents have critical impact on body dissatisfaction. However, these features changed a lot over time. Body measurements and weights of female models have decreased, and they have become very thin. For instance, Garner, Garfinkel, Schwartz, and Thompson (1980) had analyzed female centerfolds of Playboy magazines for 20 years and revealed that there had been a decline in weights of female models. A similar trend is also valid for ideal male body; representations of the ideal male body in media has become more muscular over the years. For instance, Leit, Pope, and Gray (2001) analyzed centerfold male models in Playgirl magazine for past 25 years (from 1973 to 1997) and reported that these models had become more muscular over the years. Build on these, it would not be wrong to say that attaining these ideal bodies imposed by media has become almost impossible for both females and males over the years, which in turn, increased the risk of body dissatisfaction (Agliata & Tantleff-Dunn, 2004; Birkeland et al., 2005; Slevec & Tiggemann, 2011).

The influences of family members and peers are the other salient sociocultural factors that play a critical role in body dissatisfaction (Vincent & McCabe, 2000). Since humans are social beings, their norms, beliefs, thoughts, and values are influenced by their interactions with family members and peers. In this context, attitudes, comments, critics, and teasing about appearances from family members and peers might shape individuals' evaluation of their own physical body, and so their body dissatisfaction (Jones, 2011; Salafia & Gondoli, 2011).

Since family is a primary institution for individuals' socialization, appearance related evaluations coming from parents are important in development of body dissatisfaction. In this context, the influence of family has been examined under different variables in literature, namely parental comments, critics, teasing and perceived parental pressure.

In terms of parental comments, negative comments were found to be associated with body dissatisfaction (Chng & Fassnacht, 2016; Vincent & McCabe, 2000), and positive comments were evaluated as protective factors against body dissatisfaction (Ricciardelli, McCabe, & Banfield, 2000). However, some studies reported that since positive comments also highlighted the importance of appearance, they were also risk factors for body dissatisfaction (Chng & Fassnacht, 2016; Herbozo & Thompson, 2006). In addition to parental comments, parental critics and teasing have also close relations with body dissatisfaction; findings demonstrated that these variables increase the risk of body dissatisfaction (Ata, Ludden, & Lally, 2007; Menzel et al., 2010; Neumark-Sztainer et al., 2010; Schaefer & Salafia, 2014). Additionally, perceived parental pressure, which is another variable that comes into play with the contributions of aforementioned variables, predicts body dissatisfaction (Ata et al., 2007; Mellor, McCabe, Ricciardelli, & Merino, 2008).

In addition to family influence, peer influence is also a significant predictor of body dissatisfaction (Keery, van den Berg, & Thompson, 2004; Salafia & Gondoli, 2011; Shroff & Thompson, 2006; Van Tergouw, 2011). Like family influence, peer influence has been also studied under several constructs. In this context, appearance related conversations with peers, peer encouragement to lose weight (Van Tergouw, 2011), peer criticism about appearance (Lawler & Nixon, 2011), teasing from peers (Eisenberg, Neumark-Sztainer, & Story, 2003; Schaefer & Salafia, 2014), and perceived peer pressure (Gondoli, Corning, Salafia, Bucchianeri, & Fitzsimmons, 2011; Presnel et al., 2004) were found to promote body dissatisfaction.

Despite these evidences supporting the predictive effect of family and peer influence on body dissatisfaction, limited number of studies also supported null hypotheses (for peer influence, Mellor et al., 2008; for parental influence, Presnel et al., 2004).

To conclude, the literature on the relation between sociocultural factors and body dissatisfaction can be summarized as (1) the effects of internalization of thin ideal, perceived pressure to be thin and awareness of thin ideal on body dissatisfaction were shown with robust findings for females but there is a need to conduct further studies focusing on sociocultural influences among males, (2) mass media has critical role in

body dissatisfaction by determining the ideal body shapes, (3) despite some findings supporting null hypotheses, there is a large body of research demonstrating that the influence of family and peers promotes body dissatisfaction.

2. 1. 2. 3. Psychological Factors: Self-Esteem, Appearance Esteem and Social Appearance Anxiety

Self-esteem is one of the psychological variables in body dissatisfaction literature. Since self-esteem refers to a global sense of self-worth, it may not only influence body dissatisfaction but also be influenced by it (Tiggemann, 1994). Within this framework, several studies have been conducted to explore the possible links between these constructs, and the findings revealed that a significant negative association exists between self-esteem and body dissatisfaction (Cohane & Pope, 2001; Pop, 2016). In other words, individuals with low self-esteem are more prone to experience body dissatisfaction (Sheffield, Tse, & Sofronoff, 2005). Moreover, the global nature of this negative association was supported by studies conducted on Turkish (Oktan & Şahin, 2016), Korean (Lim & You, 2017), and Australian and Hong Kong (Sheffield et al., 2005) samples. In spite of this consistent association, the answer to the question of whether low self-esteem causes body dissatisfaction or body dissatisfaction causes low self-esteem is not clear yet (Tiggemann, 1994).

Appearance esteem or body esteem are subdomains of self-esteem (Franzoi & Shields, 1984). They refer to feelings about overall appearance (Nanu, Taut, & Baban, 2013); thus they are different constructs from body (dis)satisfaction (Barlett et al., 2008), but still they have been often used interchangeably in literature (Groesz et al., 2002; Noser & Zeigler-Hill, 2014). Thus, in the body image literature, the effect of appearance esteem on body dissatisfaction was not specifically addressed; instead, the predictors of appearance esteem have received the attention of researchers. Studies generally investigated the effects of gender, body mass index, and exposure to media images on appearance esteem (Grogan, Williams, Conner, 1996; Kartal, 1996; Nanu et al., 2013). In terms of gender effect, most of the studies reported that females had lower appearance esteem than males (Grogan et al., 1996; Nanu et al., 2013; Xu, 2017); however, Kartal (1996) did not find any main effect of gender on appearance esteem.

On the other hand, Kartal reported an interaction effect of gender and BMI on appearance esteem. More precisely, for obese group, females had significantly lower appearance esteem than males. For normal weight group, males and females did not differ from each other. However, for underweight group, males reported lower appearance esteem than females. The effect of BMI on appearance esteem was demonstrated by other studies (Nanu et al., 2013; Xu, 2017). Also, the negative association between appearance esteem and exposure to media images was also well-established in the literature (Barlett et al., 2008; Groesz et al., 2002; Grogan et al., 1996).

Social appearance anxiety, which refers to a fear of being evaluated negatively by others because of one's overall appearance (Hart et al., 2008), is another psychological construct associated with body dissatisfaction. Although it is a relatively new construct in the literature, the findings supported its robust effect on body image (Hart et al., 2008; Levinson & Rodebaugh, 2012; 2015). In other words, elevated social appearance anxiety was consistently found as a risk factor for negative body image, body dissatisfaction, and eating disorders (Claes et al., 2012; Hart et al., 2008; Koskina, Van den Eynde, Meisel, Campbell, & Schmidt, 2011; Levinson & Rodebaugh, 2012; 2015; Levinson et al., 2013).

Another subject of study in body image literature was the gender difference in social appearance anxiety, but studies presented contradictory results. For instance, Dakanalis et al. (2016) stated that females have higher social appearance anxiety than males; however, Çelik (2013; as cited in Şahin, Barut, & Ersanlı, 2013) reported the exact opposite. In addition, Hart et al. (2008) and Şahin et al. (2013) reported that females and males do not differ from each other in terms of social appearance anxiety. Building on these findings, it would not be wrong to say that gender difference in terms of social appearance anxiety needs a clarification.

In conclusion, the association between psychological factors and body dissatisfaction can be summarized as (1) self-esteem and social appearance anxiety are consistent predictors of the body dissatisfaction, (2) there is a need to conduct further studies to make an inference about gender difference in terms of social appearance anxiety, (3)

despite studies explored the effects of gender, BMI, and media exposure on appearance esteem, the association between appearance esteem and body dissatisfaction has not specifically addressed yet.

2. 1. 3. Gender Role in Body Dissatisfaction

Female-sample domination in body image literature is an unquestionable fact (McCabe & Ricciardelli, 2004). In other words, the vast majority of research has focused on females' body image. Regarding this domination, some authors stated that since eating disorders, which are substantially more common among females than males, have received more attention by psychiatrists and clinical psychologists, this research trend reinforced a limiting view that body image is only related to females (Cash, 2004; Pearson et al., 2010). Consistent with this limiting view, body dissatisfaction had been considered as a female problem for long time (see Cohane & Pope, 2001); however, it is a problem of humanity rather than only a female issue (Pearson et al., 2010). In this regard, one of the limited studies revealed that 43% of males were dissatisfied with their overall appearance, 63% of them were dissatisfied with their abdomen, and 53% of them were dissatisfied with their weights (Garner, 1997). This study clearly showed that men are also concerned about their body image and appearance.

With the awareness of males' body dissatisfaction, several studies have been conducted to examine gender role in body dissatisfaction, and a large part of them reported that as compared to males, females experienced higher body dissatisfaction (e.g., Brennan, Lalonde & Brain, 2010; Chng & Fassnacht, 2016; Chen, Gao, & Jackson, 2007; Dion et al., 2015). However, there is a debate in whether these studies reflected the reality or not, because most of the questionnaires used in the literature are insufficient to measure males' body dissatisfaction. For example, after reviewing several studies, McCabe and Ricciardelli (2004) ascertained that since most of the questionnaires about body image are appropriate only for females (about thinness and losing weight), these questionnaires failed to measure the desire of males related to muscularity or gaining weight. Moreover, they concluded that if aspects of body dissatisfaction associated with males had been measured accurately, the level of body

dissatisfaction for females and males might have been similar. Consistent with their conclusion, some findings also indicated that males experienced body dissatisfaction as much as females (Hale & Smith, 2012; Tiggemann, 1994). Although this debate on whether males or females have more body dissatisfaction does not reach a conclusion, there is a consensus on the gender difference with respect to its manifestation (Pearson et al., 2010; Tiggemann, 1994). In other words, while females' body dissatisfaction is related to being thinness and losing weight; males' preoccupation on body dissatisfaction is related to muscle mass rather than weight and fat (Cohane & Pope, 2001; McCabe & Ricciardelli, 2004; McCreary & Sasse, 2000; Ousley, Cordero & White, 2008; Pope et al., 2000). This difference in manifestation of body dissatisfaction was also clearly shown in many studies. For instance, in an experimental study, participants were compared in terms of both eye tracking results and also idealized bodies. Eye tracking results showed that males with high body dissatisfaction gave more attention to muscular bodies, whereas females with high body dissatisfaction gave more attention to thin bodies. Consistently, males with high body dissatisfaction evaluated muscular bodies as more attractive body types, while females with high body dissatisfaction evaluated thin bodies as more attractive ones (Cho & Lee, 2013). Another study conducted in Turkey with preschoolers found that the difference between males and females in terms of body dissatisfaction is present even at preschool age. More precisely, researchers showed that preschool boys want to have bigger bodies, while preschool girls desire to have thinner bodies (Kerkez et al., 2013). In addition to aforementioned findings, drive for thinness and drive for muscularity were found as discriminant concepts, and this finding also supported the distinction in manifestation of body dissatisfaction across genders (McCreary & Sasse, 2000).

In conclusion, gender role in body dissatisfaction can be summarized as (1) although body dissatisfaction had been perceived as a female problem for long time, it is obvious that it is also common among males, (2) despite the findings reporting that females' body dissatisfaction higher than males', it was proposed that the difference reported in the studies might be due to the lack of appropriate measurement tools to assess males' body dissatisfaction, (3) there are some findings supporting that there is

no gender difference in terms of level of body dissatisfaction, (4) there is consensus on the difference between males and females in terms of manifestation of body dissatisfaction; while body dissatisfaction of males is related to being muscular, it is related to being thin for females.

Although body dissatisfaction has been investigated with several variables that were mentioned above and under different theories such as sociocultural theory (Stice, 1994; Thompson & Stice, 2001), social comparison theory (Durkin, Paxton, & Sorbello, 2007) and objectification theory (Fitzsimmons et al., 2012); relatively limited number of studies considered the relation between basic psychological needs (i.e., autonomy, competence, relatedness) and body related issues (e.g., Schüller & Kuster, 2011; Thøgersen-Ntoumani, Ntoumanis, & Nikitaras, 2010). Therefore, in the current study, in order to contribute to the limited literature on basic needs-body image relation, it was also decided to use basic psychological needs as possible predictive variables of body dissatisfaction. For this reason, examining Basic Needs Theory and its relation to body related issues would be very beneficial.

2. 1. 4. Basic Psychological Needs Theory

Self-Determination Theory (SDT) is a meta-theory investigating motivations and inherent growth tendencies of individuals and environmental conditions that foster or thwart these positive outcomes (Ryan & Deci, 2000a). *Basic Psychological Needs Theory* (Deci & Ryan, 2000; Ryan & Deci, 2000b), one of the mini-theories of SDT (Ryan & Deci, 2000a), emphasizes that there are three innate and universal psychological needs (i.e., autonomy, competence, and relatedness) for optimal human functioning, personal growth and integrity, and well-being. *Autonomy* refers to full endorsement on one's action; in other words, sense of free choice and control over own behaviors. *Competence* refers to sense of effectiveness in activities, feeling of mastery over challenge and sense of reaching the desired goals. Lastly, *relatedness* refers to sense of belongingness and being connected to others (Deci & Ryan, 2000).

According to Basic Psychological Needs Theory, each of the basic needs is essential nutriment for psychological health and well-being; therefore, each one must be

satisfied to achieve these positive outcomes (Deci & Ryan, 2000; 2008). In this regard, several studies clearly indicated that satisfaction of the needs has close associations with indicators of well-being, psychological health and optimal human functioning, such as positive affect, vitality (Chen et al., 2015; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000), self-esteem, task-engagement, low anxiety level (Cihangir-Çankaya, 2009; Deci et al., 2001), life satisfaction (Chen et al., 2015; Cihangir-Çankaya, 2009; Leversen, Danielsén, Birkeland, & Samdal, 2012), work performance (Baard, Deci, & Ryan, 2004), low depression, somatization, and hostility levels (Uzman, 2014). Diary studies provided additional evidence for the association between satisfaction of the needs and well-being by demonstrating a similar daily fluctuations of need satisfaction and well-being indicators (Reis et al., 2000; Ryan, Bernstein, & Brown, 2010).

In view of SDT, although people have intrinsic growth tendencies and a potential to achieve aforementioned positive outcomes, they are also vulnerable to defectiveness and psychopathology (Vaansteenkiste & Ryan, 2013). In this context, unfulfilled basic needs (both unsatisfied and frustrated needs) are stated to have critical influence on development of these negative outcomes (Ryan, Deci, & Grolnick, 1995), and this statement was supported consistently by many findings indicating the relation of unfulfilled basic needs with negative affect, depression (Bartholomew et al., 2011; Chen et al., 2015; Ng, Ntoumanis, Thøgersen-Ntoumani, Stott, & Hindle, 2013; Nishimura & Suzuki, 2016), burnout, physical symptoms (Bartholomew et al., 2011), and suicidal behaviors (Britton, Van Orden, Hirsch, & Williams, 2014). Body image and related problems have also received considerable attention from SDT researchers, and they established that unfulfilled basic needs is risk factor for body dissatisfaction, drive for thinness (Thøgersen-Ntoumani et al., 2010), unhealthy weight control behaviors (Ng et al., 2013; Thøgersen-Ntoumani et al., 2010), appearance contingent self-esteem, and social appearance anxiety (Thøgersen-Ntoumani, Ntoumanis, Cumming, & Chatzisarantis, 2011), as well as binge eating behaviors (Schüler & Kuster, 2011; Verstuyf, Vansteenkiste, Soenens, Boone, & Mouratidis, 2013), bulimia nervosa, and anorexia nervosa (Froreich, Vartanian, Zawadzki, Grisham, & Touyz, 2017; Straus & Ryan, 1987).

The underlying mechanism of body image concerns-basic psychological needs relation has been generally addressed in the contexts of need substitutes and maladaptive compensatory strategies to cope with unfulfilled basic needs (Vansteenkiste & Ryan, 2013; Verstuyf, Patric, Vansteenkiste, & Teixeira, 2012). Before detailing this mechanism, it would be very beneficial to clarify the distinction between low need satisfaction and need frustration, because need substitutes and maladaptive compensatory strategies are generally considered as a response to need frustration rather than a response to low need satisfaction.

Low need satisfaction indicates a sense of need dissatisfaction; however, need frustration refers to a situation that the basic needs are actively thwarted by social environment (Bartholomew, Ntoumanis, Ryan, & Thøgersen-Ntoumani, 2011). Vansteenkiste and Ryan (2013) used a plant metaphor to clarify the distinction between these constructs. Accordingly, if the plant cannot get appropriate water and sunshine, it will die over time, and this situation will be an example of low need satisfaction. However, if the plant gets salty water, it will die more quickly, and this situation will be an example of need frustration. Consistent with this metaphor, Bartholomew et al. (2011) emphasized that psychopathological conditions are more related to need frustration than low need satisfaction.

As stated above, body image concerns have been generally addressed in the contexts of maladaptive coping mechanisms, i.e., need substitutes and compensatory behaviors (Vansteenkiste & Ryan, 2013; Verstuyf et al., 2012). Regarding the need substitutes, feelings of inferiority and insecurity caused by experienced need frustration lead people to search for self-worth based on extrinsic goals (e.g., wealth, fame, and body image) rather than intrinsic goals (e.g., affiliation, health, and community feeling). However, unlike intrinsic goals, extrinsic goals are not effective in satisfaction of the basic needs. Consistently, striving to attain perfect body, which is such extrinsic goal, does not result in genuine need satisfaction; on the contrary, lead to subsequent need frustration (Deci & Ryan; 2000; Vansteenkiste & Ryan, 2013; Verstuyf et al., 2012). In addition to need substitutes, people with need frustration tend to develop maladaptive behavior patterns, which are divided into three subcategories that are (a)

releasing self-control, (b) rigid behavioral patterns, and (c) oppositional defiance, to compensate experienced need frustration (Vanteenkiste & Ryan, 2013; Verstuyf et al., 2012). Two of these compensatory behaviors (i.e., releasing self-control and rigid behavioral patterns) has a close association with body image related problems (Vanteenkiste & Ryan, 2013). Regarding the release of control, individuals with need frustration might try to cope with experienced need frustration by binge eating/uncontrolled eating. Because this type of eating behaviors help individuals with escaping from their negative emotions caused by need frustration. Regarding the rigid behavioral patterns, individuals, who constantly failed to satisfy the basic needs, might determine perfectionist standards for body image and/or restrict their eating behaviors excessively to reach these standards. In that process, they cannot tolerate even small failure because these failures uncover their inferiority feelings. On the other hand, if they achieved the perfectionist standards, they experience only short-lived satisfaction and immediately determine new and more difficult standards, and this vicious cycle persists (Vanteenkiste & Ryan, 2013; Verstuyf et al., 2012).

When these maladaptive coping mechanisms of need frustration and the negative effects of both need frustration and low need satisfaction on ill-being situations are reviewed altogether, it can be clearly seen that there is a close association between basic psychological needs and body image concerns. Starting from these evidences, in the present study, it was aimed to investigate the direct and indirect predictive roles of basic needs in body dissatisfaction.

2. 1. 5. The Present Study

One of the main purposes of the present study was to investigate whether the level of body dissatisfaction changes significantly between females and males or not. Literature findings produced contradictory results as respect to gender role in body dissatisfaction; in other words, some findings revealed that females have higher body dissatisfaction than males (Brennan et al., 2010; Chng & Fassnacht, 2016), but some others showed that there is no gender difference in terms of body dissatisfaction levels (Hale & Smith, 2012; Tiggemann, 1994). In addition, it was proposed that males' body dissatisfaction might have been reported less than it actually is due to the lack of

appropriate measurement tools for males (McCabe & Ricciardelli, 2004). Therefore, it was expected that the findings of the present study would shed some light on the conflicting results.

Moreover, it was aimed to explore direct and indirect predictive effects of basic psychological needs on body dissatisfaction. Despite the robust findings indicating a significant association between basic psychological needs and body image problems such as eating disorders and worry about appearances (Schüler & Kuster, 2011; Thøgersen-Ntoumani et al., 2010; Vansteenkiste & Ryan, 2013), the link between basic psychological needs and body dissatisfaction has been specifically addressed by the limited number of studies (e.g., Thøgersen-Ntoumani et al., 2010). Therefore, it was expected that this study would help to advance our understanding of basic psychological needs-body dissatisfaction relation.

In addition, as a preliminary stage needed to pursue the hypotheses of the study, it was aimed to adapt Basic Psychological Needs Satisfaction and Frustration Scale (Chen et al., 2015) and Drive for Muscularity Scale (McCreary & Sasse, 2000) to Turkish.

2. 1. 6. Hypotheses of the Present Study

In light of the existing findings and theoretical basis mentioned above, it was hypothesized that:

H₁: Males and females would not differ significantly from each other in terms of body dissatisfaction.

H₂: Males and females would not differ significantly from each other in terms of social appearance anxiety.

H₃: Males and females would not differ significantly from each other in terms of appearance esteem.

H₄: Males and females would differ from each other in terms of variables related to thinness and muscularity. More specifically, males would show higher

scores in variables related to muscularity (H_{4a}), whereas females would report higher scores in variables related to thinness (H_{4b}).

H_5 : Low satisfaction (H_{5a}) and frustration (H_{5b}) of the basic psychological needs would significantly predict higher body dissatisfaction after common biopsychosocial factors (i.e., gender, body mass index, internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, self-esteem, and pressures from family, peers, and media) are being controlled.

H_6 : Frustration of basic needs would explain more variance in body dissatisfaction as compared to low satisfaction of basic needs.

H_7 : Low satisfaction (H_{7a}) and frustration (H_{7b}) of the basic psychological needs would significantly predict higher social appearance anxiety after common biopsychosocial factors (i.e., gender, body mass index, internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, self-esteem, and pressures from family, peers, and media) are being controlled.

H_8 : Low satisfaction (H_{8a}) and frustration (H_{8b}) of the basic psychological needs would significantly predict lower appearance esteem after common biopsychosocial factors (i.e., gender, body mass index, internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, and pressures from family, peers, and media) are being controlled.

H_9 : Social appearance anxiety (H_{9a}) and appearance esteem (H_{9b}) would significantly predict body dissatisfaction after common psychosocial factors (i.e., internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, and pressures from family, peers, and media and pressures from family, peers, and media) are being controlled.

H_{10} : Social appearance anxiety (H_{10a}) and appearance esteem (H_{10b}) would mediate the relation between satisfaction of basic needs and body dissatisfaction.

H₁₁: Social appearance anxiety (*H_{11a}*) and appearance esteem (*H_{11b}*) would mediate the relation between frustration of basic needs and body dissatisfaction.

H₁₂: Internalization of thin/low fat body (*H_{12a}*), internalization of muscular body (*H_{12b}*), and internalization of general attractiveness (*H_{12c}*) would mediate the relation between satisfaction of basic needs and body dissatisfaction.

H₁₃: Internalization of thin/low fat body (*H_{13a}*), internalization of muscular body (*H_{13b}*), and internalization of general attractiveness (*H_{13c}*) would mediate the relationship between frustration of basic needs and body dissatisfaction.

2. 2. Method

2. 2. 1. Participants

The data were collected from 770 participants via an online questionnaire battery in initial phase. However, the participants who have not completed the questionnaires ($n = 108$) and the ones who completed them in less than 8 minutes ($n = 28$) were excluded from the sample before the analyses. Two other participants who reported their age as “1” and “691” were also excluded, and we ended up with a sample of 632 participants.

Of the 632 participants, 53% of them were female ($n = 335$) and 47% of them were male ($n = 297$), and their ages ranged between 18 and 65 ($M = 23.36$, $SD = .49$). A great majority of the participants ($n = 583$, 92%) were university students, while the rest of them ($n = 48$) were not. While 17.4% of them ($n = 110$) were working at the time of data collection, 82.6% ($n = 522$) of them did not have any job. While 48.3% of the participants ($n = 305$) had a romantic relationship, rest of the participants (51.7%, $n = 327$) did not have any romantic relationship. Of the participants, 10.9% ($n = 69$) reported their perceived income level as low, 80.9% ($n = 511$) reported as middle, and 8.2% ($n = 52$) reported as high. Table 1 presents the descriptive characteristics of the participants.

Table 1

Descriptive Characteristics of the Sample

	<i>M</i>	<i>SD</i>	<i>N</i>	%	Min.	Max.
Age	23.37	6.03	632		18	65
Gender						
Female			335	53.0		
Male			297	47.0		
BMI						
Female	21.73	4.23	335	53.0	13.79	44.41
Underweight			60	9.5		
Normal weight			225	35.6		
Overweight			34	5.4		
Obese			16	2.5		
Male	24.01	3.93	297	47.0	16.33	52.59
Underweight			10	1.6		
Normal weight			185	29.3		
Overweight			83	13.1		
Obese			19	3.0		
Currently university student						
Yes			583	92.2		
No			49	7.8		
Working status						
Working			110	17.4		
Not working			522	82.6		
Last educational degree						
Secondary school			1	.2		
High school			558	88.3		
Two-year license			13	2.1		
Undergraduate			40	6.3		
Master			16	2.5		
Ph.D.			4	.6		
Relationship status						
In a relationship			305	48.3		
Not in a relationship			327	51.7		
Perceived income level						
Low			69	10.9		
Middle			511	80.9		
High			52	8.2		

2. 2. 2. Materials

2. 2. 2. 1. Demographic Information Form

This form included questions designed to obtain information on participants' demographic characteristics such as age, gender, education level, weight, height, relationship status, and income level (see Appendix A).

2. 2. 2. 2. Body Mass Index (BMI)

BMI was calculated based on height and weight reports of participants, and the formula, kg/m^2 , was used during this calculation process.

2. 2. 2. 3. Body Image Scale

This self-report inventory was developed by Secord and Jourard (1953) to measure body dis/satisfaction. Respondents are asked to rate how much they are dis/satisfied with different parts of their own body. The scale consists of 40 items rated on a 5-point Likert-type scale ranging from 1 (like so much) to 5 (do not like at all); therefore, higher scores on the scale represent higher body dissatisfaction. It was adapted into Turkish by Hovardaoğlu (1993), and the internal consistency reliability and the split-half reliability of the Turkish version were found to be .91 and .75, respectively. In the present study, the internal consistency reliability of the scale was .93 (see Appendix B).

2. 2. 2. 4. General Need Satisfaction Scale (GNSS)

This scale was developed by Deci and Ryan (1991) to measure satisfaction level of three basic psychological needs. Therefore, the scale includes three subscales, namely autonomy satisfaction (e.g., I feel like I am free to decide for myself how to live my life), competence satisfaction (e.g., people I know tell me I am good at what I do), and relatedness satisfaction (e.g., I really like the people I interact with). It consists of 21 items measured on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Thus, higher scores obtained from the scale indicate higher need satisfaction. The Turkish adaptation study of the scale was carried out by Cihangir-Çankaya and Bacanlı (2003), and the internal consistency reliabilities of this version

were found to be .71 for autonomy subscale, .60 for competence subscale, .74 for relatedness subscale, and .83 for the whole scale. Moreover, 2-week interval test-retest reliability coefficients for the autonomy, competence and relatedness subscales were .82, .80, and .81, respectively. In terms of convergent validity, autonomy subscale was correlated with autonomy sub-factor of The Sociotropy-Autonomy Scale ($r = .20$); competence subscale was correlated with General Self-Efficacy Scale ($r = .51$); and relatedness subscale was correlated with UCLA Loneliness Scale ($r = -.71$). In the present study, the internal consistency reliabilities of the subscales were .76, .74, and .80 for autonomy, competence and relatedness subscales, respectively (see Appendix C).

2. 2. 2. 5. Social Appearance Anxiety Scale (SAAS)

SAAS was developed by Hart et al. (2008) to measure social appearance anxiety of individuals. This self-report inventory consists of 16 statements (e.g., I am afraid that people find me unattractive) measured on a 5-point Likert-type scale ranging from 1 (not at all) to 5 (extremely). Therefore, higher scores on the SAAS reflect higher social appearance anxiety. SAAS was adapted into Turkish by Doğan (2010). While the internal consistency reliability of the Turkish version was .93, the test-retest reliability was .85. Besides, the split-half reliability of it was .88. In terms of criterion validity, SAAS showed a significant positive relation ($r = .60, p < .01$) with The Brief Fear of Negative Evaluation Scale. In the present study, the internal consistency reliability of the scale as calculated by Cronbach's alpha was .95 (see Appendix D).

2. 2. 2. 6. Appearance Esteem Scale (AES)

AES was developed by Kartal (1996) to measure self-esteem related to physical appearance. The scale consists of 10 items (e.g., I am pleased with my appearance) measured on a 4-point Likert-type scale ranging from 1 (completely agree) to 4 (completely disagree). The internal consistency and the test-retest reliability of the scale were found to be .86 and .77, respectively. In terms of criterion validity, a significant positive correlation ($r = .63, p < .001$) was found between the total scores of AES and Rosenberg Self-esteem Scale. In the current study, the internal consistency reliability of AES was .87 (see Appendix E).

2. 2. 2. 7. Satisfaction with Life Scale (SWLS)

SWLS was developed by Diener, Emmons, Larsen, and Griffin (1985) to measure the level of life satisfaction of individuals. It consists of five statements (e.g., I am satisfied with my life) rated on a 7-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Therefore, higher scores obtained from SWLS indicate higher life satisfaction. The Turkish adaptation study of it was conducted by Durak, Şenol-Durak, and Gençöz (2010), and the internal consistency of the Turkish version was found to be .81. In terms of concurrent validity, SWLS showed significant correlations with positive affect ($r = .31, p = .000$), negative affect ($r = -.29, p = .000$), self-esteem ($r = .40, p = .000$ for student sample; $r = .20, p = .023$ for the elderly adult sample), depression ($r = -.40, p = .000$ for the student sample; $r = -.30, p = .000$ for the correctional officer sample), perceived health status ($r = .20, p = .027$), work stress ($r = -.34, p = .000$), and burnout ($r = -.39, p = .000$). In terms of discriminant validity, no significant association between SWLS and willingness to self-censor was found. In the current study, the internal consistency reliability of SWLS as calculated by Cronbach's alpha was .81 (see Appendix F).

2. 2. 2. 8. Rosenberg Self-Esteem Scale (RSES)

RSES was developed by Rosenberg (1965) to measure global self-worth of individuals. The scale consists of 10 items (e.g., I feel that I do not have much to be proud of) measured on a 4-point Likert-type scale ranging from 1 (completely true) to 4 (completely wrong). Thus, higher scores on the scale reflect higher self-esteem. The Turkish adaptation study of RSES was conducted by Çuhadaroglu (1986), and the internal consistency reliability of the Turkish version was found as .76, while the test-retest reliability was found to be .75. In terms of concurrent validity, Çuhadaroglu conducted psychiatric interviews with high school students, and the correlation between the interviews and RSES was .71. In the present study, the internal consistency reliability as calculated by Cronbach's alpha was .91 (see Appendix G).

2. 2. 2. 9. Sociocultural Attitudes towards Appearance Questionnaire-4 Revised (SATAQ-4R)

SATAQ-4R was developed by Thompson et al. (2011) to measure sociocultural risk factors of body image problems and eating disorders. It consists of 31 items evaluated on a 5-point Likert-type scale ranging from 1 (definitely disagree) to 5 (definitely agree) and seven subscales namely internalization-thin/low body fat (e.g., I want body to look very thin), internalization-muscular (e.g., it is important for me to look muscular), internalization-general attractiveness (e.g., it is important to me to be attractive), pressures-family (e.g., family members encouraged me to decrease my level of body fat), pressures-peers (e.g., I feel pressure from my peers to improve my appearance), pressures-significant others (e.g., I feel pressure from significant others to look in better shape), pressures-media (e.g., I feel pressure from media to improve my appearance). SATAQ-4R was adapted to Turkish by Cihan, Bozo, Lauren, and Thompson (2016), and for Turkish sample, a six-factor structure was proposed by combining the pressures-peers and pressures-significant others (SO) factors. The internal consistency reliability of these factors were .84 for the internalization-thin/low body fat, .87 for the internalization-muscular, .86 for the internalization-general-attractiveness, .86 for the pressures-family, .91 for the pressures-peers/SO, and .96 for the pressure-media factor. In terms of convergent validity, significant associations between the sub-factors of SATAQ-4R and disordered eating, body satisfaction and self-esteem were found. In the current study, the internal consistency reliabilities of the sub-factors were .80, .89, .85, .86, .93, and .96 for the internalization-thin/low body fat, the internalization-muscular, the internalization-general-attractiveness, the pressures-family, the pressures-peers/SO, and the pressure-media factors, respectively (see Appendix H).

2. 2. 2. 10. Marlowe-Crowne Social Desirability Scale (MC-SDS)

MC-SDS was developed by Crowne and Marlowe (1960) to assess how participants react to socially desirable statements. It consists of 33 statements (e.g., I have never intensely disliked anyone), and participants decide if these items are true (1) or false (2) for them. Thus, higher scores on MC-SDS reflect that individuals behave

according to what is desired by the others. The scale was adapted into Turkish by Özeren (1996), and the internal consistency reliability of this version was found to be .67. In the current study, its internal consistency reliability as calculated by Cronbach's alpha was .71 (see Appendix I).

2. 2. 2. 11. Basic Psychological Needs Satisfaction and Frustration Scale (BSNSFS)

This self-report scale was developed by Chen et al. in order to measure the level of both basic needs satisfaction and basic needs frustration (2015). It consists of 24 items evaluated on a 5-point Likert-type scale ranging from 1 (not true at all) to 5 (completely true) and six factors which are autonomy satisfaction (e.g., I feel a sense of choice and freedom in things I undertake), autonomy frustration (e.g., most of things I do I feel like "I have to"), relatedness satisfaction (e.g., I feel that the people I care about also care about me), relatedness frustration (e.g., I feel excluded from the group I want to belong to), competence satisfaction (e.g., I feel confident that I can do things well), and competence frustration (I have serious doubts about whether I can do things well). In the original study, the internal consistency reliabilities of the subscales were reported for four different samples, and those ranged between .69 and .82 for autonomy satisfaction, .71 and .77 for autonomy frustration, .65 and .83 for relatedness satisfaction, .64 and .81 for relatedness frustration, .74 and .88 for competence satisfaction, and .67 and .86 for competence frustration. Turkish adaptation of the scale was carried out in the current study, and as in the original scale, a six factor-structure, namely autonomy satisfaction, autonomy frustration, relatedness satisfaction, relatedness frustration, competence satisfaction, competence frustration, was found for the Turkish sample. Since we interested in the effects of satisfaction and frustration of the needs, we calculated composite scores for need satisfaction (combination of autonomy satisfaction, relatedness satisfaction, and competence satisfaction) and need frustration (combination of autonomy frustration, relatedness frustration, and competence frustration) factors (see pp. 31-37 for detailed information on the psychometric properties of the scale) (see Appendix J).

2. 2. 2. 12. Drive for Muscularity Scale (DMS)

DMS was developed by McCreary and Sasse (2000) to measure muscularity oriented attitudes and behaviors. It consists of 15 items measured on a 6-point Likert type scale ranging from 1 (never) to 6 (always) and two subscales, namely DMS-muscle development behaviors (e.g., I use protein and energy supplements) and DMS-muscle-oriented body image attitudes (e.g., I wish that I were more muscular). The internal consistency reliabilities of the scale were .84 for males, .78 for females, and .84 for the whole sample. In terms of convergent validity, significant positive correlations between DMS score and the frequency of weight training activities ($r = .24, p < .001$) and depression ($r = .32, p < .001$; only for males), and a significant negative correlation between DMS score and self-esteem ($r = -.41, p < .001$; only for males) were found. For discriminant validity, DMS was not found to be related with drive for thinness. The Turkish adaptation of DMS was done within the current dissertation. Since McCreary and Sasse (2000) stated that factor structure may change depending on gender, exploratory factor analyses were conducted for males and females, separately. Thus and so, 3 factor-structure and 2 factor structure were found for males and females, respectively (see pp. 38-46 for detailed information on the psychometric properties of the scale). In order to compare females and males in terms of drive for muscularity, we calculated a composite score for drive for muscularity by combining the factors of DMS (see Appendix K).

2. 2. 3. Procedure

First of all, Institutional Review Board (IRB) approval was obtained from Human Subjects Ethics Committee of Middle East Technical University. Then, the items of Basic Psychological Needs Satisfaction and Frustration and Drive for Muscularity Scales were translated to Turkish by three graduate students (including the author of the present dissertation) who were pursuing Ph.D. in psychology. Then, present researcher and his major advisor checked the translated items, and they selected or formed the best translated items based on their semantic similarities with the original ones. After that, these items were translated back into English by a bilingual person. After the back translation process, the researcher and his advisor compared the back-

translated items with the original ones, and they decided on the final versions of the items. After this whole translation process, the measurement tools were uploaded to one of the online research platforms, Qualtrics. Since the numbers of male and female students were close to each other in general psychology classes offered to non-psychology students as an elective course, the students of this course were announced about the study via METU Research Sign-Up System. Moreover, social media platforms, such as Facebook, were also used to reach potential participants. After signing the inform consent form (see Appendix L), participants completed the questionnaire battery in approximately 20-30 minutes. Students, who participated in the study via METU Research Sign-Up System, were given .5-point extra credit for their contributions.

2. 2. 4. Strategy of Analyses

Before running the main analyses, in the first stage, it was decided to carry out Turkish translation and adaptation studies for Basic Psychological Needs Satisfaction and Frustration and Drive for Muscularity Scales. For this aim, a confirmatory factor analysis through EQS 6.1 was conducted for Basic Psychological Needs Satisfaction and Frustration Scale. However, for Drive for Muscularity Scale, the same analysis strategy was not preferred because McCreary and Sasse (2000) stated that this scale might have different factor structures for males and females. Also, McCreary recommended (via e-mail) the present researcher to conduct exploratory factor analysis with direct oblimin rotation. Therefore, for males and females, separate principal component analyses through SPSS were run for Drive for Muscularity Scale. After this adaptation process, firstly, a series of independent samples *t*-tests and one-way univariate analysis of variance (ANOVAs) were conducted to compare the participants in different levels of demographic variables in terms of the study variables. Secondly, Pearson's Product-Moment Correlations were calculated to see the linear associations among the study variables. Thirdly, to test H_1 ; in other words, to investigate gender differences in terms of body dissatisfaction, an independent samples *t*-test was conducted via SPSS 24. After that, two one-way Multivariate Analysis of Variance (MANOVA) analyses were run to investigate gender effect on

body image concerns, such as internalization of thin/low fat body, drive for muscularity, social appearance anxiety, appearance esteem etc. Moreover, several hierarchical regression analyses with enter method were carried out to test whether basic psychological need satisfaction and need frustration predict body dissatisfaction, social appearance anxiety, and appearance esteem or not. Lastly, four Parallel Multiple Mediation Analyses (Hayes, 2013) were performed via SPSS macro with 5000 bootstrap samples to test the mediating role of social appearance anxiety, appearance esteem, internalization of thin/low fat body, internalization of muscular body, and internalization of general attractiveness in the relation between basic psychological needs and body dissatisfaction.

2. 3. Results

2. 3. 1. Preliminary Analyses

In this part, firstly, a confirmatory factor analysis and an exploratory factor analysis were conducted to test factor structures of the adapted scales, and the psychometric properties of these scales were presented. Secondly, a series of independent samples *t*-tests and one-way ANOVAs were carried out to see whether there were any significant differences between the levels of demographic variables in terms of the study variables. Lastly, Pearson zero-order correlation analysis was performed to examine the correlations among variables included in the present study.

2. 3. 1. 1. Confirmatory Factor Analysis

In order to test the original 6-factor structure of Basic Psychological Needs Satisfaction and Frustration Scale (BPNSFS) in Turkish sample, a confirmatory factor analysis (CFA) through EQS 6.1 was performed. Item 1, item 7, item 13, and item 19 were entered as indicators of *autonomy satisfaction factor*; item 2, item 8, item 14, and item 20 were entered as indicators of *autonomy frustration factor*; item 3, item 9, item 15, and item 21 were entered as indicators of *relatedness satisfaction factor*; item 4, item 10, item 16, item 22 were entered as indicators of *relatedness frustration factor*, item 5, item 11, item 17, and item 23 were entered as indicators of *competence satisfaction factor*; and lastly item 6, item 12, item 18, and item 24 were entered as

indicators of *competence frustration factor*. As a result of CFA analysis, *Mardia's z* was found as 50.43. Depending on this value, the normality assumption was not met; thus, robust statistics were taken into consideration. The average off-diagonal absolute standardized residual value was found as .03. When the residuals were examined, it was seen that 47.33% of these residuals were between 0.0 and -0.1 and 51.00% of them were between 0.1 and 0.0. Robust statistics showed that the proposed model fit the data very well, Satorra–Bentler $X^2(237) = 502.59$, $p = .000$, CFI = .95, RMSEA = .04, CI [.04, .05], Rho: .61; therefore, no further modifications were conducted. Figure 1 illustrates path diagram of CFA results regarding the Turkish adaptation of BPNSFS.

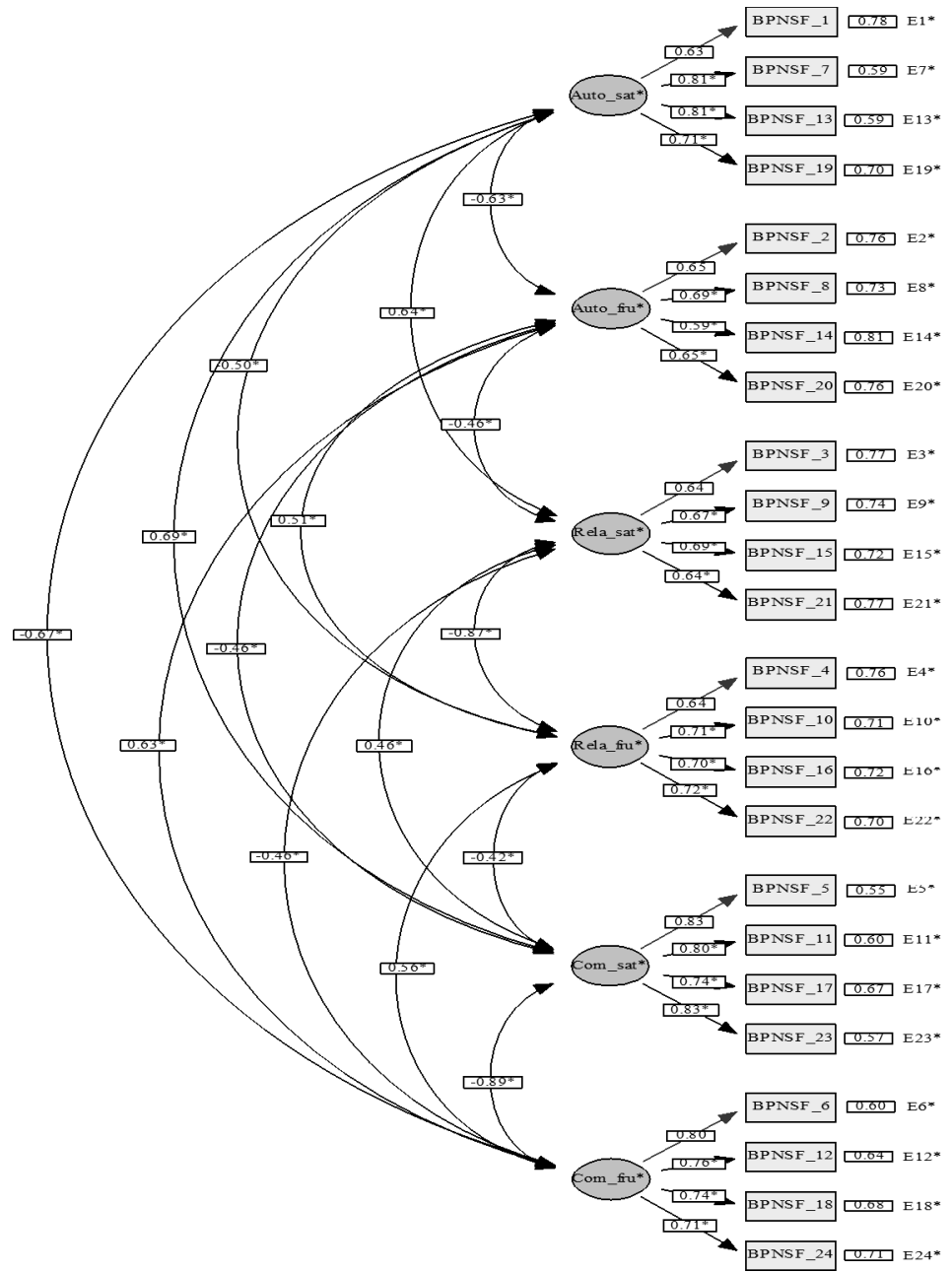


Figure 1. Path diagram of CFA results regarding the Turkish adaptation of BPNSFS

2. 3. 1. 1. 1. Internal Consistency Reliability

Reliability of BPNSFS for the Turkish sample was tested with internal consistency reliability, and the Cronbach's alpha coefficients of the sub-factors were provided in Table 2.

Table 2

Cronbach Alpha Coefficients of BPNSFS (N = 632)

	Cronbach's Alpha Coefficient
Need satisfaction	.88
Autonomy satisfaction	.82
Competence satisfaction	.75
Relatedness satisfaction	.88
Need frustration	.86
Autonomy frustration	.74
Competence frustration	.79
Relatedness frustration	.84

2. 3. 1. 1. 2. Validity

Pearson zero-order correlation analysis was conducted to examine validity of the Turkish adaptation of BPNSFS. In terms of convergent validity, it was expected that the factors of BPNSFS would be correlated with conceptually related variables. In this regard, significant correlations between BPNSFS-autonomy satisfaction and GNSS-autonomy satisfaction ($r = .66, p < .001$), GNSS-competence satisfaction ($r = .64, p < .001$), GNSS-relatedness satisfaction ($r = .46, p < .001$), self-esteem ($r = .56, p < .001$), life satisfaction ($r = .58, p < .001$), body dissatisfaction ($r = -.48, p < .001$), social appearance anxiety ($r = -.33, p < .001$), and significant correlations between BPNSFS-autonomy frustration and GNSS-autonomy satisfaction ($r = -.57, p < .001$), GNSS-competence satisfaction ($r = -.47, p < .001$), GNSS-relatedness satisfaction ($r = -.47, p < .001$), and GNSS-relatedness frustration ($r = -.47, p < .001$).

= -.34, $p < .001$), self-esteem ($r = -.39$, $p < .001$), satisfaction with life ($r = -.39$, $p < .001$), body dissatisfaction ($r = .29$, $p < .001$), social appearance anxiety ($r = .31$, $p < .001$), and significant correlations between BPNSFS-competence satisfaction and GNSS-competence satisfaction ($r = .74$, $p < .001$), GNSS-autonomy satisfaction ($r = .55$, $p < .001$), GNSS-relatedness satisfaction ($r = .37$, $p < .001$), self-esteem ($r = .67$, $p < .001$), satisfaction with life ($r = .42$, $p < .001$), body dissatisfaction ($r = -.55$, $p < .001$), social appearance anxiety ($r = -.41$, $p < .001$), and significant correlations between BPNSFS-competence frustration and GNSS-competence satisfaction ($r = -.72$, $p < .001$), GNSS-autonomy satisfaction ($r = -.58$, $p < .001$), GNSS-relatedness satisfaction ($r = -.39$, $p < .001$), self-esteem ($r = -.72$, $p < .001$), satisfaction with life ($r = -.45$, $p < .001$), body dissatisfaction ($r = .53$, $p < .001$), social appearance anxiety ($r = .51$, $p < .001$) were found. Moreover, significant relationships between BPNSFS-relatedness satisfaction and GNSS-relatedness satisfaction ($r = .66$, $p < .001$), GNSS-autonomy satisfaction ($r = .56$, $p < .001$), GNSS-competence satisfaction ($r = .46$, $p < .001$), self-esteem ($r = .46$, $p < .001$), satisfaction with life ($r = .44$, $p < .001$), body dissatisfaction ($r = -.38$, $p < .001$), social appearance anxiety ($r = -.40$, $p < .001$), and between BPNSFS-relatedness frustration and GNSS-relatedness satisfaction ($r = -.63$, $p < .001$), GNSS-autonomy satisfaction ($r = -.50$, $p < .001$), GNSS-competence satisfaction ($r = -.42$, $p < .001$), self-esteem ($r = -.48$, $p < .001$), satisfaction with life ($r = -.33$, $p < .001$), body dissatisfaction ($r = .34$, $p < .001$), social appearance anxiety ($r = .48$, $p < .001$) were observed. All of these findings provided consistent evidence for convergent validity of BPNSFS

For discriminant validity, it was expected that the factors of BPNSFS would not be correlated with conceptually irrelevant variables. In this context, although significant correlations at the level of .001 were also found between social desirability and BPNSFS-autonomy satisfaction ($r = -.23$, $p < .001$), BPNSFS-autonomy frustration ($r = .19$, $p < .001$), BPNSFS-competence satisfaction ($r = -.20$, $p < .001$), BPNSFS-competence frustration ($r = .18$, $p < .001$), BPNSFS-relatedness satisfaction ($r = -.17$, $p < .001$), BPNSFS-relatedness frustration ($r = .17$, $p < .001$), the powers of these correlations were relatively weaker than those between relevant concepts. Besides, the

factors of BPNSFS was found as uncorrelated with body mass index. Table 3 presents the correlations between the sub-factors of BPNSFS and other construct

Table 3

Correlations between the Factors of BPNSFS and Other Constructs

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. BPNSFS-NS	(.88)																
2. BPNSFS-NF	-.75**	(.86)															
3. BPNSFS-AS	.86**	-.62**	(.82)														
4. BPNSFS-AF	-.51**	.79**	-.51**	(.74)													
5. BPNSFS-CS	.83**	-.64**	.60**	-.38**	(.75)												
6. BPNSFS-CF	-.71**	.84**	-.57**	.51**	-.76**	(.79)											
7. BPNSFS-RS	.75**	-.58**	.51**	-.35**	.38**	-.37**	(.88)										
8. BPNSFS-RF	-.57**	.76**	-.40**	.39**	-.35**	.46**	-.67**	(.84)									
9. GNSS-AS	.72**	-.69**	.66**	-.57**	.55**	-.58**	.56**	-.50**	(.76)								
10. GNSS-CS	.76**	-.68**	.64**	-.47**	.74**	-.72**	.46**	-.42**	.66**	(.74)							
11. GNSS-RS	.60**	-.56**	.46**	-.34**	.37**	-.39**	.66**	-.63**	.58**	.48**	(.80)						
12. SWL	.58**	-.49**	.58**	-.39**	.42**	-.45**	.44**	-.33**	.55**	.55**	.40**	(.81)					
13. BD	-.58**	.49**	-.48**	.29**	-.55**	.53**	-.38**	.34**	-.51**	-.59**	-.41**	-.47**	(.93)				
14. SAA	-.47**	.55**	-.33**	.31**	-.41**	.51**	-.40**	.48**	-.50**	-.46**	-.43**	-.35**	.57**	(.95)			
15. SE	.70**	-.67**	.56**	-.39**	.67**	-.72**	.46**	-.48**	.62**	.69**	.46**	.51**	-.60**	-.61**	(.91)		
16. SD	-.25**	.23**	-.23**	.19**	-.20**	.18**	-.17**	.17**	-.20**	-.20**	-.17**	-.15**	.26**	.27**	-.19**	(.71)	
17. BMI	.04	.01	.02	.05	.07	-.05	.00	.02	-.01	.01	.04	-.09*	.01	.07	.01	.07	-

Note 1. * Correlation is significant at the .05 level (2-tailed), ** Correlation is significant at the .001 level (2-tailed).

Note 2. BPNSFS-NS: BPNSFS-Need Satisfaction, BPNSFS-NF: BPNSFS-Need Frustration, BPNSFS-AS: BPNSFS-Autonomy Satisfaction, BPNSFS-AF: BPNSFS-Autonomy Frustration, BPNSFS-CS: BPNSFS-Competence Satisfaction, BPNSFS-CF: BPNSFS-Competence Frustration, BPNSFS-RS: BPNSFS-Relatedness Satisfaction, BPNSFS-RF: BPNSFS-Relatedness Frustration, GNSS-AS: General Need Satisfaction Scale-Autonomy Satisfaction, GNSS-CS: General Need Satisfaction Scale-Competence Satisfaction, GNSS-RS: General Need Satisfaction Scale-Relatedness Satisfaction, SWL: Satisfaction with Life, BD: Body Image Dissatisfaction, SAA: Social Appearance Anxiety, SE: Self-esteem, SD: Social Desirability, BMI: Body Mass Index.

Note 3. Bold scores in the parentheses indicate the Cronbach's alpha values of the factors.

2.3.1.2. Exploratory Factor Analysis

Since the factor structure of Drive for Muscularity Scale (DMS) might change depending on gender (McCreary & Sasse, 2000), a series of separate principal component analyses were conducted for males and females.

Initially, a principal component analysis through SPSS was conducted for males without any rotation, and both the scree plot and eigenvalues suggested a three-factor structure. Hence, the same analysis was conducted with direct oblimin rotation, and KMO measure of sampling adequacy (.87) and Bartlett's test of sphericity ($p < .001$) results supported factorability of the items, and three factors were extracted. These three factors totally explained 63.71% of the variance, and eigenvalues of the factors were 5.84, 2.71, and 1.01. When the loadings of the items in the structure matrix were checked, it was seen that 7 items (item 13, item 14, item 1, item 7, item 15, item 11, and item 9) loaded to first factor; 3 items (item 8, item 2, and item 6) loaded to second factor; and 5 items (item 10, item 4, item 3, item 5, and item 12) loaded to third factor. When the items in these three factors were reviewed, it was seen that all of those in the first factor were related to muscularity attitudes; therefore, it was named as *muscularity oriented body image attitudes* as it was in the original scale (McCreary & Sasse, 2000). The items in the second factor were related to workout behaviors; therefore, this factor was named as *muscularity oriented workout behaviors*. The items in the last factor were generally about supplement use and nutrition; therefore, this factor was named as *muscularity oriented supplement use and eating behaviors*. However, a problem related to item 12 (I think that my weight training schedule interferes with other aspects of my life) was observed. To state more precisely, although this item belongs to muscularity oriented behaviors factor on the original DMS, it loaded both to *muscularity oriented supplement use and eating behaviors factor* and to *muscularity oriented workout behaviors factor* on the Turkish version. The researcher preferred to keep this item under *muscularity oriented workout behaviors factor* because of three reasons. First, this item theoretically should load to *muscularity oriented workout behaviors factor* (McCreary & Sasse, 2000). Second, its loading values under two factors were very close to each other (.41 for *muscularity*

oriented workout behaviors factor and .43 for *muscularity oriented supplement use and eating behaviors factor*). Third, keeping this item under second factor did not lead to a dramatic change in the internal consistency reliabilities of two factors (The Cronbach's alpha value for *muscularity oriented workout behaviors factor* decreased from .73 to .71; the Cronbach's alpha value for *muscularity oriented supplement use and eating behaviors factor* increased from .77 to .79). Table 4 presents factors, items loaded under the factors, and their factor loadings.

Table 4

Drive for Muscularity Scale's Factors, Items, and Their Factor Loadings for Turkish Male Sample (n = 297)

	Factors		
	Muscularity oriented body image attitudes	Muscularity oriented workout behaviors	Muscularity oriented supplement use and eating behaviors
Item 13	.90	.06	.22
Item 14	.87	.04	.18
Item 1	.83	.37	.16
Item 7	.82	.36	.20
Item 11	.77	.48	.17
Item 15	.76	.03	.27
Item 9	.54	.47	.41
Item 2	.35	.78	.35
Item 6	.31	.76	.42
Item 8	.00	.73	.38
Item 12	.31	.41	.43
Item 4	.20	.54	.86
Item 3	.21	.58	.81
Item 10	.16	.12	.75
Item 5	.31	.50	.61

Note. Bold font indicates which items loaded on the factors in the respective columns.

In addition to this analysis, another principal component analysis was conducted for the female sample. As in the previous analysis, first, a principal component analysis without any rotation was conducted to investigate initial factor structure of Drive for Muscularity Scale for females. Results of eigenvalues and scree plot suggested a three-factor structure; therefore, the same analysis was run again with direct oblimin rotation. KMO measure of sampling adequacy (.83) and Bartlett's test of sphericity ($p < .001$) results supported factorability of these items, and three factors explained 61.06% of the total variance. However, some problems related to the items were observed. More specifically, item 2 (I lift weights to build up muscle) and item 6 (I feel guilty if I miss a weight training session) loaded to separate factors although there was a factor (factor 1) related to muscularity oriented behaviors. Therefore, the researcher decided to conduct the same analysis again by forcing the items to load under two factors. For this aim, another factor analysis was performed and items were forced into two factors. As a result, the first factor explained 35.49% and the second factor explained 17.64% of the total variance. Structure matrix results showed that 9 items (i.e., items 8, 4, 10, 3, 12, 6, 5, 9, 2) loaded to the first factor, and rest of the items (i.e., items 13, 15, 1, 11, 7, 14) loaded to the second factor. However, two items (i.e., item 10 and item 9) that are related to muscularity oriented body image attitudes, loaded to the first factor in which the items were related to muscularity oriented behaviors. McCaery and Sasse (2000) stated that item 10 (I think about taking anabolic steroids) generally loads to behavior factor and advised to think removing/keeping it depending on scale's reliability. Therefore, this item was kept in the first factor (i.e., muscularity oriented workout behaviors), because its loading was quite high in that factor. However, item 9 (I think that I would look better if I gained 10 pounds in bulk) was kept in the second factor (i.e., muscularity oriented body image attitudes), although its loading value was higher in the first factor. There were two reasons for this decision. First, this item is related to attitudes rather than behaviors in the original scale. Second, the Cronbach's alpha coefficients of factors were calculated with and without this item. When this item was in the first factor, Cronbach's alpha coefficients were found .82 and .87 for the first factor and the second factor, respectively. However, when this item was kept in the second factor, these values changed as .81

and .86, respectively. When the nature of this item (muscularity oriented attitude) and unremarkable decrease in reliability values were taken into consideration together, it was decided to keep the item 9 in factor two, as it is in the original scale (McCreary & Sasse, 2000). Table 5 presents factors, items loaded under these factors, and items' factor loadings.

Table 5

Drive for Muscularity Scale's Factors, Items and Their Factor Loadings for Turkish Female Sample (n = 335)

	Factors	
	Muscularity oriented workout behaviors	Muscularity oriented body image attitudes
Item 8	.84	-.17
Item 4	.78	-.14
Item 10	.73	-.02
Item 3	.71	-.25
Item 12	.65	-.25
Item 6	.63	-.40
Item 2	.58	-.47
Item 5	.56	-.20
Item 9	.56	-.37
Item 13	.22	-.85
Item 11	.32	-.78
Item 15	.17	-.78
Item 1	.18	-.77
Item 7	.28	-.76
Item 14	.30	-.67

Note. Bold font indicates which items loaded on the factors in the respective columns.

2. 3. 1. 2. 1. Internal Consistency Reliability

Reliability of Drive for Muscularity Scale (DMS) was tested with internal consistency reliability. Since DMS showed different factor structures for males and females, internal consistency values of the factors were calculated separately for each sub-sample. Cronbach's alpha coefficients of the sub-factors were provided in Table 6.

Table 6

Cronbach's Alpha Coefficients of DMS and Its Sub-factors for Males and Females

	Males (<i>n</i> = 297)	Females (<i>n</i> = 335)
DMS	.89	.86
Muscularity oriented body image attitudes	.90	-
Muscularity oriented workout behaviors	.71	-
Muscularity oriented supplement use and eating behaviors	.79	-
Muscularity Oriented Body Image Attitudes	-	.86
Muscularity Oriented Behaviors	-	.81

2. 3. 1. 2. 2. Validity

Validity of DMS was examined in terms of convergent and divergent validities. For this aim, Pearson zero-order correlation analyses were conducted and the bivariate correlations between DMS factors and several constructs were analyzed. However, since DMS showed different factor structures for males and females, correlation analyses were conducted separately for these samples.

For males, in terms of convergent validity, muscularity oriented attitudes factor was found to be significantly correlated with relevant constructs such as SATAQ-internalization of muscular body ($r = .66, p < .001$), SATAQ-internalization of general attractiveness ($r = .42, p < .001$), social appearance anxiety ($r = .43, p < .001$), body

dissatisfaction ($r = .30, p < .001$), self-esteem ($r = -.23, p < .001$), and appearance esteem ($r = -.25, p < .001$). Similarly, muscularity oriented workout behaviors factor was found to be significantly related with SATAQ-internalization of muscular body ($r = .60, p < .001$), SATAQ-internalization of general attractiveness ($r = .36, p < .001$), and social appearance anxiety ($r = .14, p < .05$). Consistently, muscularity oriented substance use and eating behaviors factor was also found significantly correlated with SATAQ-internalization of muscular body ($r = .48, p < .001$), SATAQ-internalization of general attractiveness ($r = .33, p < .001$), and social appearance anxiety ($r = .12, p < .05$). However, muscularity oriented workout behaviors factor and muscularity oriented substance use and eating behaviors factor showed low or no correlations with theoretically relevant constructs, namely body dissatisfaction, self-esteem, and appearance esteem. In terms of divergent validity, although muscularity oriented attitudes factor was found significantly correlated with other irrelevant structures such as SATAQ-internalization of thin/low body fat ($r = .19, p < .01$), social desirability ($r = .22, p < .001$), satisfaction with life ($r = -.17, p < .01$), and body mass index ($r = -.22, p < .001$), the power of these correlations were relatively weaker than those between muscularity oriented attitudes factor and the relevant factors. In addition, the muscularity oriented workout behaviors factor was found to be uncorrelated with social desirability ($r = .02, ns$), body mass index ($r = .06, ns$), and satisfaction with life ($r = .00, ns$). Consistently, the muscularity oriented substance use and eating behaviors factor was also found unrelated to social desirability ($r = .06, ns$) and satisfaction with life ($r = -.02, ns$). To conclude, the Turkish version of DMS for male sample can be evaluated as a valid instrument to measure drive for muscularity, because its factors were highly correlated with relevant concepts such as internalization of muscular body, internalization of general attractiveness, whereas they have either weak or insignificant relationships with irrelevant concepts such as satisfaction with life, social desirability, and internalization of thin/low fat body.

For females, similarly, correlations between DMS-subcales and others concepts were examined. In terms of convergent validity, the muscularity oriented attitudes factor was found to be significantly correlated with SATAQ-internalization of muscular

body ($r = .61, p < .001$), SATAQ-internalization of general attractiveness ($r = .16, p < .01$), social appearance anxiety ($r = .31, p < .001$), body dissatisfaction ($r = .19, p < .001$), self-esteem ($r = -.23, p < .001$), and appearance esteem ($r = -.22, p < .001$). Consistently, the muscularity oriented workout behaviors factor was also found to be significantly correlated with SATAQ-internalization of muscular body ($r = .36, p < .001$), social appearance anxiety ($r = .19, p < .001$), and self-esteem ($r = -.11, p < .05$). In terms of divergent validity, the muscularity oriented attitudes factor showed both relatively weak correlations with satisfaction with life ($r = -.13, p < .05$) and social desirability ($r = .15, p < .01$) and insignificant relations with internalization of thin/low body fat ($r = .08, ns$) and body mass index ($r = -.01, ns$). Furthermore, the muscularity oriented workout behaviors factor showed insignificant correlations with internalization of thin/low body fat ($r = -.08, ns$), social desirability ($r = -.07, ns$), body mass index ($r = -.08, ns$), and satisfaction with life ($r = -.04, ns$). In short, the Turkish version of DMS for female sample can be evaluated as a valid instrument to measure drive for muscularity, because the correlations between the sub-factors of DMS and other concepts (relevant and irrelevant concepts) were in the expected way. Table 7 and Table 8 presents the correlations between DMS factors and other relevant constructs for male and female samples, respectively.

Table 7

Correlations between Factors of DMS and Relevant Constructs for Males (n = 297)

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. DMS-MA	(.90)												
2. DMS-MB	.42***	(.71)											
3. DMS-SEB	.36***	.64***	(.79)										
4. SATAQ-IMB	.66***	.60***	.48***	(.86)									
5. SATAQ-IGA	.42***	.36***	.33***	.63***	(.85)								
6. SATAQ-ITB	.19**	.17**	.12*	.25***	.26***	(.73)							
7. BD	.30***	-.11	-.08	.08	.07	.23***	(.94)						
8. SAA	.43***	.14*	.12*	.30***	.31***	.31***	.58***	(.96)					
9. SE	-.23***	-.01	-.05	-.07	-.05	-.19**	-.55***	-.59***	(.91)				
10. SD	.22***	.02	.06	.13*	.21***	.06	.28***	.27***	-.12*	(.73)			
11. AE	-.25***	.05	.06	-.13*	-.15**	.28***	-.56***	-.59***	.47***	-.14*	(.86)		
12. BMI	-.22***	.06	-.22***	-.06	-.02	.23***	-.02	.01	.02	-.01	-.22***	-	
13. SWL	-.17**	.00	-.02	-.07	-.09	-.10	-.47***	-.36***	.52***	-.25***	.25***	-.04	(.88)

Note 1. * Correlation is significant at the .05 level (2-tailed), ** Correlation is significant at the .01 level (2-tailed), *** Correlation is significant at the .001 level (2-tailed).

Note 2. DMS-MA: DMS-Muscularity Oriented Body Image Attitudes, DMS-MB: DMS-Muscularity Oriented Workout Behaviors; DMS-MSEB: DMS- Muscularity Oriented Supplement Use and Eating Behaviors; SATAQ-IMB: SATAQ-Internalization of Muscular Body, SATAQ-IGA: SATAQ-Internalization of General Attractiveness, SATAQ-ITB: SATAQ-Internalization of Thin/Low Fat Body, BD: Body Image Dissatisfaction, SAA: Social Appearance Anxiety, SE: Self-esteem, SD: Social Desirability, AE: Appearance Esteem, BMI: Body Mass Index, SWL: Satisfaction with Life.

Note 3. Bold scores in the parentheses indicate the Cronbach's alpha values of the factors.

Table 8

Correlations between Factors of DMS and Relevant Constructs for Females (n = 335)

	1	2	3	4	5	6	7	8	9	10	11	12
1. DMS-MA	(.86)											
2. DMS-MB	.42***	(.81)										
3. SATAQ-IMB	.61***	.36***	(.85)									
4. SATAQ-IGA	.16**	-.02	.11*	(.84)								
5. SATAQ-ITB	.08	-.08	.13*	.60***	(.82)							
6. BD	.19***	-.02	.11*	.23***	.24***	(.93)						
7. SAA	.31***	.19***	.23***	.38***	.39***	.57***	(.95)					
8. SE	-.23***	-.11*	-.18**	-.23***	-.24***	-.64***	-.63***	(.90)				
9. SD	.15**	-.07	.09	.29***	.14*	.24***	.28***	-.25***	(.69)			
10. AE	-.22***	-.04	-.16**	-.25***	-.39***	-.60***	-.68***	.56***	-.06	(.89)		
11. BMI	-.01	-.08	-.02	.01	.14**	.06	.12*	-.03	-.08	-.46***	-	
12. SWL	-.13*	-.04	-.05	-.13*	-.14*	-.48***	-.34***	.52***	-.07	.35***	-.11*	(.87)

Note 1. * Correlation is significant at the .05 level (2-tailed), ** Correlation is significant at the .01 level (2-tailed), *** Correlation is significant at the .001 level (2-tailed).

Note 2. DMS-MA: DMS-Muscularity Oriented Body Image Attitudes, DMS-MB: DMS-Muscularity Oriented Workout Behaviors; SATAQ-IMB: SATAQ-Internalization of Muscular Body, SATAQ-IGA: SATAQ-Internalization of General Attractiveness, SATAQ-ITB: SATAQ-Internalization of Thin/Low Fat Body, BD: Body Image Dissatisfaction, SAA: Social Appearance Anxiety, SE: Self-esteem, SD: Social Desirability, AE: Appearance Esteem, BMI: Body Mass Index, SWL: Satisfaction with Life.

Note 3. Bold scores in the parentheses indicate the Cronbach's alpha values of the factors.

2. 3. 1. 3. Differences among the Levels of Demographic Variables in terms of the Study Variables

A series of independent samples *t*-tests and one-way ANOVAs were conducted to compare participants in different levels of demographic variables (i.e., gender, body mass index, perceived income level, relationship status, and regular sport engagement) in terms of the study variables (i.e., social appearance anxiety, appearance esteem, drive for muscularity, internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, pressures from family, peers, and media, satisfaction with life, self-esteem, need satisfaction, need frustration, and social desirability). Descriptive characteristics of the study variables were presented in Table 9.

Table 9

Descriptive Characteristics of the Study Variables

Variables	<i>N</i>	<i>M</i>	<i>SD</i>	Min-Max
Body dissatisfaction	632	2.55	.57	1.00 – 4.40
Drive for muscularity	632	2.29	.97	1.00 – 5.53
Basic psychological needs				
Need satisfaction	632	3.77	.61	1.42 – 5.00
Need frustration	632	2.55	.68	1.00 – 4.83
Appearance esteem	632	1.72	.56	.00 – 2.90
Social appearance anxiety	632	2.34	.90	1.00 – 5.00
Sociocultural attitudes towards appearance				
Internalization of thin/low fat body	632	2.56	.99	1.00 – 5.00
Internalization of muscular body	632	2.58	1.01	1.00 – 5.00
Internalization of general attractiveness	632	3.60	.80	1.00 – 5.00
Pressures from family	632	1.97	1.01	1.00 – 5.00
Pressures from friends/significant others	632	1.97	.94	1.00 – 5.00
Pressures from media	632	2.70	1.39	1.00 – 5.00
Social desirability	632	.57	.14	.18 – .94
Self-esteem	632	3.01	.60	1.00 – 4.00
Satisfaction with life	632	4.26	1.38	1.00 – 7.00

2. 3. 1. 3. 1. Differences among the Levels of Demographic Variables in terms of Body Image

For the body image-related variables (i.e., social appearance anxiety, appearance esteem, drive for muscularity, internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, pressures from family, peers, and media), males and females significantly differed from each other in terms of drive for muscularity [$t(560) = -12.72, p < .001$], internalization of thin/low fat body [$t(617) = 8.03, p < .001$], internalization of muscular body [$t(630) = -13.39, p < .001$], internalization of general attractiveness [$t(630) = 4.42, p < .001$], and pressures from media [$t(630) = 8.28, p < .001$] and family [$t(628) = 3.20, p < .005$], but they did not differ from each other in terms of social appearance anxiety [$t(630) = -.17, ns$], body image dissatisfaction [$t(630) = 1.85, ns$], appearance esteem [$t(630) = -.52, ns$], and pressure from friends [$t(630) = 1.34, ns$]. More precisely, males obtained higher scores on drive for muscularity ($m = 2.75, sd = .96$), internalization of muscular body ($m = 3.09, sd = .90$) than females ($m = 1.87, sd = .76$; $m = 2.13, sd = .89$, respectively); however, females obtained higher scores on internalization of thin/low body fat ($m = 2.84, sd = 1.06$), internalization of general attractiveness ($m = 3.73, sd = .78$), pressures from family ($m = 2.08, sd = 1.08$) and media ($m = 3.10, sd = 1.39$) as compared to males ($m = 2.24, sd = .81$; $m = 3.45, sd = .80$; $m = 1.83, sd = .91$; $m = 2.24, sd = 1.23$, respectively).

Scores on these body image-related variables were also compared between participants with and without a romantic relationship, and significant differences between them were observed in terms of appearance esteem [$t(630) = 4.05, p < .001$], body image dissatisfaction [$t(630) = -3.89, p < .001$], and social appearance anxiety [$t(630) = -5.39, p < .001$]. In other words, participants with a romantic relationship reported significantly higher scores in appearance esteem ($m = 1.81, sd = .54$) and lower scores in body image dissatisfaction ($m = 2.46, sd = .57$) and social appearance anxiety ($m = 2.14, sd = .86$) than participants without a romantic relationship ($m = 1.63, sd = .57$; $m = 2.63, sd = .55$; $m =$

2.52, $sd = .89$, respectively). However, these groups did not differ from each other in terms of the other body image-related variables.

Consistently, participants in different levels of regular sport engagement were compared in terms of the study variables, and the results of independent samples t -test indicated that participants engaging regular sport activities significantly differed from those not engaging regular sport activities in terms of body image dissatisfaction [$t(630) = -3.64$, $p < .001$], drive for muscularity [$t(630) = 5.29$, $p < .001$], internalization of muscular body [$t(630) = 6.73$, $p < .001$], and appearance esteem [$t(272) = 2.26$, $p < .05$]. In other words, participants engaging regular sport activities reported significantly lower scores in body image dissatisfaction ($m = 2.42$, $sd = .57$) and significantly higher scores in appearance esteem ($m = 1.81$, $sd = .62$), internalization of muscular body ($m = 3.01$, $sd = 1.00$), and drive for muscularity ($m = 2.61$, $sd = 1.00$) than participants not engaging regular sport activities ($m = 2.60$, $sd = .56$; $m = 1.69$, $sd = .54$; $m = 2.42$, $sd = .97$; $m = 2.16$, $sd = .93$, respectively). However, these groups did not differ from each other in terms of the other body image-related variables.

Moreover, the scores on these variables were compared among perceived income levels, namely low, middle and high. According to one-way ANOVA results, there were significant differences among income levels in terms of body dissatisfaction [$F(2, 629) = 2.65$, $p < .05$] and appearance esteem [$F(2, 629) = 3.79$, $p < .05$]. Tukey post hoc test indicated that participants with high income level experienced significantly lower body image dissatisfaction ($m = 2.41$, $sd = .58$) than participants with low income level ($m = 2.67$, $sd = .64$), whereas body image dissatisfaction of participants with middle income level did not differ ($m = 2.55$, $sd = .55$) from the other two groups. In terms of appearance esteem, participants with high income level reported significantly higher scores in appearance esteem ($m = 1.92$, $sd = .64$) than those with middle ($m = 1.71$, $sd = .55$) and low ($m = 1.66$, $sd = .59$) income levels; however, the other two groups did not significantly differ from each other.

Another one-way ANOVA was carried out to examine possible differences among the body mass index categories (i.e., underweight, normal weight, overweight, and obese) on the variables related to body image. Significant differences were found in terms of appearance esteem [$F(3, 628) = 27.87, p < .001$], pressures from family [$F(3, 628) = 29.89, p < .001$], and friends [$F(3, 628) = 28.74, p < .001$]. Tukey post hoc test revealed that each group differed from the others in terms of appearance esteem. More specifically, the obese group had significantly lower scores in appearance esteem ($m = 1.18, sd = .59$) than other groups; the overweight group had significantly lower scores in appearance esteem ($m = 1.50, sd = .54$) than normal weight group and underweight group; and normal weight group had significantly lower scores in appearance esteem ($m = 1.77, sd = .53$) than underweight group ($m = 2.03, sd = .49$). In terms of pressures from family and friends, the obese group reported significantly higher scores ($m = 3.31, sd = 1.10$ for pressures from family and $m = 2.98, sd = 1.09$ for pressures from friends) than the other groups; the overweight group reported significantly higher scores ($m = 2.19, sd = 1.14$ for pressures from family and $m = 2.33, sd = 1.00$ for pressures from friends) than the normal weight group and the underweight group; however, the normal weight group ($m = 1.83, sd = .90$ for pressures from family and $m = 1.84, sd = .85$ for pressures from friends) and the underweight group ($m = 1.72, sd = .76$ for pressures from family and $m = 1.59, sd = .77$ for pressures from friends) did not significantly differ from each other.

2. 3. 1. 3. 2. Differences among the Levels of Demographic Variables in terms of the Other Study Variables

In addition to the comparisons in terms of body image-related variables, the participants in different levels of demographic variables (i.e., gender, body mass index, perceived income level, relationship status, and regular sport engagement) were also compared on the other study variables (i.e., basic psychological need satisfaction and frustration, self-esteem, satisfaction with life, social desirability).

Independent samples *t*-test revealed significant results for gender in terms of self-esteem [$t(630) = -2.02, p < .05$] and social desirability [$t(601) = 2.30, p < .05$]. In other words, males ($m = 3.06, sd = .59$) reported significantly higher scores than females ($m = 2.97, sd = .60$) on self-esteem, whereas females ($m = .58, sd = .13$) reported significantly higher scores than males ($m = .56, sd = .15$) on social desirability. There were no gender differences on basic psychological need satisfaction and frustration, and satisfaction with life.

The participants with and without a romantic relationship were compared on the same study variables. Independent samples *t*-test results indicated that the levels of romantic relationship status differed significantly on basic psychological needs satisfaction [$t(630) = 4.03, p < .001$], basic psychological needs frustration [$t(630) = -3.58, p < .001$], self-esteem [$t(630) = 4.12, p < .001$], and satisfaction with life [$t(630) = 2.55, p < .05$]. More precisely, participants with a romantic relationship reported significantly higher scores on basic psychological needs satisfaction ($m = 3.87, sd = .58$), self-esteem ($m = 3.11, sd = .59$), and satisfaction with life ($m = 4.40, sd = 1.33$) than participants without a romantic relationship ($m = 3.68, sd = .63$; $m = 2.92, sd = .60$; $m = 4.12, sd = 1.42$, respectively), whereas they ($m = 2.45, sd = .67$) reported significantly lower scores than participants without a romantic relationship ($m = 2.64, sd = .68$) on basic psychological needs frustration.

Another independent samples *t*-test was performed to see if the scores obtained from these variables change between the participants who were engaging in regular sport activities and who were not. The analysis revealed significant results for basic psychological needs satisfaction [$t(630) = 2.98, p < .01$], basic psychological needs frustration [$t(630) = -2.30, p < .05$], and satisfaction with life [$t(630) = 2.68, p < .01$]. More precisely, the participants engaging in regular sport activities reported significantly higher scores on basic psychological needs satisfaction ($m = 3.89, sd = .62$) and life satisfaction ($m = 4.50, sd = 1.29$), and significantly lower scores on basic psychological needs frustration ($m = 2.45,$

$sd = .71$) as compared to those not engaging in regular sport activities ($m = 3.73$, $sd = .60$; $m = 2.17$, $sd = 1.41$; $m = 2.59$, $sd = .66$, respectively).

In addition, two one-way ANOVAs were carried out to examine the differences among the levels of body mass index and perceived income on these variables. The results of the first ANOVA revealed that scores obtained from these variables were not significantly different across body mass index categories. The second ANOVA revealed significant results for perceived income in terms of satisfaction with life [$F(2, 629) = 19.97$, $p < .001$], self-esteem [$F(2, 629) = 5.59$, $p < .01$], and basic psychological need satisfaction [$F(2, 629) = 3.17$, $p < .05$] but not in terms of basic psychological needs frustration [$F(2, 629) = 2.32$, ns] and social desirability [$F(2, 629) = .17$, ns]. Tukey post hoc test indicated that high-income group reported significantly higher life satisfaction ($m = 4.91$, $sd = 1.33$) than middle-income group ($m = 4.30$, $sd = 1.35$) and low-income group ($m = 3.41$, $sd = 1.28$); and middle-income group reported significantly higher life satisfaction than the low-income group. In terms of self-esteem, both the high-income and the middle-income groups indicated significantly higher self-esteem ($m = 3.19$, $sd = .60$; $m = 3.02$, $sd = .59$, respectively) than low-income group ($m = 2.83$, $sd = .63$); however, the high-income and the middle-income groups did not significantly differ from each other. In terms of basic psychological need satisfaction, the middle-income group ($m = 3.79$, $sd = .61$) reported significantly higher scores than the low-income group ($m = 3.60$, $sd = .61$). However, the difference between middle-income ($m = 3.79$, $sd = .61$) and high-income ($m = 3.84$, $sd = .57$) groups and the difference between low-income ($m = 3.60$, $sd = .61$) and high-income ($m = 3.84$, $sd = .57$) groups were not significant (see Table 10 for the details of group comparisons).

Table 10

Mean Differences among the Levels of Demographic Variables in terms of the Study Variables

Variables	Body dissatisfaction					Social appearance anxiety				Appearance esteem				Drive for muscularity				Internalization of thin/low fat body				
	<i>n</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>M</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	
Gender				1.85	—			-.17	—			-.52	—			-12.72***	—			8.03***	—	
Female	335	2.59	.56			2.33	.90			1.71	.59			1.87	.76			2.84	1.06			
Male	297	2.51	.57			2.34	.89			1.73	.53			2.75	.96			2.24	.81			
Relationship status				-3.89***	—			-5.39***	—			4.05***	—			-.66	—			.25	—	
Have a relationship	305	2.46	.57			2.14	.86			1.81	.54			2.26	.97			2.57	1.02			
Have not a relationship	327	2.63	.55			2.52	.89			1.63	.57			2.31	.97			2.55	.97			
Regular sport engagement				-3.69***	—			-.75	—			2.26*	—			5.29***	—			-.42	—	
Yes	172	2.42	.57			2.29	.90			1.81	.62			2.61	1.00			2.53	1.02			
No	460	2.60	.56			2.35	.90			1.69	.54			2.16	.93			2.57	.98			
Perceived income level				—	3.08*			—	2.65			—	3.79*			—	1.41			—	.65	
Low	69	2.67 ^a	.64			2.51	.98			1.66 ^a	.59			2.46	.90			2.52	.98			
Middle	511	2.55 ^{ab}	.55			2.33	.88			1.71 ^a	.55			2.26	.96			2.58	.98			
High	52	2.41 ^b	.59			2.13	.92			1.92 ^b	.64			2.32	1.11			2.42	1.11			
Body mass index category				—	.39			—	1.82			—	27.87***			—	.27			—	2.12	
Underweight	70	2.52	.60			2.23	.93			2.03 ^a	.49			2.25	.90			2.40	.88			
Normal weight	410	2.56	.56			2.33	.88			1.77 ^b	.53			2.28	.98			2.57	1.01			
Overweight	117	2.51	.51			2.30	.92			1.50 ^c	.54			2.35	1.02			2.51	.97			
Obese	35	2.61	.61			2.65	.98			1.18 ^d	.59			2.21	.78			2.90	1.06			
Working status				-3.70***	—			-3.58***	—			1.88	—			-1.63	—			-.40	—	
Working	110	2.37	.55			2.06	.87			1.81	.58			2.15	.96			2.53	1.07			
Not working	522	2.59	.56			2.39	.89			1.70	.56			2.31	.97			2.57	.98			
History of psychological disorder				2.59*	—			2.22*	—			-3.83***	—			-1.80	—			1.28	—	
Yes	83	2.70	.64			2.56	1.01			1.50	.63			2.11	.97			2.69	1.07			
No	549	2.53	.55			2.30	.88			1.75	.55			2.31	.96			2.54	.98			
History of physical disorder				1.15	—			-1.06	—			.11	—			-2.35*	—			.43	—	
Yes	76	2.62	.59			2.23	.88			1.73	.63			2.07	.82			2.61	1.10			
No	556	2.54	.56			2.35	.90			1.72	.55			2.31	.98			2.55	.98			

Note 1. * $p < .05$, ** $p < .01$, *** $p < .001$.

Note 2. Means that do not share same subscript are significantly different from each other at least at the $p < .05$ level.

Table 10 (Continued)

Variables	Internalization of muscular body					Internalization of general attractiveness				Pressures from family				Pressures from peers and significant others				Pressures from media			
	<i>n</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>T</i>	<i>F</i>	<i>M</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>
Gender				-13.39***	-			4.42***	-			3.20**	-			1.35	-			8.28***	-
Female	335	2.13	.89			3.73	.78			2.08	1.08			2.01	.97			3.10	1.39		
Male	297	3.09	.90			3.45	.80			1.83	.91			1.91	.90			2.24	1.23		
Relationship status				-.57	-			1.21	-			-1.24	-			-1.18	-			-.76	-
Have a relationship	305	2.56	.99			3.64	.80			1.91	1.04			1.92	.92			2.65	1.39		
Have not a relationship	327	2.60	1.03			3.56	.81			2.01	.98			2.01	.96			2.74	1.38		
Regular sport engagement				6.73***	-			1.61	-			-.91	-			-.38	-			-.55	-
Yes	172	3.01	1.00			3.68	.84			1.91	.99			1.94	.88			2.65	1.34		
No	460	2.42	.97			3.57	.79			1.99	1.02			1.98	.96			2.72	1.40		
Perceived income level				-	1.15			-	.03			-	.11			-	.24			-	.05
Low	69	2.63	.94			3.59	.87			1.92	.97			1.99	.94			2.72	1.32		
Middle	511	2.55	1.01			3.60	.79			1.97	1.01			1.97	.95			2.70	1.39		
High	52	2.77	1.09			3.62	.88			2.00	1.03			1.88	.83			2.64	1.41		
Body mass index category				-	2.05			-	.99			-	29.89***			-	28.74***			-	.90
Underweight	70	2.39	.96			3.67	.81			1.72 ^a	.76			1.59 ^a	.77			2.50	1.21		
Normal weight	410	2.56	1.01			3.62	.78			1.83 ^a	.90			1.84 ^a	.85			2.73	1.39		
Overweight	117	2.75	1.07			3.50	.87			2.19 ^b	1.14			2.33 ^b	1.00			2.63	1.47		
Obese	35	2.61	.92			3.53	.81			3.31 ^c	1.10			2.98 ^c	1.09			2.91	1.34		
Working status				-1.19	-			-.96	-			-1.09	-			-1.32	-			-1.89	-
Working	110	2.48	1.02			3.53	.83			1.87	1.02			1.86	1.02			2.47	1.45		
Not working	522	2.60	1.01			3.61	.80			1.99	1.01			1.99	.92			2.74	1.37		
History of psychological disorder				-2.90**	-			1.27	-			1.47	-			1.07	-			2.30*	-
Yes	83	2.28	1.01			3.70	.82			2.14	1.22			2.08	1.08			3.05	1.53		
No	549	2.62	1.00			3.58	.80			1.94	.97			1.95	.92			2.64	1.36		
History of physical disorder				-1.37	-			-.76	-			1.37	-			-.83	-			-.59	-
Yes	76	2.43	1.05			3.52	.98			2.13	1.14			1.88	1.00			2.61	1.42		
No	556	2.60	1.01			3.61	.78			1.94	.99			1.98	.93			2.71	1.38		

Note 1. * $p < .05$, ** $p < .01$, *** $p < .001$.Note 2. Means that do not share same subscript are significantly different from each other at least at the $p < .05$ level.

Table 10 (Continued)

Variables	Basic need satisfaction					Basic need frustration				Self-esteem				Satisfaction with life				Social desirability			
	<i>n</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>
Gender				-.81	—			1.05	—			-2.02*	—			1.58	—			2.30*	—
Female	335	3.75	.62			2.58	.71			2.97	.60			4.34	1.35			.58	.13		
Male	297	3.79	.60			2.52	.65			3.06	.59			4.16	1.42			.56	.15		
Relationship status				4.03***	—			-3.58***	—			4.12***	—			2.55*	—			.62	—
Have a relationship	305	3.87	.58			2.45	.67			3.11	.59			4.40	1.33			.58	.15		
Have not a relationship	327	3.68	.63			2.64	.68			2.92	.60			4.12	1.42			.57	.14		
Regular sport engagement				2.98**	—			-2.30*	—			1.65	—			2.68**	—			-1.04	—
Yes	172	3.89	.62			2.45	.71			3.08	.64			4.50	1.29			.56	.14		
No	460	3.73	.60			2.59	.66			2.99	.58			4.17	1.41			.58	.14		
Perceived income level				—	3.17*			—	2.63			—	5.59**			—	19.97***			—	.17
Low	69	3.60 ^a	.61			2.73	.76			2.83 ^a	.63			3.41 ^a	1.28			.58	.13		
Middle	511	3.79 ^b	.61			2.53	.68			3.02 ^b	.59			4.30 ^b	1.35			.57	.14		
High	52	3.84 ^{ab}	.57			2.51	.58			3.19 ^b	.60			4.90 ^c	1.33			.56	.14		
Body mass index category				—	2.30			—	1.16			—	.42			—	1.13			—	.42
Underweight	70	3.65	.68			2.56	.73			2.98	.62			4.32	1.38			.58	.16		
Normal weight	410	3.77	.62			2.56	.68			3.00	.60			4.29	1.33			.58	.13		
Overweight	117	3.88	.54			2.46	.64			3.07	.57			4.23	1.54			.56	.16		
Obese	35	3.68	.56			2.68	.68			2.99	.61			3.85	1.46			.58	.15		
Working status				3.68***	—			-3.61***	—			4.64***	—			-3.30	—			-1.04	—
Working	110	3.96	.56			2.34	.67			3.25	.53			4.22	1.41			.55	.15		
Not working	522	3.73	.61			2.59	.68			2.96	.60			4.26	1.38			.58	.14		
History of psychological disorder				-3.25**	—			3.34**	—			4.54***	—			-2.46*	—			2.13*	—
Yes	83	3.57	.68			2.82	.79			2.74	.67			3.91	1.47			.60	.13		
No	549	3.80	.60			2.51	.65			3.05	.58			4.31	1.36			.57	.14		
History of physical disorder				-.02	—			.52	—			-.86	—			-.07	—			-1.40	—
Yes	76	3.77	.66			2.59	.74			2.96	.64			4.24	1.57			.55	.15		
No	556	3.77	.61			2.54	.67			3.02	.59			4.26	1.36			.58	.14		

Note 1. * $p < .05$, ** $p < .01$, *** $p < .001$.Note 2. Means that do not share same subscript are significantly different from each other at least at the $p < .05$ level.

2. 3. 1. 4. Bivariate Correlational Analyses among the Study Variables

Pearson zero-order correlation analyses were performed to examine the correlations among the study variables. According to the results, body dissatisfaction was positively correlated with social appearance anxiety ($r = .57, p < .001$), basic needs frustration ($r = .49, p < .001$), internalization of thin/low fat body ($r = .24, p < .001$), internalization of general attractiveness ($r = .16, p < .001$), pressures from family ($r = .20, p < .001$), peers/significant others ($r = .20, p < .001$) and media ($r = .20, p < .001$), and drive for muscularity ($r = .09, p < .05$), whereas negatively correlated with appearance esteem ($r = -.58, p < .001$), self-esteem ($r = -.60, p < .001$), basic needs satisfaction ($r = -.58, p < .001$), and satisfaction with life ($r = -.46, p < .001$).

Social appearance anxiety was positively correlated with basic needs frustration ($r = .55, p < .001$), drive for muscularity ($r = .30, p < .001$), internalization of thin/low fat body ($r = .34, p < .01$), internalization of muscular body ($r = .24, p < .01$), internalization of general attractiveness ($r = .34, p < .001$), pressures from family ($r = .30, p < .001$), peers/significant others ($r = .34, p < .001$), and media ($r = .27, p < .001$), whereas negatively correlated with appearance esteem ($r = -.64, p < .001$), basic needs satisfaction ($r = -.47, p < .001$), self-esteem ($r = -.61, p < .001$), and satisfaction with life ($r = -.35, p < .001$).

Appearance esteem was positively correlated with self-esteem ($r = .52, p < .001$), basic needs satisfaction ($r = .37, p < .001$), and satisfaction with life ($r = .30, p < .001$), and negatively correlated with basic needs frustration ($r = -.40, p < .001$), body mass index ($r = -.34, p < .001$), internalization of thin/low fat body ($r = -.34, p < .001$), internalization of muscular body ($r = -.12, p < .01$), internalization of general attractiveness ($r = -.21, p < .001$), drive for muscularity ($r = -.13, p < .01$), pressures from family ($r = -.43, p < .001$), peers/significant others ($r = -.42, p < .001$), and media ($r = -.26, p < .001$).

In terms of basic psychological needs dimensions, basic needs satisfaction was found to be positively correlated with self-esteem ($r = .70, p < .001$), appearance esteem ($r = .37,$

$p < .001$), and life satisfaction ($r = .58, p < .001$), and negatively correlated with basic needs frustration ($r = -.75, p < .001$), body dissatisfaction ($r = -.58, p < .001$), social appearance anxiety ($r = -.47, p < .001$), internalization of thin/low fat body ($r = -.17, p < .001$), internalization of general attractiveness ($r = -.11, p < .01$), pressures from family ($r = -.15, p < .001$), peers/significant others ($r = -.13, p < .01$), and media ($r = -.12, p < .01$), and drive for muscularity ($r = -.09, p < .05$). Moreover, basic needs frustration was found to be positively correlated with body dissatisfaction ($r = .49, p < .001$), social appearance anxiety ($r = .55, p < .001$), drive for muscularity ($r = .17, p < .001$), internalization of thin/low fat body ($r = .24, p < .001$), internalization of muscular body ($r = .09, p < .05$), internalization of general attractiveness ($r = .16, p < .001$), pressures from family ($r = .18, p < .001$), peers/significant others ($r = .20, p < .001$), and media ($r = .17, p < .001$), and negatively correlated with self-esteem ($r = -.67, p < .001$), appearance esteem ($r = -.40, p < .001$), and life satisfaction ($r = -.49, p < .001$). All correlations among the study variables were presented in Table 11.

Table 11

Correlations among the Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. BD	(.93)															
2. SAA	.57***	(.95)														
3. AE	-.58***	-.64***	(.87)													
4. DMS	.09*	.30***	-.13**	(.90)												
5. ITB	.24***	.34***	-.34***	-.05	(.80)											
6. IMB	.05	.24***	-.12**	.75***	.01	(.89)										
7. IGA	.16***	.34***	-.21***	.19***	.48***	.23***	(.85)									
8. PF	.20***	.30***	-.43***	.07	.26***	.06	.12**	(.86)								
9. PP/SO	.20***	.34***	-.42***	.09*	.28***	.15***	.10*	.65***	(.93)							
10. PM	.20***	.27***	-.26***	-.10*	.35***	-.06	.25***	.34***	.36***	(.96)						
11. BPNS	-.58***	-.47***	.37***	-.09*	-.17***	-.05	-.11**	-.15***	-.13**	-.12**	(.88)					
12. BPNF	.49***	.55***	-.40***	.17***	.24***	.09*	.16***	.18***	.20***	.17***	-.75***	(.86)				
13. BMI	.01	.07	-.34***	.02	.08*	.09*	-.06	.37***	.38***	.05	.04	.01	—			
14. SE	-.60***	-.61***	.52***	-.13**	-.23***	-.08	-.16***	-.21***	-.21***	-.23***	.70***	-.67***	.01	(.91)		
15. SWL	-.46***	-.35***	.30***	-.13**	-.09*	-.08*	-.10*	-.05	-.09*	-.05	.58***	-.49***	-.09*	.51***	(.81)	
16. SD	.26***	.27***	-.10*	.07	.13**	.06	.26***	.07	.09*	.20***	-.25***	.23***	-.07	-.19***	-.15***	(.71)

Note 1. * Correlation is significant at the .05 level (2-tailed), ** Correlation is significant at the .01 level (2-tailed), *** Correlation is significant at the .001 level (2-tailed).

Note 2. BD: Body Image Dissatisfaction, SAA: Social Appearance Anxiety, AE: Appearance Esteem, DMS: Drive for Muscularity, ITB: Internalization of Thin/Low Fat Body, IMB: Internalization of Muscular Body, IGA: Internalization of General Attractiveness, PF: Pressures from Family, PP/SO: Pressures from Peers/Significant Others, PM: Pressures from Media, BPNS: Basic Psychological Needs Satisfaction, BPNF: Basic Psychological Needs Frustration, BMI: Body Mass Index, SE: Self-esteem, SWL: Satisfaction with Life, SD: Social Desirability.

Note 3. Bold scores in the parentheses indicate the Cronbach's alpha values of the variables.

2. 3. 2. Main Analyses and Hypotheses Testing

2. 3. 2. 1. A Gender-Based Comparison of Body Dissatisfaction

In the current study, it was hypothesized that males and females would not differ significantly from each other in terms of body dissatisfaction (H_1). In order to test this hypothesis, an independent samples t -test was performed via SPSS 24. Results of the analysis showed that there was not any significant difference regarding body dissatisfaction between males ($m = 2.51$, $sd = .58$) and females ($m = 2.59$, $sd = .56$), $t(630) = 1.85$, ns . To conclude, H_1 was supported by the results of the independent samples t -test.

2. 3. 2. 2. Gender-Based Comparisons in terms of both Body Image Concerns and the Variables related to Thinness and Muscularity

In addition to the independent samples t -test, to control type 1 error, two one-way multivariate analysis of variance (MANOVAs) were conducted to test gender differences in term of body image concerns. The first MANOVA was performed to investigate whether body image concerns (i.e., body dissatisfaction, social appearance anxiety, and appearance esteem) change in males and females. Therefore, gender was entered to the analysis as an independent variable, and body dissatisfaction, social appearance anxiety, and appearance esteem were entered as dependent variables. The results revealed that there was not any significant gender difference in body image concerns, Multivariate $F(3, 628) = 1.90$, ns .; Wilks' Lambda = .99, partial $\eta^2 = .01$. This result was consistent with the findings of the previous independent samples t -test.

The second one-way MANOVA was performed to investigate if variables related to thinness and muscularity change across genders. Hence, gender was entered to the analysis as an independent variable, and internalization of thin/low fat body, internalization of muscular body, and drive for muscularity were entered as dependent variables. The Box's Test of Equality of Covariance Matrices results showed that there was a significant difference between covariance matrices of dependent variables ($Box's M = 53.95$, $p < .001$). Since this assumption was not met, the results of Pillai's Trace test, rather than the results of Wilks' Lambda test, were reported.

The results of multivariate test was significant [Multivariate $F(3, 628) = 103.95, p < .001$; Pillai's Trace = .33, partial $\eta^2 = .33$] indicating that there was a significant gender difference in terms of the dependent variables. For detailed results, univariate analyses were checked, and Bonferroni Adjustment was performed as $.05/3$ (p value/number dependent variables), and new p value was calculated as .017 for univariate analyses. The results of univariate analyses demonstrated that there was a gender difference in all three dependent variables [$F(1, 630) = 62.55, p < .001$, partial $\eta^2 = .09$ for internalization of thin/low fat body; $F(1, 630) = 179.24, p < .001$, partial $\eta^2 = .22$ for internalization of muscular body; $F(1, 630) = 166.53, p < .001$, partial $\eta^2 = .21$ for drive for muscularity]. Furthermore, these significant univariate analyses showed that females had higher level of internalization of thin/low fat body ($m = 2.84, sd = 1.06$) than males ($m = 2.24, sd = .81$), whereas males had higher level of internalization muscular body ($m = 3.09, sd = .90$) and drive for muscularity ($m = 2.76, sd = .96$) as compared to females ($m = 2.13, sd = .89; m = 1.87, sd = .76$, respectively). The details of the second MANOVA were presented in Table 12.

Table 12

Results of Multivariate Analysis of Variance Investigating Gender Differences in terms of the Variables Related to Thinness and Muscularity

	Gender							
	Female		Male		One-way MANOVA			
	<i>(n</i> = 335)		<i>(n</i> = 297)					
	<i>m</i>	<i>sd</i>	<i>m</i>	<i>sd</i>	<i>df</i>	<i>F</i>	η^2	<i>p</i>
Internalization of thin/low fat body	2.84 ^a	1.06	2.24 ^b	.81	1, 630	62.55	.09	.000
Internalization of muscular body	2.13 ^a	.89	3.09 ^b	.90	1, 630	179.24	.22	.000
Drive for muscularity	1.87 ^a	.76	2.75 ^b	.96	1, 630	166.53	.21	.000

Note 1. Multivariate $F(3, 628) = 103.95, p < .001$; Pillai's Trace = .33, partial $\eta^2 = .33$.

Note 2. Means that do not share same subscript on the same row are significantly different from each other at least at $p < .05$ level.

When these results were taken into consideration, it can be concluded that although there was not any significant gender difference in terms of body image concerns, there were significant gender differences in manifestations of body image concerns. In short, H_1 , H_2 , H_3 , and H_4 were fully supported by these findings.

2. 3. 2. 3. Investigating the Predictors of Body Image Concerns

Four hierarchical regression analyses with enter method were conducted to explore predictors of body image concerns (i.e., body dissatisfaction, social appearance anxiety, and appearance esteem). In each analysis (except the last analysis), conceptually related demographics (i.e., gender, body mass index) were entered into regression equations in the first step to control their effects. Consistently, in the second step, variables (i.e., self-esteem, internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, and pressures from family, peers/SO, and media) whose effects were widely studied in the body image literature (see pp. 7-14 for detailed information on the relationship between these variables and body dissatisfaction) were added to equation. In the last step, the hypothesized variables (i.e., basic psychological needs satisfaction, basic psychological need frustration, social appearance anxiety, and appearance esteem) were entered into regression equations.

The first hierarchical regression analysis was conducted to investigate predictors of body dissatisfaction, and results revealed that body mass index and gender did not contributed to the model significantly in the first step, $F(2, 629) = 1.94$, *ns*. However, combination of internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, pressures from family, peers/SO, and media, and self-esteem contributed to the model significantly in the second step, $\Delta F(7, 622) = 53.52$, $p < .001$, and these variables explained 37% of the variance in body dissatisfaction. However, only internalization of thin/low fat body [$\beta = .08$, $t(622) = 2.03$, $p < .05$, partial $\eta^2 = .08$] and self-esteem [$\beta = -.56$, $t(622) = -16.72$, $p < .001$, partial $\eta^2 = -.56$] were found to be significant predictors of body dissatisfaction.

Specifically, participants with high internalization of thin/low fat body and low self-esteem were more prone to experience body dissatisfaction. Lastly, combination of basic psychological needs satisfaction and frustration contributed the model significantly in the third step, and their combination explained additional 5% variance in the dependent variable, $\Delta F(2, 620) = 28.06, p < .001$. When their unique contributions were analyzed, it was seen that basic psychological needs satisfaction predicted body dissatisfaction significantly [$\beta = -.34, t(620) = -16.72, p < .001$, partial $\eta^2 = .58$] but basic psychological needs frustration did not [$\beta = -.03, t(620) = -.61, ns$]. More precisely, participants with high scores in needs satisfaction had lower risk of body dissatisfaction. Therefore, depending on these results H_{5a} was supported, whereas H_{5b} and H_6 were rejected. Table 13 presents the details related to predictors of body dissatisfaction.

Table 13

Results of Hierarchical Regression Analysis Predicting Body Dissatisfaction

	Step 1			Step 2			Step 3		
	β	t	partial η^2	β	t	partial η^2	β	t	partial η^2
Gender	-.08	-1.96	-.08	.03	.76	.03	.02	.38	.02
BMI	.03	.67	.03	-.03	-.87	-.04	-.02	-.41	-.02
Internalization of thin/low fat body				.08	2.03*	.08	.07	1.84	.07
Internalization of muscular body				-.02	-.48	-.02	-.01	-.24	-.01
Internalization of general attractiveness				.03	.80	.03	.03	.84	.03
Pressures from family				.05	1.08	.04	.03	.68	.03
Pressures from peers/SO				.04	.91	.04	.05	1.15	.05
Pressures from media				.02	.52	.02	.04	1.01	.04
Self-esteem				-.56	-16.72**	-.56	-.35	-7.55**	-.29
Need satisfaction							-.34	-6.64**	-.26
Need frustration							-.03	-.61	-.03
df		2,629			7,622			2,620	
ΔF		1.94			53.52			28.06	
Sig. ΔF		.144			.000			.000	
ΔR^2		.01			.37			.05	

Note. * $p < .05$, ** $p < .001$.

Second hierarchical regression analysis was carried out to explore the predictors of social appearance anxiety, and the variables entered at each step were exactly the same as it was in the first analysis. According to results, combination of gender and body mass index did not contributed to the model significantly in the first step, $F(2, 629) = 1.60$, ns . Combination of the variables entered in the second step contributed to the model significantly [$\Delta F(7, 622) = 88.72$, $p < .001$], and these variables explained 50% of the variance in social appearance anxiety. More specifically, internalization of thin/low fat body [$\beta = .10$, $t(622) = 2.74$, $p < .01$, partial $\eta^2 = .11$], internalization of muscular body [$\beta = .09$, $t(622) = 2.42$, $p < .05$, partial $\eta^2 = .10$], internalization of general attractiveness [$\beta = .18$, $t(622) = 5.32$, $p < .001$, partial $\eta^2 = .21$], pressures from peers/SO [$\beta = .14$, $t(622) = 3.55$, $p < .001$, partial $\eta^2 = .14$], and self-esteem [$\beta = -.51$,

$t(622) = -16.91, p < .001$, partial $\eta^2 = .56$] were found to be significant predictors of social appearance anxiety. In other words, high scores from internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, and pressures from peers/SO and low scores from self-esteem were found to promote social appearance anxiety. In addition, combination of basic psychological needs satisfaction and frustration contributed the model significantly in the last step [$\Delta F(2, 620) = 13.51, p < .001$], and their combination explained additional 2% variance in the dependent variable. When their unique contributions were analyzed, it was seen that basic psychological needs frustration predicted social appearance anxiety significantly [$\beta = .21, t(620) = 4.76, p < .001$, partial $\eta^2 = .19$] but basic psychological needs satisfaction did not [$\beta = .04, t(620) = .03, ns$]. In other words, as basic psychological needs frustration increased, social appearance anxiety increased, as well. Hence, depending on these results H_{7b} was supported whereas H_{7a} was rejected. Table 14 presents the details related to predictors of social appearance anxiety.

Table 14

Results of Hierarchical Regression Analysis Predicting Social Appearance Anxiety

	Step 1			Step 2			Step 3		
	β	t	partial η^2	β	t	partial η^2	β	t	partial η^2
Gender	-.01	-.32	-.01	.11	2.83	.11	.10	2.71	.11
BMI	.07	1.78	.07	-.04	-1.09	-.04	-.03	-1.03	-.04
Internalization of thin/low fat body				.10	2.74**	.11	.08	2.33*	.09
Internalization of muscular body				.09	2.42*	.10	.08	2.40*	.10
Internalization of general attractiveness				.18	5.32***	.21	.18	5.26***	.21
Pressures from family				.06	1.62	.07	.06	1.64	.07
Pressures from peers/SO				.14	3.55***	.14	.13	3.31**	.13
Pressures from media				.04	1.34	.05	.05	1.49	.06
Self-esteem				-.51	16.91***	-.56	-.40	-9.44***	-.36
Need satisfaction							.04	.78	.03
Need frustration							.21	4.76***	.19
df		2,629			7,622			2,620	
ΔF		1.60			88.72			13.51	
Sig. ΔF		.202			.000			.000	
ΔR^2		.01			.50			.02	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

Third hierarchical regression analysis was conducted to investigate predictors of appearance esteem. Different than two previous analyses, self-esteem was excluded from the regression equation because appearance esteem is a variable which can be evaluated as a sub-factor of self-esteem (Franzoi & Shields, 1984). According to the results, gender and body mass index significantly contributed the model in the first step [$F(2, 629) = 46.20, p < .001$], and these variables explained 13% variance in the dependent variable. In other words, gender [$\beta = .12, t(629) = 3.11, p < .01$, partial $\eta^2 = .12$] and body mass index [$\beta = -.37, t(629) = -9.60, p < .001$, partial $\eta^2 = -.36$] were significant predictors of appearance esteem. More precisely, female participants and participants with high BMI reported lower scores in appearance esteem than others. Moreover, the variables entered in the second step significantly contributed the model [$\Delta F(6, 623) = 26.38, p < .001$], and they explained additional 18% variance in the

dependent variable. Of these variables, internalization of thin/low fat body [$\beta = -.18$, $t(623) = -4.46$, $p < .001$, partial $\eta^2 = .18$], pressures from family [$\beta = -.20$, $t(623) = -4.28$, $p < .001$, partial $\eta^2 = .17$], and pressures from friends [$\beta = -.14$, $t(623) = -2.98$, $p < .01$, partial $\eta^2 = .12$] were significant predictors of appearance esteem. In other words, as the scores in these variables increased, the risk for low appearance esteem increased. Lastly, basic psychological need satisfaction and need frustration also significantly contributed the model [$\Delta F(2, 621) = 48.83$, $p < .001$] in the third step, and they explained additional 9% variance in the dependent variable. When their unique contributions were reviewed, it was seen that both need satisfaction [$\beta = .18$, $t(621) = 3.68$, $p < .001$, partial $\eta^2 = .15$] and need frustration [$\beta = -.17$, $t(621) = -3.49$, $p < .01$, partial $\eta^2 = .14$] were significant predictors of appearance esteem. In other words, low scores from need frustration and high scores from need satisfaction were found to promote appearance esteem. Therefore, H_8 was fully supported depend on these results. Table 15 presents the details related to predictors of appearance esteem.

Table 15

Results of Hierarchical Regression Analysis Predicting Appearance Esteem

	Step 1			Step 2			Step 3		
	β	t	partial η^2	β	t	partial η^2	β	t	partial η^2
Gender	.12	3.11*	.12	-.03	-.57	.02	-.00	-.07	-.00
BMI	-.37	-9.60**	-.36	-.19	-4.74**	-.19	-.23	-6.15**	-.24
Internalization of thin/low fat body				-.18	-4.46**	-.18	-.13	-3.34*	-.13
Internalization of muscular body				-.05	-1.13	-.05	-.04	-.98	-.04
Internalization of general attractiveness				-.07	-1.71	-.07	-.06	-1.62	-.07
Pressures from family				-.20	-4.28**	-.17	-.16	-3.65**	-.15
Pressures from peers/SO				-.14	-2.98*	-.12	-.12	-2.66*	-.11
Pressures from media				-.06	-1.59	-.06	-.05	-1.28	-.05
Need satisfaction							.18	3.68**	.15
Need frustration							-.17	-3.49*	-.14
df		2,629			6,623			2,621	
ΔF		46.20			26.38			48.83	
Sig. ΔF		.000			.000			.000	
ΔR^2		.13			.18			.09	

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

The last regression analysis was performed to determine if social appearance anxiety and appearance esteem predict body dissatisfaction or not. For this aim, internalization of thin/low fat body were entered to equation in the first step, and social appearance anxiety and appearance esteem were entered the equation in the second step. Since gender, BMI, internalization of muscular body, internalization general attractiveness, pressures from family, peers/SO, and media did not predict body dissatisfaction significantly in the first regression analysis, they were not used in this regression analysis as predictors. In addition, self-esteem was excluded from the regression equation because appearance esteem is a variable which can be evaluated as a subfactor of self-esteem (Franzoi & Shields, 1984). According to results, internalization of thin/low-fat body contributed the model significantly [$F(1, 630) = 39.46, p < .001$] in the first step, and it explained 6% variance in body dissatisfaction, $\beta = .24, t(630) = 6.28, p < .001, \text{partial } \eta^2 = .24$]. In other words, participants obtained higher scores from internalization of thin/low-fat body reported higher body dissatisfaction. The variables in the second step also contributed the model significantly [$\Delta F(2, 628) = 185.27, p < .001$], and they explained additional 41% variance in body dissatisfaction. More specifically, the participants, who obtained lower scores in appearance esteem [$\beta = -.36, t(628) = -8.96, p < .001, \text{partial } \eta^2 = -.34$] and higher scores from social appearance anxiety [$\beta = .34, t(628) = 8.44, p < .001, \text{partial } \eta^2 = .32$], reported higher body dissatisfaction. Thus, H_9 was fully supported. Table 16 presents the details related to predictors of body dissatisfaction.

Table 16

Results of Hierarchical Regression Analysis Predicting Body Dissatisfaction

	Step 1			Step 2		
	β	t	partial η^2	β	t	partial η^2
Internalization of thin/low fat body	.24	6.28*	.24	.01	.16	.01
Appearance esteem				-.36	-8.96*	-.34
Social appearance anxiety				.34	8.44*	.32
df		1, 630			2, 628	
ΔF		39.46			185.27	
Sig. ΔF		.000			.000	
ΔR^2		.06			.41	

Note. * $p < .001$.

2. 3. 2. 4. Investigating the Mediators between Basic Psychological Needs and Body Dissatisfaction

In addition to the regression analyses, four parallel multiple mediation analyses (Hayes, 2013) were performed via SPSS macro with 5000 bootstrap samples to test the indirect effects that hypothesized in the current study.

The first parallel multiple mediation analysis was carried out to test the indirect relations between need satisfaction and body dissatisfaction through appearance esteem and social appearance anxiety. A 95% bias-corrected confidence interval based on 5000 bootstrap samples demonstrated that both appearance esteem (-0.157 to -0.068) and social appearance anxiety (-0.132 to -0.038) mediated the relation between satisfaction of basic needs and body dissatisfaction. As can be seen in Figure 2, as satisfaction of needs increased, appearance esteem also increased ($\alpha_1 = .34, p < .001$), in turn, body dissatisfaction decreased ($b_1 = -.32, p < .001$). Moreover, an increase in satisfaction of needs led to a decrease in social appearance anxiety ($\alpha_2 = -.69, p < .001$), which in turn, decreased body dissatisfaction ($b_2 = .12, p < .001$). In addition, both the direct effect ($c' = -.35, p < .001$) and the total effect ($c = -.54, p < .001$) of needs satisfaction on the dependent variable were significant. Overall, the proposed

model was significant [$F(1, 630) = 324.12, p < .001$], and it explained 34% of the variance in body dissatisfaction through appearance esteem and social appearance anxiety. As a result, H_{10} was fully supported.

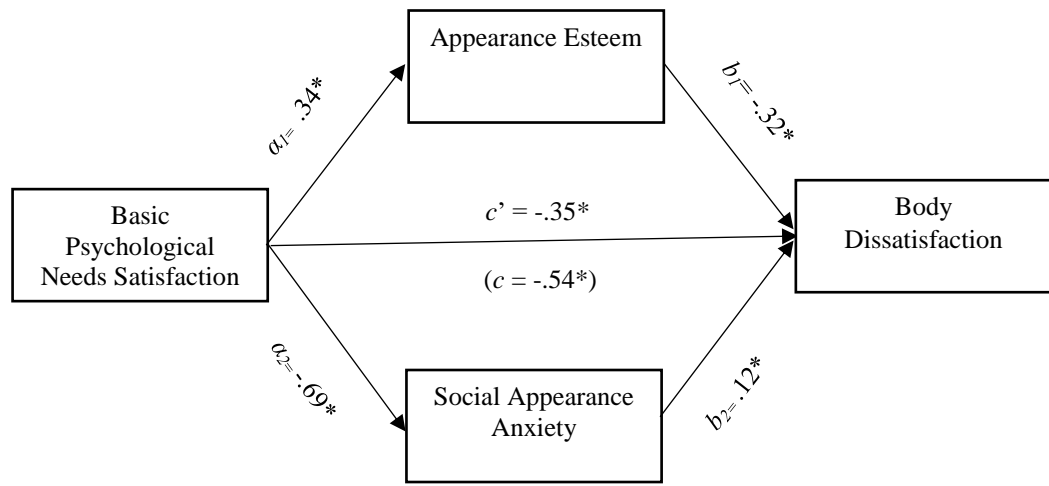


Figure 2. The mediating effects of appearance esteem and social appearance anxiety in the basic needs satisfaction-body dissatisfaction relation.

Note 1. $*p < .001$.

Note 2. c' is a direct effect of basic needs satisfaction on body dissatisfaction; c is total effect of basic needs satisfaction on body dissatisfaction.

The second parallel multiple mediation analysis was conducted to test the indirect relations between frustration of basic needs and body dissatisfaction through appearance esteem and social appearance anxiety. A 95% bias-corrected confidence interval based on 5000 bootstrap samples demonstrated that both appearance esteem (0.074 to 0.162) and social appearance anxiety (0.055 to 0.154) mediated the relationship between satisfaction of basic needs and body dissatisfaction. As can be

seen in Figure 3, frustration of basic needs led to decrease in appearance esteem ($\alpha_1 = -.33, p < .001$), and a decrease in appearance esteem resulted in an increase in body dissatisfaction ($b_1 = .34, p < .001$). Likewise, frustration of needs satisfaction led to an increase in body dissatisfaction ($b_2 = .15, p < .001$) through social appearance anxiety ($\alpha_2 = .72, p < .001$). Besides, both the direct effect ($c' = .19, p < .001$) and the total effect ($c = .41, p < .001$) of needs frustration on the dependent variable were significant. Overall, the proposed model was significant [$F(1, 630) = 203.52, p < .001$], and it explained 24% of the variance in body dissatisfaction through appearance esteem and social appearance anxiety. As a result, H_{11} was fully supported.

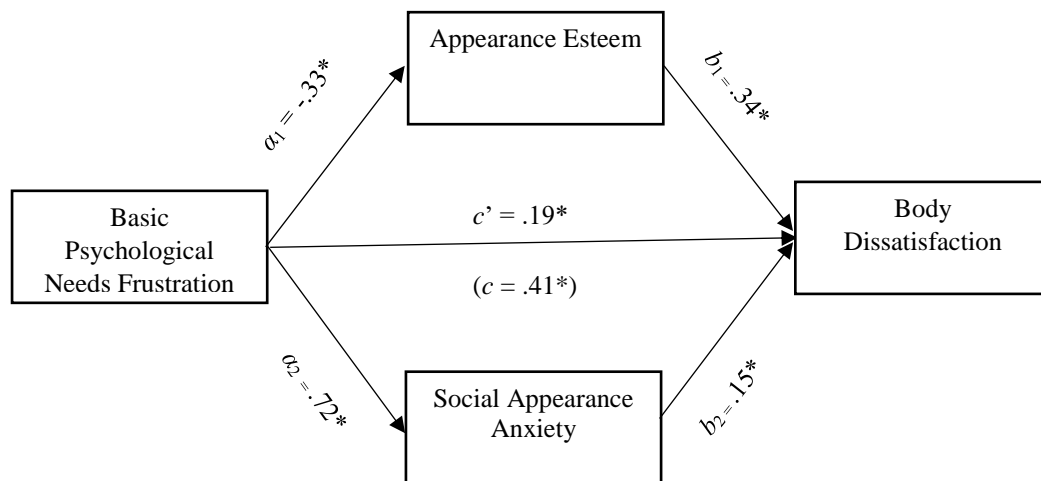


Figure 3. The mediating effects of low appearance esteem and social appearance anxiety in the basic needs frustration-body dissatisfaction relation.

Note 1. * $p < .001$.

Note 2. c' is a direct effect of basic needs satisfaction on body dissatisfaction; c is total effect of basic needs satisfaction on body dissatisfaction.

The third parallel multiple mediation analysis was conducted to test the indirect relations between satisfaction of basic needs and body dissatisfaction through internalization of thin/low fat body, internalization of muscular body, and internalization of general attractiveness. A 95% bias-corrected confidence interval based on 5000 bootstrap samples demonstrated that internalization of thin/low fat body (-0.038 to -0.007) mediated satisfaction of basic needs–body dissatisfaction relation, but internalization of muscular body and internalization of general attractiveness did not (-0.006 to 0.003 and -0.014 to 0.004, respectively). As it can be seen in Figure 4, satisfaction of basic needs led to decrease in internalization of thin/low fat body ($\alpha_1 = -.28, p < .001$), and a decrease in this variable resulted in an increase in body dissatisfaction ($b_1 = .07, p < .001$). In addition, both the direct effect ($c' = -.52, p < .001$) and the total effect ($c = -.54, p < .001$) of needs satisfaction on the dependent variable were significant. Overall, the proposed model was significant [$F(1, 630) = 324.12, p < .001$], and it explained 34% of the variance in body dissatisfaction through three mediators. As a result, H_{12a} was supported whereas H_{12b} and H_{12c} were rejected.

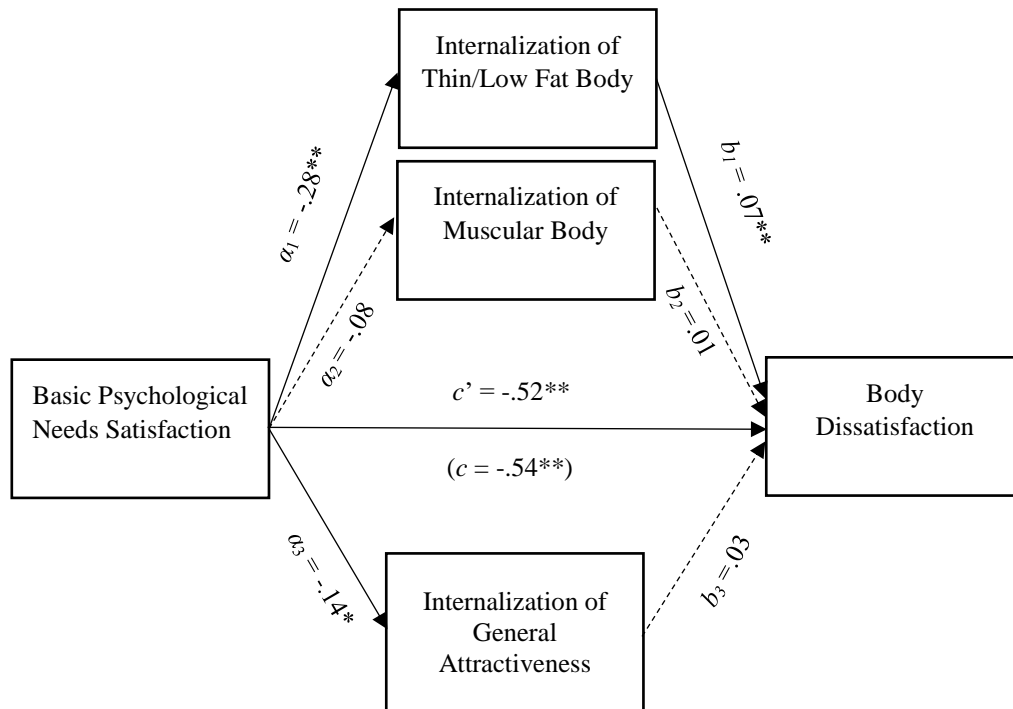


Figure 4. The mediating effects of internalization of thin/low fat body, internalization of muscular body, and internalization of general attractiveness in the basic needs satisfaction-body dissatisfaction relation.

Note 1. $*p < .01$, $**p < .001$.

Note 2. c' is a direct effect of basic needs satisfaction on body dissatisfaction; c is total effect of basic needs satisfaction on body dissatisfaction.

Note 3. Dashed lines indicate non-significant paths.

The last parallel multiple mediation analysis was performed to test the indirect relations between frustrations of basic needs and body dissatisfaction through internalization of thin/low fat body, internalization of muscular body and internalization of general attractiveness. A 95% bias-corrected confidence interval based on 5000 bootstrap samples demonstrated that internalization of thin/low fat body (0.006 to 0.044) mediated frustration of basic needs–body dissatisfaction relation whereas internalization of muscular body and internalization of general attractiveness did not (-0.005 to 0.007 and -0.007 to 0.017, respectively). As can be seen in Figure

5, frustration of basic needs led to an increase in internalization of thin/low fat body ($\alpha_1 = .35, p < .001$), which in turn, increased body dissatisfaction ($b_1 = .07, p < .01$). In addition, both the direct effect ($c' = .38, p < .001$) and the total effect ($c = .41, p < .001$) of needs frustration on the dependent variable were significant. Overall, the proposed model was significant [$F(1, 630) = 324.12, p < .001$], and it explained 24% of the variance in body dissatisfaction through three mediators. As a result, H_{13a} was supported, whereas H_{13b} and H_{13c} were rejected.

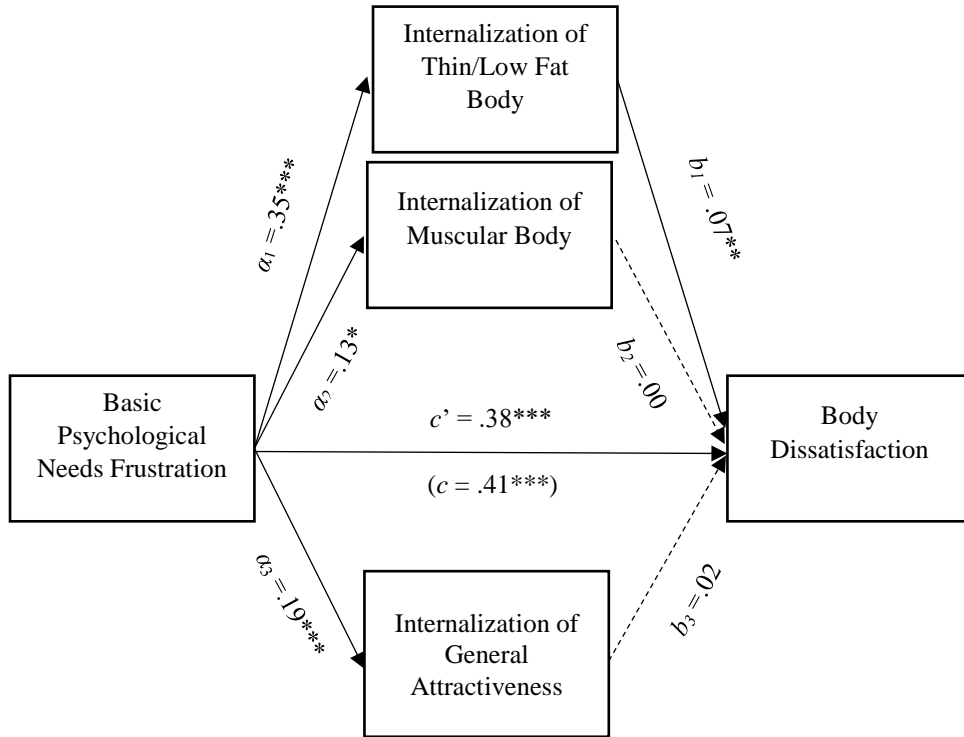


Figure 5. The mediating effects of internalization of thin/low fat body, internalization of muscular body, and internalization of general attractiveness in the basic needs frustration-body dissatisfaction relation.

Note 1. * $p < .05$, ** $p < .01$, *** $p < .001$.

Note 2. c' is a direct effect of basic needs satisfaction on body dissatisfaction; c is total effect of basic needs satisfaction on body dissatisfaction.

Note 3. Dashed lines indicate non-significant paths.

Table 17

The Summary of the Findings for Mediation Analyses

IV	Mediator	DV	Mediation	Confidence Interval
Need satisfaction	Appearance esteem	Body dissatisfaction	Yes	Significant
Need satisfaction	Social appearance anxiety	Body dissatisfaction	Yes	Significant
Need frustration	Appearance esteem	Body dissatisfaction	Yes	Significant
Need frustration	Social appearance anxiety	Body dissatisfaction	Yes	Significant
Need satisfaction	Internalization of thin/low fat body	Body dissatisfaction	Yes	Significant
Need satisfaction	Internalization of muscular body	Body dissatisfaction	No	Not significant
Need satisfaction	Internalization of general attractiveness	Body dissatisfaction	No	Not significant
Need frustration	Internalization of thin/low fat body	Body dissatisfaction	Yes	Significant
Need frustration	Internalization of muscular body	Body dissatisfaction	No	Not significant
Need frustration	Internalization of general attractiveness	Body dissatisfaction	No	Not significant

2. 4. Discussion

The main purpose of this study was to test the gender difference in terms of the body image concerns (i.e., body dissatisfaction, social appearance anxiety, and appearance esteem) and the manifestations of these concerns (i.e., drive for muscularity, internalization thin/low fat body, and internalization of muscular body), and finally to examine the direct and the indirect predictive effects of basic psychological needs on body dissatisfaction. For this aim, at first place, BPNSFS (Chen et al., 2015) and DMS (McCreary & Sasse, 2000) were adapted to Turkish and their psychometric properties were examined. Second, the differences between the levels of the demographic

variables in terms of the study variables, and bivariate correlations of the variables were examined. Third, an independent samples *t*-test, two one-way multivariate analysis of variance, four hierarchical regression analyses, and four Parallel Multiple Mediation Analyses were conducted to test the study hypotheses. The results of these analyses were discussed below.

2. 4. 1. The Adapted Scales

2. 4. 1. 1. The Turkish Version of Basic Psychological Needs Satisfaction and Frustration Scale

In order to test the original six-factor structure of BPNSFS, a confirmatory factor analysis was carried out, and the original structure fit the data very well. The reliability of the scale was tested through internal consistency reliability, the Cronbach's alpha coefficients of the factors ranged between .74 and .88. The validity of the scale was examined through both convergent and divergent validities. For convergent validity, as expected, the factors of BPNSFS were found to be correlated with the factors of General Need Satisfaction Scale (Deci & Ryan, 1991) and theoretically relevant constructs, namely life satisfaction, self-esteem, body dissatisfaction, and social appearance anxiety. Consistent with the results of both the original study (Chen et al., 2015) and some other studies (Cihangir-Çankaya, 2009; Deci et al., 2001; Leversen et al., 2012), the associations between the factors of BPNSFS and self-esteem and satisfaction with life supported the relation of basic needs with psychological well-being. In addition, our findings regarding the significant correlations between basic needs and body image concerns (i.e., body dissatisfaction and social appearance anxiety) provided additional evidence for the existing literature indicating the influence of unfulfilled basic needs on body image concerns (Thogersen-Ntoumani et al., 2010; Thogersen-Ntoumani et al., 2011). For divergent validity, correlations between the factors of BPNSFS and a theoretically irrelevant variable –social desirability– were examined but all of the correlations were significant. However, their relations with social desirability were still relatively weaker than their relations with relevant constructs, and they were similar to the correlations reported in the literature (Vlachopoulos & Michailidou, 2006). In addition, all of the correlations were in the

direction of expected way. To sum up, in spite of limited evidence for divergent validity, Turkish BPNSFS was considered as a reliable and valid scale of both satisfaction and frustration of the three basic psychological needs.

2. 4. 1. 2. The Turkish Version of Drive for Muscularity Scale

To examine the factor structure of Turkish DMS, separate exploratory factor analyses were conducted for male and female samples by considering the fact that the factor structure of DMS might change depending on gender (McCreary & Sasse, 2000). For the male participants, Turkish DMS showed a three-factor structure (i.e., muscularity oriented body image attitudes, muscularity oriented workout behaviors, and muscularity oriented supplement use and eating behaviors), and the factors and the items loaded under these factors were similar with the findings of the study done with Mexican males (Escoto et al., 2013). On the other side, for the female participants, Turkish DMS showed a two-factor structure (i.e., muscularity oriented body image attitudes and muscularity oriented workout behaviors), which was consistent with the original factor structure of the scale (McCreary & Sasse, 2000). The reliability of the scale was examined through internal consistency reliability, and the Cronbach's alpha coefficients of the factors ranged between .71 and .90. The validity of the scale was tested through convergent and divergent validities. With respect to convergent validity, the factors of DMS (for both the male and the female samples) had significant and positive correlations with the internalization of muscular body, which were consistent with the findings of previous studies (Compte, Sepulveda, de Pellegrin, & Blanco, 2015; Escoto et al., 2013). Parallel to previous findings (e.g., McCreary & Saucier, 2009), DMS-factors also indicated positive and significant associations with social appearance anxiety. In addition, DMS-factors yielded strong and positive correlations with the internalization of general attractiveness for the male participants, whereas they showed low (negative) to no correlations with the internalization of general attractiveness for the female participants. This finding might be due to the ideal body images of males and females. In other words, since V-shaped male and thin female bodies have been perceived as an indicator of attractiveness by society (Grogan, 2008; McCabe & Ricciardelli, 2005), muscularity might have been

considered as part of the general attractiveness by the male participants, whereas it might not have been considered as such by the female participants. Despite these supports for the convergent validity of the scale, contrary to previous findings indicating significant correlations of the drive for muscularity with self-esteem (McCreary & Sasse, 2000; Ryan & Morrison, 2014) and appearance esteem (Morrison, Morrison, Hopkins, & Rowan, 2004), in the current study, DMS-factors yielded low or no correlations with these constructs. With respect to divergent validity, DMS-factors had relatively low or no correlations with theoretically irrelevant variables, i.e., BMI, internalization of thin low/fat body, social desirability, and life satisfaction. These findings were consistent with previous studies stating that drive for thinness and drive for muscularity are different constructs (McCreary & Sasse, 2000) and the studies demonstrating relatively weak or insignificant correlations of drive for muscularity with BMI (Griffiths, Murray, & Touyz, 2013; McCreary, Karvinen, & Davis, 2006) and social desirability (Morrison & Harriman, 2005; Ryan & Morrison, 2014). Considering these findings altogether, Turkish DMS was accepted as a valid and reliable measure of the drive for muscularity.

2. 4. 2. Gender Difference on Body Image Concerns

As hypothesized, the findings of the current study indicated that there is not any significant gender difference on body dissatisfaction. Even though this finding contradicts with a vast majority of research suggesting that females experience higher body dissatisfaction than males (e.g., Brennan et al., 2010; Chng & Fassnacht, 2016; Chen et al., 2007; Dion et al., 2015), it supports some other research indicating that males experience body dissatisfaction as much as females do (e.g., Hale & Smith, 2012, p. 67; Tiggemann, 1994). This inconsistency in the literature, may be due to the lack of adequate measurement tools measuring body dissatisfaction of both males and females. In other words, as stated in the literature (McCabe & Ricciardelli, 2004), body dissatisfaction has been mostly measured based on losing weight and being thinness which are the main concerns of females. However, unlike females, males' concerns are related to having a more muscular and heavier body (Grogan, 2008; McCabe & Ricciardelli, 2005). Hence, measuring body dissatisfaction mostly in the

context of weight and thinness may have resulted in gender-biased findings indicating that body dissatisfaction is more common among females. Considering this problem in the literature, in the current study, we paid considerable attention to the scale (Body Image Scale; Secord & Jourard, 1953) that we used. We thought that by using Body Image Scale, we would be able to assess the level of body dissatisfaction of both genders accurately, and our finding demonstrated that males and females do not differ from each other in terms of body dissatisfaction.

The above finding was also supported by the results of further analyses testing the gender role on not only body dissatisfaction but also on the other body image concerns, i.e., social appearance anxiety and appearance esteem. The analyses revealed that none of these body image concerns vary significantly across genders. That is to say, males experience these body image concerns as much as females do, which is consistent with some previous studies (Hart et al., 2008; Kartal, 1996; Şahin et al., 2013; Tiggemann, 1994); but contradicts with some other research (e.g., Dakanalis et al., 2016; Nanu et al., 2013; Xu, 2017). This inconsistency may be a result of cultural factors because studies in the Turkish sample usually demonstrated that women and men experience these concerns at a similar level (Amil & Bozgeyikli, 2015; Kartal, 1996; Şahin et al., 2013; Şahin, Barut, Ersanlı, & Kumcağız, 2014). Since collectivist characteristics of Turkish culture are more dominant than its individualistic characteristics, individuals in Turkey tend to avoid conflicts to maintain harmony in the groups they belong to (Hofstede, Hofstede, & Minkov, 2010). In line with this reasoning, in order to avoid in-group conflicts, both the male and the female participants of the current study might have internalized the ideal body shapes that society expects from them to attain, and as a result, they might have experienced body image concerns at similar levels.

Even though our findings did not indicate any gender effect on the level of body image concerns, they did point out gender role on the manifestations of these concerns. Specifically, male participants reported significantly higher scores on muscularity-related variables (i.e., drive for muscularity and internalization of muscular body) than female participants, whereas female participants reported significantly higher scores on thinness-related variable (i.e., internalization of thin/low fat body) than male

participants, and this finding was consistent with existing literature (Cho & Lee, 2013; Cohane & Pope, 2001; McCabe & Ricciardelli, 2004). Considering the ideal body shapes of males (a muscular and V-shaped body) and females (a thin/low fat body), which are imposed by Western culture, mass media, and society (Grogan, 2008; McCabe & Ricciardelli, 2005), our findings are sensible. In other words, given that ideal body shapes are perceived as an indicator of positive personality traits (e.g., successful, attractive, happy), both male and female participants might have been preoccupied with meeting the gender-based ideal body shapes, which in turn might have led to the difference in manifestation of body image concerns.

The difference in the manifestations of the body image concerns can also be interpreted as a premise indicator of the difference in the prevalence of body image related psychopathological disorders, namely anorexia nervosa and muscle dysmorphia. In the literature, it is already known that anorexia nervosa, which is related to being extremely thin, is predominantly more common among females, whereas muscle dysmorphia which is related to being extremely muscular is predominantly more common among males (APA, 2013; Pope, Gruber, Choi, Olivardia, & Phillips, 1997; Smink, van Hoeken, & Hoek, 2012). The reason for this difference may be due to the difference that our study pointed; having a thin body is more of a females' preoccupation while having a muscular body is more of a males' preoccupation. In the direction of the distinctions in these preoccupations, females and males might develop unhealthy behaviors towards attaining their ideal body shapes (a thin body for females and a muscular body for males), which in turn might lead to anorexia nervosa in women and muscular dysmorphia in men. In short, the initial difference in targeted body shapes between men and women, which was demonstrated in the current study, might persist in the prevalence of psychopathological consequences.

Taken together, our findings suggested that (1) body image dissatisfaction is a problem of humanity rather than a female problem, and males also experience body image concerns as much as females do, (2) due to the influence of sociocultural factors, the

manifestations of body image concerns change across genders; while males tend to attain a more muscular body, females tend to reach a thin body.

2. 4. 3. The Predictors of Body Image Concerns

2. 4. 3. 1. The Predictors of Body Dissatisfaction

In line with our aim of testing the predictive effects of basic psychological needs on body dissatisfaction, we conducted a hierarchical regression analysis. Our findings revealed that gender and BMI were not significant predictors of body dissatisfaction. Even though the influence of BMI on body dissatisfaction was supported by many studies (e.g., Paxton et al., 2006; Stice & Whitenton, 2002; Weinberger et al., 2016), our findings provided evidence for the null hypothesis, which was consistent with the other findings (Byely et al., 2000; Stice & Bearman, 2001). This finding might be due to features of Body Image Scale (BIS). To state more precisely, BIS measures body dissatisfaction in many contexts such as body shape, muscle mass, body parts, skin color, height etc.; however, body mass index is related to only two of these parameters (i.e., weight and height). For this reason, in the present study, BMI might have been insufficient to predict a more comprehensive concept, that is body dissatisfaction. Of the psychosocial factors (i.e., self-esteem, internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, pressures from media, peers/SO, and family), only internalization of thin/low fat body and self-esteem were found to be significant predictors of body dissatisfaction. Specifically, as self-esteem decreased and internalization of thin/low fat body increased, body dissatisfaction increased. This finding is consistent with the existing literature indicating the relation of body dissatisfaction with self-esteem (Tiggemann, 2005; van der Berg, Mond, Eisenberg, Ackard, & Neumark-Sztainer; 2011) and internalization of thin low/fat body (Fitzsimmons-Craft et al., 2016; Rukavina & Pokrajac-Bulian, 2006). When it is considered that (1) self-esteem is a global self-worth which not only influences body dissatisfaction but also is influenced by it (Tiggemann, 1994), (2) the discrepancy between ideal body images (internalized thin/low fat body) and actual body shapes may lead to body dissatisfaction (Clay et al., 2005), this finding is sensible. However, contrary to the existing literature (Ata et al., 2007; Barlett et al.,

2008; Gondoli, 2011; Lorenzen et al., 2004; Mellor et al., 2008), pressures coming from media, family, and peers/SO were not significant predictors of body dissatisfaction. This inconsistency might be due to features of BIS. As stated before, BIS measures body dissatisfaction in a more comprehensive manner; it considers not only thinness and muscularity but also shapes of body parts, skin colors, height, etc. which are difficult or impossible to improve or change. For this reason, the variables that are generally related to weight and thinness (i.e., internalization of general attractiveness and pressures coming from media, family, and peers/SO) might not have predicted body dissatisfaction, which was operationalized as a more comprehensive concept in the current study. The findings also provided preliminary evidence to advance our understanding of the influences of internalization of general attractiveness and muscular body on body dissatisfaction. Our findings supported the null hypothesis, and it could be explained by two factors. First, as reported in the literature (McCreary, 2007; Schneider, Rollitz, Voracek, & Henning-Fast, 2016), internalization of muscular body might be a significant predictor of body dissatisfaction if only body dissatisfaction is measured based on muscularity. Second, since attractiveness of female and males has very close associations with thinness and muscularity, respectively (Grogan, 2008; McCabe & Ricciardelli, 2005), our variables related to these constructs (i.e., internalization of thin/low fat body and muscular body) might have had significant amount of shared variance with internalization of general attractiveness, which in turn might have omitted its predictive effect on body dissatisfaction.

After controlling aforementioned variables (i.e., gender, BMI, self-esteem, internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, pressures from media, peers/SO, and family), need satisfaction significantly and negatively predicted body dissatisfaction; whereas need frustration did not. Even though this finding is parallel to the existing literature demonstrating the relation between basic needs and body image concerns such as body dissatisfaction (Thogersen-Ntoumani et al., 2010), unhealthy weight control behaviors (Ng et al., 2013), and social appearance anxiety (Thogersen-Ntoumani et al., 2011); it

contradicts with Bartholomew et al.'s (2011) statement indicating that need frustration is more related to psychopathological conditions.

According to self-determination theory (SDT), body image is an example of extrinsic goals, and people with unfulfilled basic needs may tend to satisfy these needs or avoid from inferiority feelings related to unfulfilled basic needs by engaging in these extrinsic goals (Deci & Ryan, 2000; Vansteenkiste & Ryan, 2013). However, since extrinsic goals draw attention of these people away from the sources of problem (conditions in which basic needs insufficiently satisfied or thwarted and experienced feelings related to these conditions), they do not produce long-term satisfaction; on the contrary, they may worsen the negative consequences associated with unfulfilled needs and experience psychopathological conditions (Deci & Ryan, 2000; Verstuyf et al., 2012). In line with this reasoning, it can be stated that our participants with low need satisfaction may have attached particular importance to reaching ideal body images to cope with the negative feelings associated with unfulfilled basic needs. As a result of this mechanism, they could not satisfy their needs; on the contrary, they might have experienced increased body dissatisfaction in the long term.

We also investigated the predictive effects of social appearance anxiety and appearance esteem on body dissatisfaction. After controlling the influence of internalization of thin/low-fat body on body dissatisfaction, both social appearance anxiety and appearance esteem significantly predicted body dissatisfaction. Accordingly, increases in social appearance anxiety was associated with increases in body dissatisfaction, whereas increases in appearance esteem was associated with decreases in it.

With respect to the social appearance anxiety-body dissatisfaction relation, to the best of our knowledge, there are only three researches specifically investigating this relation (Claes et al., 2012; Levinson & Rodebaugh, 2011; 2015). The findings of these original researches demonstrated that social appearance anxiety positively predicts body dissatisfaction (Claes et al., 2012; Levinson & Rodebaugh, 2011; 2015). In addition to this specific relation, some other studies also revealed the positive

associations between social appearance anxiety and the variables that may be evaluated as indicators/correlates of body dissatisfaction, such as negative body image (Hart et al., 2008) and eating pathologies (Koskina et al., 2011; Levinson et al., 2013). Together with our findings these findings suggested that social appearance anxiety is a risk factor for body dissatisfaction and the other body image concerns.

To the best of our knowledge, there is no other study that has investigated the relation between appearance esteem and body dissatisfaction. However, given the previous findings indicating global self-esteem and body dissatisfaction association (Cohane & Pope, 2001; Pop, 2016; Sheffield et al., 2005), it would not be wrong to say that our findings are consistent with the literature. In short, our findings suggested that like low self-esteem, low appearance esteem is a predisposing factor for body dissatisfaction.

2. 4. 3. 2. The Predictors of Social Appearance Anxiety

In line with our aim of testing the predictive effects of basic psychological needs in social appearance anxiety, we conducted a hierarchical regression analysis in which we firstly controlled the effects of the biopsychosocial variables (i.e., gender, BMI, self-esteem, internalization of thin/low fat body, internalization of muscular body, internalization of general attractiveness, pressures from media, peers/SO, and family). According to results, internalization thin/low-fat body, internalization of muscular body, internalization of general attractiveness, pressures from peers/SO, and self-esteem were all significant predictors of social appearance anxiety, whereas gender, BMI, and pressures from family and media were not. In terms of the internalized constructs, internalization of ideal body shapes, significantly and positively predicted social appearance anxiety. To the best of our knowledge, this association has not specifically addressed in the literature before. However, when it is considered that individuals internalize the ideal body shapes to get approval from others and to benefit from positive attributions associated with having an ideal body (i.e., attractiveness, success, happiness; Grogan, 2008; McCabe & Ricciardelli, 2005), it can be suggested that others' evaluations related to their body image gains importance for these individuals, which in turn, may lead to increases in their social appearance anxiety. Thus, our participants might have internalized the ideal body images to meet

sociocultural expectations; however, at the same time their doubts about if they had reached these ideal body shapes or not might have emerged, which in turn might have increased their anxiety related to their appearance. Consistent with this statement, body image related pressures coming from peers/SO was also found to be a significant predictor of social appearance anxiety but the pressures from media and family were not. This finding might be explained by characteristics of our participants. Since most of our participants were university students, they might have spent most of their time with their peers/SO rather than with their family members. Therefore, for our participants, peers/SO's pressures and evaluations related to body image might have become more important than the pressures coming from media and family. In addition to sociocultural factors, self-esteem was also found to be a significant predictor of social appearance anxiety, which provided an additional support for the notion that body image has a close association with self-worth (Tiggemann, 1994).

Regarding the basic needs, only need frustration was found as a significant predictor of social appearance anxiety. This finding is consistent with SDT statement (Bartholomew et al., 2011) and existing literature indicating that psychopathological conditions are more related to need frustration than low need satisfaction (Chen et al., 2015; Chen et al., 2015). This association is also consistent with the findings of the original research demonstrating a positive relation between unfulfilled basic needs and appearance anxiety (Thøgersen-Ntoumani et al., 2011).

Verstuyf et al. (2012) argued that when people perpetually fail to meet the basic needs, they might develop perfectionist standards (ideal body image) to prove their self-worth to both themselves and others. In this regard, our participants with need frustration might have had the desire to prove their worth to others by their physical appearance, but at the same time, this way of thinking may have increased their negative social evaluation fears about their body shape.

2. 4. 3. 3. The Predictors of Appearance Esteem

The results of hierarchical regression analysis suggested that of the control variables, gender, BMI, internalization of thin/low-fat body, pressures from family and peers are

significant predictors of appearance esteem. To state more precisely, being female and having high BMI increased the risk of low appearance esteem. The negative influence of BMI on appearance esteem is consistent with findings of previous studies (Nanu et al., 2013; Xu, 2017). Furthermore, an increase in internalization of thin/low-fat body and pressures from family and peers led to a decrease in appearance esteem. In this regard, Monteath and McCabe (1997) stated that individuals' feelings about their appearance are affected by how they think the society would evaluate their appearance. They also emphasized that idealized body images have an adverse effect on their body image concerns. By considering these statements and our findings together, it can be suggested that the influence of family and peer pressure and internalization of thin/low-fat body on appearance esteem is sensible.

After controlling aforementioned variables, both low satisfaction and frustration of the basic psychological needs predicted lower appearance esteem. According to SDT framework, people with unfulfilled basic needs may try to control their body image as a need substitute mechanism or/and a compensatory strategy (Deci & Ryan, 2000). However, their control efforts do not lead to long-term satisfaction of the needs; on the contrary, they may result in high levels of body image concerns (Verstuyf et al., 2012). In this regard, it was well-established that unfulfilled basic needs have a close association with body image concerns such as body dissatisfaction (Thogersen-Ntoumani et al., 2010), unhealthy weight control behaviors (Ng et al., 2013), and social appearance anxiety (Thogersen-Ntoumani et al., 2011). Consistent with these findings, our results suggested that unfulfilled basic needs make people more vulnerable to low appearance esteem.

2. 4. 4. The Indirect Predictive Effects of Need Satisfaction and Need Frustration on Body Dissatisfaction

The current study did also investigate possible underlying mechanisms of body dissatisfaction through four mediation analyses. The findings suggested that both appearance esteem and social appearance anxiety mediate the relations of body dissatisfaction with need satisfaction and need frustration. In other words, an increase in need satisfaction led to an increase in appearance esteem and a decrease in social

appearance anxiety, which in turn led to a decrease in body dissatisfaction; whereas an increase in need frustration led to a decrease in appearance esteem and an increase in social appearance anxiety, which in turn led to an increase in body dissatisfaction. To the best of our knowledge, although it was the first attempt in the literature to test this suggested mechanism, our findings are somewhat consistent with previous research indicating the significant effects of basic needs on appearance anxiety and appearance-contingent self-worth (Thogersen-Ntoumani et al., 2011), and the predictive effects of self-esteem (Cohane & Pope, 2001; Pop, 2016; Sheffield et al., 2005) and social appearance anxiety (Levinson & Rodebaugh, 2011; 2015) on body dissatisfaction.

According to SDT, individuals with unfulfilled basic needs might try to achieve the perfect body to prove their self-worth to themselves and others. However, this mechanism does not result in positive outcomes as they expected; on the contrary, it may lead to further body image concerns and psychopathological consequences (Vansteenkiste & Ryan, 2013; Verstuyf et al., 2012). Our findings regarding the mediator effects of appearance esteem support this reasoning. To state more precisely, our participants with unfulfilled basic needs (i.e., low satisfaction and frustration of the needs) might have given a particular importance to how their body looks in order to prove their self-worth to themselves and others. However, consistent with SDT statement (Vansteenkiste & Ryan, 2013; Verstuyf et al., 2012), this mechanism might have resulted in further body image concerns (which is body dissatisfaction in the current study) rather than positive outcomes. Also, our findings regarding the mediator effects of social appearance anxiety can be interpreted in line with this reasoning. When a person's self-worth is thought to be highly dependent on how others evaluate the body, it would not be wrong to say that this person will be more sensitive to body-image related negative evaluations coming from others due to his/her selective perception, which in turn can make this person more vulnerable to experience appearance related anxiety in social environments. In this regard, our participants with unfulfilled basic needs (i.e., low satisfaction and frustration of the needs) might have experienced higher social appearance anxiety since their self-worth was highly

dependent on their body images, which in turn might have increased their body dissatisfaction.

The findings also suggested that internalization of thin/low fat-body mediates the relations of body dissatisfaction with need satisfaction and need frustration. To state more precisely, an increase in need satisfaction led to a decrease in internalization of thin/low-fat body, which in turn led to a decrease in body dissatisfaction. On the other side, an increase in need frustration led to an increase in internalization of thin/low-fat body, which in turn led to an increase in body dissatisfaction. Taken together, these findings suggested that low satisfaction and frustration of the basic psychological needs predicts higher body dissatisfaction through internalization of thin/low-fat body. This finding is consistent with the existing literature demonstrating both the associations of unfulfilled basic needs with ideal body image (Vansteenkiste & Ryan, 2013; Verstuyf et al., 2012) and body image concerns, such as body dissatisfaction (Thogersen-Ntoumani et al., 2010) and unhealthy weight control behaviors (Ng et al., 2013).

SDT suggested that individuals with unfulfilled basic needs might develop perfectionist standards, and a perfect body is one the example of these standards (Deci & Ryan, 2000). Thus, they might try to achieve having a perfect body to prove their self-worth to themselves and others. However, this mechanism does not lead to positive outcomes as they expected. In other words, in pursuit of the perfect body, they could not tolerate even small failures, because these failures confront them with their inferiority feelings. Besides, even if they achieve the perfect body, they experience only short-lived satisfaction; they immediately develop more difficult standards related to body image. Hence, reaching the perfect body becomes increasingly more and more difficult to achieve for them (Verstuyf et al., 2012). In line with this reasoning, our participants with unfulfilled basic needs might have internalized the ideal body image (i.e., thin/low-fat body image), and in relation to this, they may have experienced body dissatisfaction due to the two possible reasons. First, their small failures in pursuit of the perfect body might have resulted higher body dissatisfaction. Second, when it was thought that perfectionist standards of body image become

increasingly higher, achieving these standards might have been almost impossible for our participants, which in turn might have increased their body dissatisfaction.

2. 4. 5. Strengths and Implications

The current study is the first in adapting BPNSFS and DMS to Turkish and to examine their psychometric properties. With these adaptations, this study is expected to further contribute to Turkish studies focusing on basic needs or/and muscularity related body image, which in turn would lead to advance our understandings of not only the relation between basic needs and psychopathological conditions but also of the role of muscularity in body image concerns in the Turkish population.

The current study did also clearly reveal that there is no gender role in terms of body image concerns (i.e., body dissatisfaction, appearance esteem, and social appearance anxiety) suggesting that body dissatisfaction and the other body image concerns are problems of humanity rather than being a female issue. However, the current study showed that gender plays its role in manifestations of the body image concerns (i.e., drive for muscularity, internalization of muscularity and internalization of thin/low-fat body). Consistent with sociocultural expectations for ideal female and male body images (Grogan, 2008; McCabe & Ricciardelli, 2005), males reported higher scores on muscularity oriented variables, whereas females scored higher scores on thinness oriented variables. In short, this study suggested that females and males experience a similar level of body dissatisfaction, but their body dissatisfaction manifests itself differently. Therefore, in order to make a comparison between females and males in terms of body image concerns, muscularity oriented variables should also be included as thinness oriented variables.

To the best of our knowledge, this study was the first in Turkey to investigate the direct predictive effects basic psychological needs on body image concerns (i.e., body dissatisfaction, appearance esteem, and social appearance anxiety) after controlling for the effects of several biopsychosocial variables. In addition, to the best of our knowledge, it is the first research to examine the indirect effects of the basic needs on body dissatisfaction through internalization of thin/low-fat body, internalization of

general attractiveness, internalization of muscular body, social appearance anxiety, and appearance esteem. The findings generally showed that unfulfilled basic needs (i.e., low satisfaction and frustration of the needs) are risk factors for body image concerns among Turkish young adults. To state more precisely, consistent with SDT statement (Vansteenkiste & Ryan, 2013; Verstuyf et al., 2012), our study demonstrated that Turkish young adults with unfulfilled basic needs tend to enhance their body images to compensate these unmet needs; however, this tendency does not result in satisfaction; on the contrary, they lead to further body image concerns. When considered this maladaptive mechanism, individuals with unfulfilled basic needs can be suggested to focus on intrinsic goals (i.e., affiliation, health, and community feeling) rather than extrinsic ones to satisfy their basic needs.

Lastly, the current study contributed to the literature by exploring the predictive effects of social appearance anxiety and appearance esteem on body dissatisfaction. Our findings supported the findings of limited number of studies focusing on the link between social appearance anxiety and body dissatisfaction (Claes et al., 2012; Levinson & Rodebaugh, 2011; 2015). Also, our study made a unique contribution to the literature by indicating the association between appearance esteem and body dissatisfaction.

2. 4. 6. Clinical Implications

The current study yielded important clinical implications. First, body image concerns have been generally perceived as female problems and studied predominantly in female samples (Cash, 2004; Pearson, Heffner, & Follette; 2010). However, the current study showed that males also experience these concerns as much as females. Given this finding, it should be kept in mind that body image concerns might also make males vulnerable to excessive stress associated with their body image, which in turn might result in unhealthy efforts (e.g., unbalanced diets, steroid abuse, excessive exercise), as well as more pathological conditions such as eating disorders and muscle dysmorphia.

Second, this study showed that the directions of body image concerns differ significantly between females and males; females' desire is associated with reaching a thinner body, whereas males' desire is associated with reaching a more muscular body. Though psychopathological conditions related to the females' desire (i.e., eating disorders) are widely known by society members, it is not the same for those related to males' desire (i.e., steroid abuse, muscle dysmorphia). Over and above, having muscular body can be regarded as an indication of healthiness and active lifestyle. However, the current study showed that muscularity oriented desire might be a premise indicator of a severe psychopathological condition, i.e., muscle dysmorphia. Therefore, rather than reinforcing muscularity oriented behaviors and attitudes, trying to understand genuine motivations behind them might serve as a protective factor against psychopathological conditions (i.e., steroid abuse, muscle dysmorphia).

Third, unfulfilled basic needs (i.e., low satisfaction and frustration of the needs) were found to promote body image concerns (i.e., body dissatisfaction, social appearance anxiety, and low appearance esteem). This finding supported SDT asserting that when people fail to satisfy their need chronically, they may try to control their body image (i.e., an extrinsic goal) as a need substitute mechanism or/and a compensatory strategy to avoid from inferiority feelings associated with their unfulfilled needs (Deci & Ryan, 2000; Vansteenkiste & Ryan, 2013; Verstuyf et al., 2012), which in turn might result in further body image concerns (Verstuyf et al., 2012). Thus, when an individual with body image concerns applies to psychotherapy, addressing the environmental conditions in which the basic needs are lowly satisfied or/and thwarted, focusing on the feelings associated with unfulfilled needs, raising awareness about the dysfunctionality of maladaptive coping strategies (i.e., need substitute mechanism and compensatory strategy) and strengthening intrinsic motivations that are known to be effective in satisfying basic needs (e.g., health, personal growth, community feeling; Ryan, Patric, Deci, & Williams, 2008) would be crucial for psychotherapists to provide a successful treatment.

2. 4. 7. Limitations of the Present Study and Future Research Directions

The current study is not without its limitations. First, due to its cross-sectional nature, it did not yield causal associations among the study variables. Therefore, in further studies, it is suggested to examine these associations with longitudinal or experimental designs. Second, most of our participants were university students. Hence, the findings of current study might not be generalizable to young Turkish adults. Therefore, further studies are suggested to include participants from community by random sampling to increase the generalizability of the findings. Third, despite adequate sample size, qualitative information related to life events leading to unmet needs, the role of body image, and the underlying mechanism of body dissatisfaction might have been gathered to advance our understanding of basic needs-body image concerns relation. Therefore, in further studies, it is strongly suggested to conduct semi-structured interviews to see a bigger picture of the basic needs-body image concerns association. Lastly, the data were collected from the normal sample. In order to reach a deeper understanding in terms of gender role in manifestations of body image concerns, further studies might make a similar comparison between females with anorexia nervosa and males with muscle dysmorphia.

CHAPTER 3

SECOND STUDY: AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS OF BODYBUILDING EXPERIENCE AMONG MEN ENGAGING IN REGULAR BODYBUILDING ACTIVITIES

3. 1. Introduction

3. 1. 1. Overview

Bodybuilding is defined as the pursuit of muscularity with help of weight training and special nutrition program (Mosley, 2009). Bodybuilders try to have a big muscular body that they think is aesthetically good. V-shaped body, enhanced muscle definition, and large muscle mass are the essential elements of the aesthetically good body. Bodybuilders have to show a full-discipline to achieve this big muscular body; in other words, they have to train, eat and sleep in a strict program to achieve this goal (Linder, 2007).

Even though the popularity of bodybuilding, as a sports activity, has increased in recent years (Mosley, 2009), the history of muscularity extends back to ancient Greek and Roman times. In those times, gods and males generally had been described with virile-young muscular figures, and Adonis, the god of beauty and desire, is a good example of these muscular figures (Hale & Smith, 2012). However, the history of

modern bodybuilding has begun relatively in recent periods with Eugen Sandow (1867-1925), who has been accepted as the first professional bodybuilder. Chapman investigated the life of Eugen Sandow, and published a biographical book entitled as *Sandow the Magnificent: Eugen Sandow and the beginnings of bodybuilding* (1994). According to this book, Eugen Sandow was the first to earn money by displaying his muscular body as a showman, and he was so strong and handsome that a lot of men were inspired by him, and they began to spend time in front of the mirrors while observing their own muscles. He also published magazines, established chains of gyms, sold exercise equipment and initiated the use of supplements. In short, Eugen Sandow laid the foundations of bodybuilding (Chapman, 1994). After the death of Eugen Sandow, weightlifters, swimmers, and athletes have begun to demonstrate their strength and physiques in competitions. However, the first real modern bodybuilding competition, Mr. America, was organized in 1940; Mr. Universe and Mr. Olimpia also followed this contest in later years. The winners of these competitions, such as Steve Reeves, Reg Park, Sergio Olivia, and Arnold Schwarzenegger have been influential in the dramatic increase in popularity of this sport, and this popularity has moved beyond the contests and spread to daily lives in 1980s and 1990s. To state more precisely, the influence of muscularity become more common in modern life, and muscular models were used in communication channels such as television, movies, and advertisements (Schwarzenegger & Dobbins, 1999). In this sense, Pope et al. (2001) analyzed portrayed-bodies in two famous women's magazines, namely *Cosmopolitan* and *Glamour*, to understand how portrayed-male bodies in advertisements have changed for 40 years. Their findings revealed that although the proportion of undressed female models has been relatively on the same line, the proportion of undressed male models has increased conspicuously in the 1980s and 1990s; the proportions were %3, %6, %11, %17, and % 28 in the 1950s, 1960s, 1970s, 1980s, and 1990s, respectively. Parallel to these findings, bodybuilding has also continued to increase its popularity in 2000s; thus, more men began to engage in bodybuilding activities such as going gyms, using supplements, and reading fitness magazines (Mosley, 2009; Stokvis, 2006). A similar increasing trend in the popularity of bodybuilding was also observed in Turkey. According to Republic of Turkey Ministry of Youth and Sport's report,

there has been a consistent increase in the number of licensed male bodybuilders over time (2017). Upon closer inspection, whereas the number of licensed male bodybuilders was 9.486 in 2007, it has increased continuously and reached 25.611 in 2014. When all these are considered together, it would not be wrong to state that bodybuilding has become one of the widespread sports activities among young men all over the world.

This dramatic increase in bodybuilding activities (i.e., the pursuit of muscularity) raises the following questions: Why are so many men interested in increasing muscle mass or bodybuilding activities? Why do these men prefer bodybuilding to other sports such as swimming, running, basketball etc.? What are the positive and negative outcomes of bodybuilding activities? What is the meaning of having a muscular body for these men?

These questions have not been fully answered in the literature; instead, most of the studies focused on a narrow framework by investigating the relations of bodybuilding activities with psychopathological conditions (e.g., steroid abuse, muscle dysmorphia, low self-esteem; Bloin & Goldfield, 1995; Mitchell et al., 2017), the ideal V-muscular male body (Leit et al., 2001; Peters & Phelps, 2001), and body dissatisfaction (Mangweth-Matzek et al., 2001). Only limited number of the studies tried to specifically address the motivators of bodybuilding activities (e.g., Parish, Baghurst, & Turner, 2010). Considering this gap in the literature, in the current study, it was aimed to provide a deeper understanding of the experiences of male participants engaging in regular bodybuilding activities (i.e., the pursuit of muscularity). Before going on the current study, the existing literature which is related to our questions was reviewed in the following part.

3. 1. 2. The Motivators of Bodybuilding

3. 1. 2. 1. Enhancing Self-Worth

Self-worth has a close association with bodybuilding activities (Parish et al., 2010). Especially, poor self-worth has been considered as one of the major factors leading

men to engage in bodybuilding activities (Grogan & Richards, 2002; Hale & Smith, 2012; Klein, 2007; Smith, Hale, Rhea, Olrich, & Collier, 2009). In this regard, Klein (2007) stated that bodybuilders are generally insecure persons who have doubts about their self-worth; so, they use their body as both a castle to hide their doubts and an indicator of accomplishment. Fussell (1991), one of the ex-competitive bodybuilders, supported Klein's statement (2007) by emphasizing the critical role of poor self-worth to take up bodybuilding activities. Accordingly, Fussell took up bodybuilding activities to compensate for his weakness, inferiorities, and helplessness because he had been subjected to teasing and bullying in early ages, and he had experienced self-disgust. Hence, overcoming these negative feelings related to his self-worth was one of the main motivators of him to take up bodybuilding activities. His experience was consistent with the findings of a qualitative study conducted by Parish et al. (2010). In the study in which they investigated the motivators of bodybuilding based on profile statements of competitive bodybuilders in a bodybuilding website, it was indicated that enhancing self-worth is one of the primary goals of bodybuilders. Also, Smith et al. (2009) demonstrated that decreasing negative feelings associated with low self-worth was one of the major goals of the bodybuilders.

However, the aim of compensating for poor self-worth may result in a vicious cycle; poor self-worth leads individuals to engage in bodybuilding activities, and lack of appreciating physical improvement resulting from the fact that there is always a more muscular person leads to further deprivations in self-worth (Parish et al., 2010). Even though some studies supported this vicious cycle of poor self-worth by indicating that bodybuilders have poor self-esteem (Blouin & Goldfield, 1995; Wolke & Sapouna, 2008), some others contradicted with it by revealing that bodybuilders have higher self-esteem than control groups (Davis & Scott-Robertson, 2000; Pickett, Lewis, Cash, & Pope, 2005). As Davis and Scott-Robertson (2000) speculated, this inconsistency might be due to the fact that bodybuilding may lead to increase in self-worth in the short term; however, excessive bodybuilding activities may lead to self-worth problems in the long term.

To conclude, although bodybuilding has been considered a coping strategy to enhance self-worth, the question of whether the effects of bodybuilding on self-worth are positive or negative still needs to be clarified.

3. 1. 2. 2. Achieving the Ideal Muscular Body

Since V-shaped muscular male body has been frequently presented in televisions, advertisement, and magazines (Cohane & Pope, 2001; Tiggemann, 2011), it is perceived as an ideal male body shape and an indicator of positive personality characteristics such as attractiveness, happiness and success by society (Grogan, 2008; McCabe & Ricciardelli, 2005). Hence, males generally evaluate their own body shapes in the context of how much their bodies are close to the ideal muscular body, and this evaluation may result in body dis/satisfaction. Thus, the discrepancy between their actual body and the ideal muscular body makes these men vulnerable to internalize the ideal body, to idolize men with the ideal body, to have higher drive for muscularity, and to engage in behaviors to achieve this body shape (Leit et al., 2001; Peters & Phelps, 2001).

Several studies emphasized the importance of the ideal muscular body for men (e.g., Barland & Tangen, 2009; Cohane & Pope, 2001). For instance, Cohane and Pope (2001) revealed that males desire to increase their muscle mass and to have a muscular body. Consistently, in their cross-cultural study, Pope et al. (2000) showed that males evaluated a body about 13 kg more muscular than their actual body as an ideal body. Also, Cho and Lee (2013) reported that males, especially males with high body dissatisfaction, evaluated muscular bodies as more attractive body types. In addition, the study conducted with preschool children in Turkey revealed that even preschool boys desire to have bigger bodies (Kerkez et al., 2013). All of these findings showed that males' desire is to achieve the ideal-muscular body imposed by the sociocultural factors (e.g., mass media, society), and this desire can be interpreted as one of the main motivators for bodybuilding.

In addition to aforementioned studies, very limited number of studies specifically addressed the role of ideal body image as a motivator for bodybuilding (Barland &

Targan, 2009, as cited in Bjornestad, Kandal, & Anderssen, 2014; Parish et al., 2010; Wright, Grogan, & Hunter, 2000) and these studies showed that achieving the ideal-muscular body imposed by the sociocultural factors was one the primary motivators for why males engage in bodybuilding activities.

To conclude, it seems that males have been influenced by societal expectations regarding the ideal muscular body, and thus, they strive to achieve this ideal body through bodybuilding activities.

3. 1. 2. 3. Health Reasons

Health reasons have received very limited attention in the literature as a motivator for bodybuilding, as most of the studies have focused on pathological characteristics of this sports (Bjornestad et al., 2014). However, bodybuilders believe that it promotes a healthy lifestyle (Parish et al., 2010; Probert, Leberman, & Palmer, 2007). Consistent with their belief, the positive effects of bodybuilding on both psychological and physiological health found some limited support (e.g., Probert et al., 2007).

In terms of psychological health, Palmer, Palmer, Michiels, and Thigpen (1995) conducted an experiment to compare the effects of three types of exercise program (i.e., bodybuilding, circuit training, and aerobics) on depressive symptoms. Their results demonstrated that bodybuilding decreased depressive symptoms, whereas the other exercise programs did not lead to a significant change in the symptoms. Similar effects were also observed in social physique anxiety; bodybuilders have been found to experience lower social appearance anxiety than the control groups (Korajlija, Blazev, Blazev, & Blazev, 2017; Pickett et al., 2005). Consistently, Probert et al. (2007) supported previous findings by indicating that bodybuilding activities enhance well-being, sense of self-life control, personal empowerment, health, and balance of bodybuilders. Drawing from these findings, it can be stated that bodybuilding activities lead to improvements in some psychological health-related factors.

With regard to physiological health, although several studies clearly supported the adverse effects of bodybuilding on health (e.g., Busche, 2008; Thorsteinsdottir,

Grande, & Garovic, 2006), limited number of studies revealed its positive influence on health. For instance, Zhang, Zhou, Song, Li, and Yuan (2002, as cited in Parish et al., 2010) demonstrated that participants engaging in bodybuilding activities were more likely to maintain a good health as compared to participants not engaging in bodybuilding activities. In addition, striving to be healthy was found to be a motivator for bodybuilding activities (Parish et al., 2010). Particularly, it was observed that some bodybuilders have begun bodybuilding by thinking that they would be healthier after they had faced with health-threatening situations (e.g., having an operation, being diagnosed with a disease).

In short, even though the vast majority of studies pointed out adverse effects of bodybuilding on health (e.g., Bloin & Goldfield, 1995; Busche, 2008; Sawicki, 2016), bodybuilders believe that this sports activity will improve their overall health (e.g., Probert et al., 2007), and this belief has found some support in the literature (e.g., Palmer et al., 1995; Probert et al., 2007).

3. 1. 2. 4. Emotion Regulation

Emotion regulation is another salient motivation of men engaging in bodybuilding activities; these men use bodybuilding to improve their positive mood (Emini & Bond, 2014; Sawicki, 2016). Particularly, relieving stress, coping with daily worries, improving positive affect, and disposing of aggression seem to be influential motives for bodybuilding activities (Emini & Bond, 2014; Sawicki, 2016). The outpouring of anger in a socially acceptable form is also allowed by bodybuilding (Safar, 2007). In this regard, Parish et al. (2010) supported the critical role of bodybuilding as an emotion regulation strategy. According to their findings, previous sports participation leads subsequent bodybuilding activities, because men tend to use these activities to maintain their pleasure and competitive anger that were present in previous sports participation. Similar motives associated with emotion regulation were also observed in a study conducted with women bodybuilders (Baghurst, Parish, & Denny, 2014).

To conclude, although the data on this subject is based on only a few studies, it has been consistently demonstrated that regulating the emotions –especially negative ones

in a socially acceptable way- is one of the primary goals in starting bodybuilding (e.g., Monaghan, 2002; Parish et al., 2010).

3. 1. 2. 5. Other Reasons

In addition to aforementioned categories, two other reasons, namely personal challenge (Emini & Bond, 2014) and sense of belonging to a bodybuilding group (Sawicki, 2016) were considered as motivators for bodybuilding. Since they have not found as much support as previous categories, they were referred to as other reasons in the current study.

As regard to personal challenge, bodybuilders may consider this activity as a challenge to overcome, a source of enjoyment, and an activity to increase and maintain their muscle mass, which in turn lead them to begin and maintain bodybuilding activities (Emini & Bond, 2014).

Belonging to a specific bodybuilding group also seem to be an effective motivation of bodybuilders because group membership provides its members with identity, sense of belonging, and support to overcome daily problems in social life (Sawicki, 2016). Thus, the desire to benefit from these advantages associated with being belonged to a specific bodybuilding group might play a critical role in starting and maintaining bodybuilding activities.

3. 1. 3. The Purpose of the Current Study

The main purpose of this study was to provide a deeper and a more holistic understanding of motivations for beginning and maintaining bodybuilding activities. In the literature, a great majority of studies on bodybuilding focused on the associated psychopathological conditions (e.g., muscle dysmorphia, bodybuilding dependence) and health-risk behaviors (e.g., steroid abuse, excessive training, and unbalanced diets) rather than these motivations (e.g., Babusa & Tury, 2012; Mosley, 2009; Smith & Hale, 2004). Hence, it was expected that the findings of the present study would shed some light on the motivations and the gains of men engaging in regular bodybuilding activities, which in turn would provide a comprehensive explanation for

why more and more men have preferred this sports in recent years despite its negative consequences. Besides, it was expected that these findings would accumulate our knowledge about the processes leading to muscle dysmorphia, which in turn would contribute to the development of prevention and treatment programs that would be designed for this disorder.

To the best of our knowledge, only two studies were conducted in the literature to specifically address motivators for bodybuilding (Emini & Bond, 2014; Parish et al., 2010). However, these studies had some shortcomings which might have limited their findings. To state more precisely, Emini and Bond (2014) used a quantitate research method rather than a qualitative method, and Paris et al. (2010) reviewed the profile statements of bodybuilders in a bodybuilding website rather than doing interviews with the participants. Thus, their limitations might have hampered to provide a deeper understanding of motivations for bodybuilding. Therefore, it was expected that the current study would (a) expand the findings of these previous studies, (b) provide preliminary evidence for the motivations of Turkish bodybuilders, thus and so, it would provide us with an opportunity to make cross-cultural comparisons in terms of these motivations.

3. 2. Methodology

3. 2. 1. The Reasons of Choosing Qualitative Analysis for the Current Study

Despite its adverse effects on both psychological and physiological health, the popularity of bodybuilding activities has been increasing dramatically among males in the recent years (Mosley, 2009; Stokvis, 2006), which in turn arises many questions. Why are so many men interested in bodybuilding activities? Who is more vulnerable to its adverse effects? What are the negative and positive outcomes of bodybuilding? What is the meaning of bodybuilding activities for the men doing this sport? However, answering these questions with a quantitative study is quite difficult for at least three reasons.

First, since bodybuilding is a specific experience, conducting a quantitative analysis would probably limit the scope of our participants' experiences. Given that qualitative analyses have advantages on providing a deeper and richer understanding of a specific experience (Howitt, 2010), a qualitative analysis was decided as a more appropriate methodology for the current study.

Second, qualitative studies focus on discovering original theories and concepts rather than hypothesis testing (Denzin & Lincoln, 2000; Howitt, 2010). Consistently, in the current study, there was not any hypothesis to test, rather it was aimed to advance the understanding of bodybuilding experience by providing answers to the questions presented above.

Third, since bodybuilding literature has been dominated by studies investigating its popularity (e.g., Mosley, 2009; Stokvis, 2006) and adverse effects on health (e.g., Babusa & Tury, 2012; Mosley, 2009; Smith & Hale, 2004), measurement tools suitable for investigating motivations for bodybuilding activities have not been developed yet. Therefore, the need to conduct a qualitative study to achieve the purposes of the current study emerged.

To conclude, when the aim of the current study (i.e., providing a deeper and richer understanding of bodybuilding experience) and mentioned reasons were taken into consideration together, a qualitative analysis was thought to be more appropriate one for this study.

3. 2. 2. The Reason of Choosing Interpretative Phenomenological Analysis

Interpretative Phenomenological Analysis (IPA) is a qualitative methodology that concerns with a detailed examination of personal experiences. More specifically, IPA focuses on individuals' relatedness and involvement in a particular experience or situation (Smith, Flowers & Larkin, 2009; Starks & Trinidad, 2007). Since bodybuilding is such a particular experience, IPA appears to be the appropriate analysis to capture the bodybuilding experience through interviewing with men engaging in regular bodybuilding activities.

The three characteristics of IPA (i.e., idiographic, inductive, and interrogative) have also played a critical role in the use of it in the current study (Smith, 2004). First, IPA is idiographic, starting with a detailed analysis of the first case until the analysis achieves some degree of gestalt, then continuing with the detailed analysis of second and following cases. When these analyses achieved, emerged themes are interrogated across cases depend on their convergence and divergence. In this way, IPA enables researchers to get closer to the experiences of a particular population based on detailed examination of the small sample (Smith, 2004). In this context, we expected that IPA would help us to advance our understanding of universal bodybuilding experience based on a detailed analysis of our cases engaging regular bodybuilding activities.

Second, IPA is inductive. Since IPA is interested in providing more compressive explanations for a particular situation or experience rather than testing a hypothesis, it allows flexibility during analyses; thus, unexpected topics or themes may emerge as a result of analyses (Smith, 2004). In the current study, there was not any hypothesis, instead, it was aimed to shed light on broader questions (e.g., why are so many men interested in bodybuilding activities?). Therefore, IPA seemed to be a suitable analysis to achieve the intended purpose.

Third, IPA is interrogative; although it differs from mainstream psychology in terms of its assumptions and practices, it does not just present its own detailed results but also discusses these results in the light of existing literature. In this way, IPA expands the literature by interrogating or enlightening the present concepts and theories (Smith, 2004). When it was thought that the literature associated with motivations for bodybuilding is very limited, this nature of IPA was expected to enrich our understanding of bodybuilding experience.

IPA also emphasizes hermeneutic tradition which means that not only participants' sense of their personal and social world but also researchers' sense about participants' personal sense are key elements of IPA (Smith, 2004). Thus, it was thought that semi-structured interviews and analyses process conducted in the current study had this hermeneutic nature.

In addition to the characteristics and hermeneutic tradition of IPA, Smith (1996) stated that exploring the underlying mechanism of the possible gap between the actual body and the way it is perceived is an excellent research topic for IPA. Given that body shape was the main concern of bodybuilders, IPA was considered as an appropriate analysis for this study.

To conclude, when the aim of this study, i.e., gaining a deeper understanding of bodybuilding experience, and the aforementioned reasons were considered together, IPA was decided as the best qualitative research methodology for the current study.

3. 2. 3. Participants and Sampling Method

Considering IPA Guideline suggested by Smith and Osborn (2003), a purposive sampling method was used to reach our participants, because homogeneous samples were stated as critical for IPA to address specific experiences in a particular situation (see also Smith, Flowers, & Larkin, 2009). Hence, being male, being between the ages of 20 and 30, and engaging in regular bodybuilding activities (at least twice a week) for at least two years were determined as inclusion criteria for the study. Since IPA requires detailed analysis of the cases and examinations of themes and topics across the cases, the small sample size was preferred in the current study, which is also coherent with the suggestions of Smith and Osborn (2003). In this sense, six men who met the inclusion criteria participated in the study, and they were referred as Ali, Burak, Cem, Deniz, Ege, and Fatih. Table 18 presents the descriptive characteristics of the participants.

Table 18

Descriptive Characteristics of the Sample

Anonymized name	Age	Perceived Income level	Height (cm)	Weight (kg)	Duration of bodybuilding activities (months)	Frequency of workouts (in a week)	Supplement use
Ali	23	Middle	171	77	36	7	Protein powder
Burak	21	Middle	196	122	36–42	6–7	Protein powder, aminoacid (BCAA), mass gainer, glutamine
Cem	23	Middle	176	80	24	5–6	–
Deniz	22	High	183	90	48	5	Protein powder, creatine
Ege	23	High	185	82	48	3	Aminoacid (BCAA),
Fatih	24	Middle	180	72	48	2–5	Protein powder, creatine

3. 2. 4. Procedure

After Institutional Review Board (IRB) approval was obtained from Human Research Ethics Committee in Middle East Technical University, semi-structured interviews were conducted with the voluntary participants. At the beginning of each interview, the participants were informed about the study, and they signed the informed consent form (see Appendix M). After that, five general research questions (see Appendix N) were asked them in the interview and they were encouraged to express their

experiences associated with bodybuilding. During interviews, the researcher tried to avoid interference and leading comments/questions; on the contrary, he tried to encourage participants to express their feelings and thoughts freely. All the interviews were conducted in a private and silent meeting room on the campus, and they lasted between 37 and 52 minutes. After getting the participants' consents, voice records were taken during each interview.

3. 2. 5. Data Analysis

IPA enables the researchers to capture/learn the psychological world of the participants based on their talks; however, the psychological world is not transparently available in the talks. Hence, engaging intensely with the transcripts and making an effort to interpret the underlying meaning of the talks are essential to achieving it (Smith & Osborn, 2003). Taking this reasoning and the idiographic nature of IPA into consideration, the present researcher started the analysis with the detailed examination of the first case. He transcribed the first interview, read it several times to be familiar to it, made annotations on the left margin about expressions of the participant, noted the recurrent themes, and generated the superordinate and the subordinate themes for the first case. Then, the researcher carried out exactly the same analysis process for the second case and the other cases. After that, he conducted cross-case analysis, checked all preliminary superordinate and subordinate themes in each interview, and constructed the superordinate and subordinate themes. After this whole analysis process, the researcher reviewed these themes and transcripts with his two colleagues who were experienced in conducting IPA, and they together determined the final versions of the themes. As a result, three superordinate themes, namely "*The desire to compensate for the inferiority feelings*", "*Bodybuilding process: Muscle-contingent self-worth*", and "*Battle of feelings*" were generated.

3. 2. 6. Trustworthiness of Study

Since IPA has a hermeneutic tradition, the assumptions, past experiences, biases, and beliefs of the researcher may lead to erroneous findings; hence, trustworthiness is required for a high-quality work (Lincoln & Guba, 1985; Morrow, 2005; Rodham,

Fox, & Doran, 2015), and presenting subjectivity and reflexivity of the researcher is a standard for the trustworthiness of a qualitative study (Morrow, 2005).

Although the subjectivity of researcher affects all stages of qualitative studies, it is not something to be avoided; on the contrary, it may enrich the quality of the study when it is bracketed, which means that the assumptions, past experiences, biases, and beliefs of the researcher should be identified and put away (but does not mean abandoning them) for a while to be open-minded for what participants tell (Morrow, 2005; Starks & Trinidad, 2007). Thus, making this subjectivity overt to everybody enriches the quality of the study (Morrow, 2005; Starks & Trinidad, 2007). In this regard, to be able to capture all motivations of the participants playing role in beginning and maintaining bodybuilding activities, the current researcher bracketed his assumption that body dissatisfaction leads men to engage in bodybuilding activities.

Self-reflection (i.e., reflexivity of the researcher) – specifying the experience and background of the researcher that might influence the results of that study – also contributes to the trustworthiness of a qualitative study (Morrow, 2005; Patton, 2002). In this sense, presenting the descriptive characteristics and perspective of the present researcher about bodybuilding would be beneficial for the trustworthiness of the current study. The present researcher was 29 years old and he was pursuing Ph.D. in Clinical Psychology at the time of the data collection process. The current study was his second qualitative study. Since his gender is same as the participants and his age and education level were similar with the participants, and he had also engaged in bodybuilding activities for almost a year in the past, he may be accepted having a partial insider perspective; which in turn might have led the researcher to get closer to the psychological world of the participants. In other words, his similarities with the participants helped him to rapport easily with participants during the interviews. Also, his clinical skills helped him to detail the participants' responses or experiences; however, sometimes he felt that if he asked too many questions and prevented free associations of participants. He recorded this doubts in reflexive diary and took them into consideration when interpreting the results of the study.

His personal bodybuilding experience played a critical role in his current research interest. To state more precisely, when he was engaging in bodybuilding activities, he was paying a considerable attention to stick his workout and diet schedules. He was also examining the protein ratio of any product before buying. Even, he used protein powder for a short period of time to increase his muscle mass. Starting from these personal experiences, he asked himself that “What was the meaning of bodybuilding for me?”, “Why so many men are interested in this sports activity?”, which in turn led him to conduct this current study.

Consulting a research team is also considered as a strategy of reflexivity and it is encouraged for the credibility of the study (Morrow, 2005). In this regard, the present researcher arranged a meeting with his two colleagues, who were experienced in conducting IPA, to discuss his preliminary themes, doubts, and worries. With the help of their comments, final versions of the superordinate and subordinate themes were generated.

3. 3. Results

Three superordinate themes emerged according to the results of Interpretative Phenomenological Analysis; the first one was “*The desire to compensate for the inferiority feelings*”, the second one was “*Bodybuilding process: Muscle-contingent self-worth*”, and the final one was “*Battle of the feelings*”. Table 19 presents these superordinate and their subordinate themes.

Table 19

The Superordinate and Subordinate Themes Emerged in Bodybuilding Experience

1. The desire to compensate for the inferiority feelings
 1. 1. Invisible face of a medallion: Overcompensation of the inferiority feelings by achieving a big-muscular body
 1. 2. Visible face of a medallion: Overcompensation of the inferiority feelings by impressing others with a big-muscular body
 2. Bodybuilding process: Muscle-contingent self-worth
 3. Battle of the feelings
 3. 1. Positive emotions (i.e., gratification, success, and happiness)
 3. 2. Negative emotions (i.e., guilt, sadness, and fear of confronting their own inferiorities)
-

3. 3. 1. The desire to compensate for inferiority feelings

The first theme emerged in the present study was “the desire to compensate for the inferiority feelings”. This theme points out that our participants had underlying inferiority feelings; so, they were motivated to overcome these inadequacies by enhancing their muscle mass and having a bigger body because they had considered a muscular body as an indicator of their competence and strength. In this sense, they have used their body to prove their adequacies to both themselves and the others.

In terms of invisible face of a medallion: overcompensation for the inferiority feelings by achieving a big-muscular body, they tried to hide their psychological inadequacies behind a physical strength (i.e., a big muscular body), which led them to engage in bodybuilding activities. Ege, a 23-year-old man, who has been engaging in bodybuilding activities for four years, emphasized that since he had felt inferior during

high school period due to his friends' criticism and teasing, he had begun to perform bodybuilding to compensate for this feeling with a muscular body. The below extract from him clearly shows his motivation associated with his inferiority feelings.

At the beginning of my high school years, and elementary school as well, I had gone private schools. In private schools, peer pressure can be a little more for a “nerd” child. This is something we know more or less from stories and movies. You know, the pressure (teasing) of rich students... Feelings of inferiority... So, I had an immature self-confidence at those times. It can be said I had begun bodybuilding to compensate for the lack of self-confidence, and I had compensated this lack with help of bodybuilding for two years long.

Lise hayatımın başlarında, ortaokulda falan ben özel okulda okumuşluğum var. Özel okulda biraz daha “nerd” bir çocuk için çevredeki insanların baskısı biraz daha fazla olabiliyor. Az çok hikâyelerden, filmlerden biliyoruz zaten. Zengin çocuklarının baskısı oluyor falan. Biraz ezilmeler oluyor. Ondan dolayı işte, bir özgüvenin gelişmemişliği vardı bende zamanında. Bunu kapatmak için başladım diyebiliriz aslında. Ve iki sene boyunca bunu bu şekilde kapattım.

The other participants did not emphasize their inferiority feelings as frankly as Ege did, which may be due to that it is difficult to accept and confess them. However, there was some evidence that bodybuilding could be interpreted as an overcompensation mechanism. “In fact, I do not really like being weak” (“Zayıf olmayı pek sevmiyorum aslında”). This sentence belongs to a 21-year-old man, Burak. Although he had huge muscle mass and a V-shaped muscular body, he had been sticking to intensive training and diet schedule to achieve further increase in his muscle mass. He was even thinking of using steroids because, according to him, having a big-muscular body was a way to show his physical and psychological strength. The below extract is from him.

Muscle mass increases necessarily your self-confidence so there would not be anything for you to be shy about (or to refrain from).

Kendine bir özgüvenin oluyor ister istemez (Kaslı olduğunda). Çekinecek bir şeyin olmuyor.

Although the above extract did not point out his inferiority feelings directly, it can be interpreted as that having large muscle mass functions like a mask for Burak, which hides his feelings of inadequacy. Consistently, Fatih, a 24-year old man, did not clearly

verbalize his feeling of inadequacy, rather he emphasized that he had started to develop his body to not be a weak man. The below extract is from him.

You know, those masculine stereotypes which stand out at the first look... Well-built, strong. See, that's one wishes to keep up with. I mean, weak man is not so desirable.

İlk bakışta göze çarpan o erkeksi kalıplar vardır ya hani. Kaslı, güçlü. İşte o şeye uydurmayı istiyor insan kendini. Zayıf erkek pek arzu edilmez yani.

The desire to receive the attention of others with a muscular body was one the main motivations for our participants to begin and maintain bodybuilding activities (i.e. visible face of medallion), and this desire was considered as an indication of their overcompensation strategy for their inferiority feelings, in the current study. Because it was observed that our participants have needed to take positive messages from others about their muscles to evaluate themselves as competent, successful, and attractive. Thus, they would be able to prove their competence both to themselves and others. When this need of them was considered together with the fact that society perceives a muscular body as an indicator of attractiveness, happiness, and success (Grogan, 2008; McCabe & Ricciardelli, 2005), the reason why they preferred bodybuilding rather than other sports activities became more understandable. In this regard, Ege emphasized the critical role of achieving a socially desirable male body in compensating for his inferiority feelings as follows.

I don't know, while chatting with my friends for example about sports or something else, we have come to the conversations, you know for fun they refer to the tone of my muscles by asking whether I come to the department immediately after my weight training. I have a memory that I have never forgotten. It was about 6-7 years ago, I remember my aunt in law was talking about my body and she said that my arms were thin in proportion to my body. I would say that we had one or two such small talks about this. It must have influenced me a lot so I might have started bodybuilding. When I go back home you know or when I attend family meetings, since no one has seen me for a long time as I have been living far from my family home, they say to me like wow Ege you must have working, you look enormous. These reactions make me feel pleasant. It is not that I need to hear these kinds of reactions but it feels good.

Ne bileyim mesela ben bölüme gittiğim zaman, arkadaşlar ile muhabbet ederken, spor konusu açılışın açılmasın, dalga olarak şey oluyor, oo yine basıp mı geldiniz falan bir şeyler, bu tarz muhabbetler dönüyor zaten. Bir de benim hiç unutmadığım şey vardır bir tane. Yengemin mesela 6-7 sene önce, ben spora başlamamıştım o zamanlar,

vücudumla ilgili şey dediğini hatırlıyorum, mesela vücuduma göre kollarımın ince kaldığından bahsettiğini hatırlıyorum. Böyle onun bir iki muhabbeti dönmüştü sanırım, o artık kafama nasıl işlediyse, onun gazıyla da başlamış olabilirim. Artık eve gittiğim zaman falan şey oluyor işte. Ya da aile toplantılarına gittiğim zaman, beni uzun zamandır kimse görmüyor işte şehir dışında okuduğum için oo Ege çalışıyorsun herhalde, kocaman olmuşsun falan muhabbetleri oluyor böyle. Onlar güzel oluyor, çok ihtiyacım yok tabi onları duymaya ama güzel oluyor.

As present in Ege's experience, achieving the socially desirable male body and being admired by others played a critical role also in Fatih's motivation for bodybuilding activities. The below extract from Fatih details this motivation.

When the summer comes, you know you wear a t-shirt or something and you walk around. People, friends tell me like your body is well-built. So I feel like I have somewhat reached my goal. And I say to myself that I am doing something good. Of course, the girls around us also want us to have such a body. They think that men should not be weak. I also agree with them. I also think that a woman should be with a man with whom she can feel secure. So, I do sports.

Ya tabi böyle yaz ayları gelince insan t-shirt falan giyince, ortalıkta da dolaşınca insan ister istemez, arkadaşları tarafından baya vücudun şekle girmiş falan diyorlar. İnsan da istediği amacına biraz ulaşmış gibi hissediyor. Diyorsunuz ki, demek ki iyi bir şey yapıyorum. Tabi çevremizdeki kız arkadaşlar da böyle şey istiyorlar. Böyle zayıf erkek mi olur. Ben de haklılar aslında diyorum. Kadının güven hissedebileceği bir erkeğin yanında olması gerekir falan diye de düşünüyorum. Tabi böyle olunca da spor yapıyorum.

Deniz, a 22-year-old man, stated his reason for starting to bodybuilding was to impress girls because he had an assumption that doing this sports is essential to achieve it. In other words, he should develop his muscles to attract girls. The below extract is from him.

During those times (high school period) there were some conversations among the children like girls are more impressed by the men who do sports. For sure, it was my goal at the beginning.

O zamanlar (lise dönemlerinde) çocuklar arasında konuşuluyordu spor yapan insanlara daha çok kızlar bakar tarzında. İlk başlarda amacım bunlardı tabi.

Consistently, a 23-year-old man, Ali stated that he has begun to engage in bodybuilding activities as he had considered having a muscular body as a way of attracting his girlfriend. The below extract is from him.

I have begun bodybuilding again because I found a girlfriend. For her, you know to be able to look attractive to her. I have been training for her ever since.

Sonra tekrar başladım. Orada da şey, kız arkadaş bulduğum için, onun için, güzel gözükmek için ilerledim. Ondan beri onun için çalışıyorum.

Lastly, Cem, a 23-year-old man, expressed his motivation associated with meeting expectations of society about the ideal male body. The below extract is from him.

After I take people's attention, I have come to the conclusion that I have a beautiful body...That's my main... Yeah my purpose is to be admired by others....this purpose (bodybuilding) will continue as long as I take positive reactions from other people.

İnsanların dikkatini çektikten sonra, insanlar seni beğendikten sonra tabi güzel bir vücudun olduğu kanısına varıyorsun. Temel herhalde odur...Amacım beğenilmektir ya...İnsanlar tarafından pozitif şeyler duymaya devam ettiğim sürece olacak (vücut geliştirme) herhalde.

3. 3. 2. Bodybuilding process: Muscle-contingent self-worth

The second superordinate theme was “bodybuilding process: muscle-contingent self-worth”, which indicated that the self-worth of our participants was highly dependent on their muscle mass. To state more precisely, when they reached their targets in terms of muscle mass, and their bodies attracted the attention of others, their self-worth increased. In this sense, Burak considered muscle mass as an essential element for his self-worth. The below extracts are from him.

Muscle mass necessarily increases your self-confidence so there would not be anything for you to be shy about.

Kendine bir özgüvenin oluyor ister istemez (Kaslı olduğunda). Çekinecek bir şeyin olmuyor.

How can I explain the self-confidence... For instance, imagine a fat man, okay? When he goes in somewhere, he will most probably feel shy. Of course, it depends on the attitudes of people around. Some people may watch this guy with a big grin. It is a wrong attitude. However, when you go somewhere, how can I say, you do not feel bad when you take off your jacket, you feel pretty good...

Özgüven nasıl oluyor mesela kilolu bir insanı düşünün, tamam mı? Bir yere girdiği zaman ister istemez bir çekingenlik olur. İnsanların bakış açısı ile değişiyor tabi bu. Bazıları dalga geçer gibi de bakabiliyor. Yanlış bir şey. Ama bir yere girdiğin zaman, nasıl diyeyim ceketini falan çıkardığında kendini kötü hissetmiyorsun, iyi hissediyorsun...

Consistent with Burak, Fatih was thinking that the development of his muscle mass enhances his self-worth. The below extract is from him.

When I observe a change (an increase in muscle mass) in my body, how do they say, an unfounded self-confidence emerges.

Tabi insan vücudunda bir değişme (kas oranında artış) görünce bir gereksiz özgüven mi derler öyle bir şey geliyor.

Ege, who has begun bodybuilding to fulfill a deficiency in his self-confidence, laid emphasis on the positive influences of having a muscular body on his self-worth. He was thinking that bodybuilding makes him feel like an “invincible” person. The below extract from him details the importance of muscle mass for him.

It makes me feel like invincible and stronger person especially in social settings. Actually not only in social settings but also in other conditions such as while I am walking around, talking with other people, or getting in contact with them. I feel strong both physically and mentally.

Çoğunlukla sosyal ortam oluyor tabi ama sadece sosyal ortam olmasa da dışarıda ne bileyim yürürken falan ya da başka bir şeyler yaparken daha, insanlarla konuşurken, insanlar ile temas halindeyken daha böyle yenilmez gibi, daha güçlü hissettiriyor. Sadece fiziksel olarak değil, kafa olarak da güçlü hissediyorum.

Cem also supported the positive impact of bodybuilding on self-worth by stating that being admired by others increases his self-worth. To state more precisely, bodybuilding allows him to achieve a muscular body that attracts the attention of

people, which in turn leads to an increase in his self-worth. The below extracts are from him.

Having a muscular body makes me feel good. It makes me happy. It makes me feel strong. It increases my self-confidence. It is a different feeling, I mean being admired by others... Its positive impacts are seen in the other areas of my life, such as my education life and daily life. For example, it makes talking to and meeting with a girl easier for me.

(Kaslı vücuda sahip olma) Güzel hissettiriyor. Mutlu hissettiriyor. Güçlü hissettiriyor. Özgüvenimi yerine getiriyor. Yani o farklı bir his oluyor. İnsanlar tarafından beğenilmek. Bu yaptığın işlere de yansıyor genel olarak ders olsun, yaşam olsun. Mesela bir kızla görüşmek, konuşmak olsun. Bunları kolaylaştırıyor.

Deniz was thinking that positive reactions about his muscular body, especially coming from the girls, improve his social status so that he becomes more self-confident in those conditions. The below extract from him illustrates the critical role of others' reactions in his self-worth.

When we hang out with girls, don't get me wrong, you know, I have a higher social status. When I hear like "wow he goes to the gym", "he is muscular", "I like it" ..., I feel that my social status is improving since these reactions fill me with pride. Indeed, this improves the social status explicitly.

Kız ortamlarında, yanlış anlaşılmasın, kız arkadaşlar ile takıldığımız zaman, mesela sosyal statü baya bir yüksek oluyor. Oo spor yapıyor. Hani şey, kaslı. Severim gibisinden şeyler olduğu zaman insana gurur verdiği için sosyal statüde beni yükselttiğini düşünüyorum. Hakikaten de yükseltiyor bariz bir şekilde.

On the other side, any decline in their muscles or the worry about losing them or the others' comments indicating that their bodies are not well-developed or seeing a more muscular person than themselves led to detrimental effects on self-worth of our participants. In this sense, Fatih emphasized that when he could not run his workout schedule or could not follow a high-protein diet that are essential to develop the muscles, he felt himself like a trash, which was interpreted as an indicator of his muscle contingent self-worth. The below extract is from him.

For instance, when I eat junk food or you know Burger King, I feel myself like a trash. But if I eat a lahmacun, I feel better because I think like it has mince on it, I mean it

has protein. I know how it is prepared, I feel better if I can it. For example, I feel disgusted when I drink coke, I mean it is unhealthy. In that case, I am not any different than trash.

İnsan mesela abur cubur yiyince, ben kendimi, ben girip Burger King'den bir şey yesem kendimi çöplük gibi hissediyorum ama gidip bir lahmacun yesen, üzerinde kıyma (yani protein var) falan var diyorsunuz, daha nereden geldiği belli diyorsunuz, onu yiyince daha iyi hissediyorsunuz. Mesela kola içince iğrenç hissediyorsunuz kendinizi, sağlıksız bir şey ya hani, kutudan başka bir farkınız kalmıyor.

Fatih also detailed the trash metaphor as follows.

Feeling like a trash refers to an insufficient man who does not bring any benefit to neither himself nor others. More nervous, like unhealthy, someone who has an irregular lifestyle... Yeah, that's what I meant by trash.

Çöplük gibi hissetmenin karşılığı, böyle faydasız bir adam oluyorsun, hem kendinize hem de çevrenize. Daha sinirli, daha düzensiz, daha şey, sağlıksız, çöplükten kastım bu yani.

Also, it was found that a decrease in muscle mass and/or an increase in fat mass diminish the self-worth of our participants. When Ege was asked to express how he feels when he looks at his body in the mirror, he exemplified the negative effect of his fat mass on his self-worth with the following sentences.

You know what, my feelings change depending on my reflection in the mirror. Sometimes the mirror shows a shitty reflection so I feel bad. I mean, when I quitted bodybuilding activities for a while, this would result in belly fat, so I would feel like that.

Valla nasıl gösteriyorsa öyle hissediyorum. Bazen boktan gösteriyor kötü hissediyorum. Bir süre bırakmışımdır (vücut geliştirmeyi), göbek salmışımdır, orada oluyor.

Also, being the most muscular man in a particular situation or environment plays a critical role in the self-worth of Cem. In the case of he saw a more muscular man than himself, his self-worth weakened because he thought that he would not attract the attention of others or he would not be admired by others. He expressed this process as follows.

When I realize that a person has a better body than mine, it feels dissapointing. I mean, I do not attract the attention of others anymore, but he does. Or he is more admired than me. In that case, I mean I become of secondary importance.

Bakıyorsun daha iyi, bakıyorsun kendin daha kötüsün, moralin bozuluyor. Mesela sen dikkat çekmiyorsun, o dikkat çekiyor. Ya da o daha çok beğeniliyor, bu sefer sen ikinci plana düşüyorsun falan.

3. 3. 3. Battle of the feelings

The last theme was “battle of the feelings”, which refers to that both positive and negative emotions may emerge in the bodybuilding process due to fluctuations in muscle-contingent self-worth. The feelings of gratification, success, and happiness were the most common positive feelings experienced by our participants. When they observed any improvements in their muscle mass or they got positive reactions about how much their bodies were attractive, these feelings emerged. In this regard, Ali expressed the relation between his muscular body and his feelings with the following sentences.

You know it feels good. I feel satisfied. I mean when I look at myself... I have worked out and now I see the brass ring. I get my reward. When people give reactions like “wow you swole up”, it feels nice. I mean, it is like getting a good grade. You work hard and you get its reward in the end.

Ya iyi hissediyorsun ya. Tatmin oluyorsun. Kendine bakınca. Emek harcadım ve görüyorum yani. Bunun karşılığını görüyorum. İnsanlar falan tepki verince. Aa kaslandın falan deyince daha da hoşuna gidiyor. Yani iyi bir not almak gibi bir şey yani. Çalışıyorsun, bunu karşılığını alıyorsun sonunda.

Burak also reported similar positive feelings with Ali. According to him, achieving development in his muscle mass is a great source of these positive feelings, and nothing other than bodybuilding can make him feel these feelings. The extract below is from him.

This happiness is peerless. That’s what I think... It is something completely unique. How can I define it, I cannot explain it with something else. It may change from person to person. It gives a nice pleasure. It is an undefinable experience.

Ya mutluluğun (Kas gelişimini gördüğünde ortaya çıkan mutluluk) eşi benzeri yok. Bana göre. Apayrı bir şey. Nasıl diyeyim böyle başka bir şeyle verebileceğim bir şey değil. Belki kişiden kişiye göre değişebilir. Güzel bir haz veriyor. Anlatılmaz yaşanır.

Ege also defined that engaging in bodybuilding activities and improving the muscles arouses the feelings of success and happiness in him. Although he did not specifically point out the association between the feeling of gratification and bodybuilding, it was understood from his following sentences that he also experiences similar gratification as the other participants do.

You know how it feels happy when you accomplish something. Yeah it is like that... You earn the thing that you work for. Let's say the happiness is coming from there...

İnsan bir şeyi başardığı zaman mutlu olur ya, onun gibi yani. Uğraştığın bir şeyi, çaba sarf ettiğin bir şeyi daha sonra elde ediyorsun. Onun getirdiği mutluluk diyelim.

Fatih considered bodybuilding as the only source of happiness for him and detailed the critical role of this sports in his feelings as follows.

The only thing that makes me happy is doing sports. I suppose that it is only thing increasing my serotonin. How can I increase it with something else?

Yani beni mutlu eden tek şey spor yapmak. Sonuçta serotonin hormonunu bir tek oradan alıyorum herhalde. Başka bir yerden nasıl alayım.

Cem's positive feelings associated with bodybuilding were others-oriented. To state more precisely, when people admired his body, he experienced feelings of happiness and gratification. He expressed this process as follows.

It feels good. It feels really good. Being admired by others feels good. It gives me more self-confidence. I trust myself more. At the times I do not like myself, when someone says something nice to me, it's positive effect automatically reflects in my whole life. So, I can focus better on studying. I become happy and peaceful.

İyi hissettiriyor. Çok iyi hissettiriyor. Beğenilmek hoşuma gidiyor. Daha böyle özgüvenin yerine geliyor, daha kendine güvenmeye başlıyorsun. Kendini beğenmediğin zamanlar, biri sana güzel bir şey söylediği zaman otomatik olarak o bütün hayatına yansıyor. Ders çalışacaksan daha iyi konsantre olabiliyorsun. Mutlu oluyorsun. Huzurlu oluyorsun.

Similarly, attracting the attention of others with his muscular body aroused the feelings of gratification, success, and happiness in Deniz. The extract below is from him.

Since bodybuilding is actually an attention-grabbing sport for everyone, people ask questions to me like how can I do this? How can I do that? Can you help me a little? Can you do it for me? What did you eat in the morning, what did you eat in the evening? These questions make you feel like you know, it is elating. Since I obtain the reward of my efforts, I become proud of myself. Or since the questions asked in a circle of my friends about bodybuilding make me feel like an expert, it arouses positive emotions in me.

Bu spor eğriye eğri doğruya doğru biraz herkesin şimdi üzerinde durduğu bir spor olduğu için. Hani gelip soru soruyorlar. Bu nasıl olur, bu nasıl yapılır. Abi biraz yardım eder misin? Bir şey yapar mısın? Sabah ne yedin, akşam ne yedin? Bunlar tabi insanı şey yapıyor, gururlandırıcı şeyler. Yaptığım şeyin emeğini gördüğüm için hocam, kendinle gurur duyuyorsun. Ya da bir arkadaş ortamında olunca sana sorulan soru, nasıl diyeyim bir işin ustasıymış, ehliymiş gibi davranıldığı için güzel duygular yaratıyor.

On the other side, muscle-contingent self-worth also led our participants to experience negative emotions because this mechanism requires constant enhancement of the muscle mass. In this sense, when our participants faced any obstacles in this process, they experienced guilt, sadness, and fear of confronting their own inferiorities. Not getting further improvement in the muscle mass was one of the condition bringing out those feelings. Burak, who had already a hypermuscular body, was thinking that he need to develop his muscles more, even he had a plan about using steroids to achieve it. In case of not recognizing any improvement in his muscle mass, he experienced the mentioned feelings. He expressed this process as follows.

I become very happy when I notice the improvement. I say to myself that I have been doing the things right. Besides, after a certain weight gain, developing the muscles gets a bit more difficult. At those times, the development of muscles normally slows down. So any development in the muscle mass makes me feel amazing. On the other hand, when I notice muscle loss I feel sad, I become seriously upset. Somebody sees you for example, you know it is a common thing among us. They say, you know “you look smaller”. It drags me into a darkness, I mean psychologically... In that case, I do not want to do anything. I think that although I had made a great effort, I could not achieve any improvement, which in turn leads me to think about quitting bodybuilding. And as I said sometimes dodge. When I notice its negative effects on my body, I definitely become sad. So, I promise myself not to get out of my schedule but it becomes too late to reverse the damage.

İlerlemeyi gördüğünüz an çok mutlu oluyorsunuz. Demek ki bir şeyleri doğru yapıyorum, diyorsun. Bir de belli bir kiloya çıktıktan sonra iş biraz daha zorlaşmaya başlıyor. Bu sefer kas kütlen artmamaya başlıyor. O kilolardayken kas kütlenin arttığını görmek insana inanılmaz bir mutluluk veriyor. Aksi takdirde düştüğünü gördüğün zaman da üzüliyorsun diyeyim. Ciddi anlamda üzüliyorsun. Biri seni görüyor mesela, hep bizde yaygındır. Küçülmüşsün falan derler böyle insanı psikolojik olarak da bir karanlığa sokuyor diyeyim. Hiçbir şey yapmak istemiyorsun. Bırakasın geliyor sporu böyle, of, o kadar uğraşıyorum, ilerleme yok, geriye düşmüşüm falan. Bir de bazen kaçamak yapıyorsun dediğim gibi. Olumsuz yönde etkilediğini görünce bu sefer ister istemez üzüliyorsun, bunu bir daha yapmayacağım diyorsun. Ama iş işten geçmiş oluyor.

As the extract below shows, consistent with Burak's experience, not sticking to bodybuilding schedule also led Ali to experience guilt, sadness, and fear of confronting his own inferiorities.

I feel bad. I ask myself why I do not go to the gym despite my previous-great effort. This bad feeling... I work out a lot, it will go down the drain if I quit it. A lot of time for nothing... I think that I put so much effort so I should not quit.

Kendimi kötü hissediyorum. İşte bu kadar çalıştım niye gitmiyorsun diye falan. Kötü hissetmem (olumsuz anlamda değil durumu anlatıyor), o kadar çalışıyorsun bırakırsam boşuna gidecek yani. Boşuna vakit. O kadar emek verdim. Bırakmayayım gibi düşünceler oluyor.

For Cem, seeing a more muscular man than himself is a source of negative feelings. He was thinking that the presence of this more muscular man influences his self-worth negatively, which results in negative feelings for him. The below extract from him illustrates this process.

When I notice that a man is more muscular and I am not as muscular as him, it lets me down.

Bakıyorsun daha iyi, bakıyorsun kendin daha kötüsün moralin bozuluyor.

The negative feedbacks about his muscular body coming from the other bodybuilders in the gym had a similar effect on Deniz feelings. Deniz expressed his experience as follows.

In the gym, for example, a guy sees me as a competitor, normally we barely know each other but he goes like “hey bro your muscles were deflated, you seem like you lost weight”. It is demoralizing.

Mesela spor salonunda kendini rakip olarak görür, azıcık muhabbetiniz vardır hocam. Sönmüşsün bro, kilo vermişsin, böyle moraliniz düşebilir.

Losing muscle mass is another risk factor for these negative feelings. In this sense, Ege explained how he feels when he notices muscle loss in the reflection of his body in the mirror as follows.

I look in the mirror when I wake up in the morning or while I am brushing my teeth before bedtime. After a certain time, you know, sometimes I say to myself that I build my body very well. It is like, it doesn't count as a plus when you are good, but it is a minus when you are not... It is like a feeling of failure. Let's suppose that a person studies a class and takes good grades from quizzes. But then this person stops studying a little bit and his grades go down. My feeling is similar to that. In bodybuilding, it can be reversed with workouts though

Sabah kalktığımda ya da akşam yatmadan önce dişlerimi fırçalarken falan denk geldikçe bakıyorum. Ama şey oluyor artık bir süreden sonra bazen ooo iyi yapmışım falan oluyor ama bir süreden sonra. Şey gibi iyi olduğunda çok artı olmuyor, ama kötü olduğunda eksi oluyor. Orada da sanırım şey oluyor, başarısızlık hissi gibi sanki. Şey gibi işte, bir derse çalışıyorsun, işte quiz notların iyi gelmiştir, daha sonradan birazcık çalışmayı bırakmışsındır, daha sonra notun düşer böyle oradaki his gibi. Ama daha sonra topladığında düzeltebiliyorsun, sporda.

Not controlling fat, carbohydrate, and protein intake that is essential to develop muscles led Fatih to experience an intense feeling of guilt. As can be understood from his trash metaphor, he had to stick to a high-protein diet not to experience this emotion.

To conclude, the interpretative phenomenological analysis indicated three superordinate themes and their subordinate ones that contribute to the deep understanding of bodybuilding experience. Accordingly, our participants had the motivation to compensate for their inferiority feelings with help of achieving a muscular body and impressing the others. In other words, trying to prove their competence to both themselves and others with help of a muscular body was found as their main motivation. However, since this compensation strategy led to muscularity

contingent self-worth; their self-worth fluctuated based on the changes in their muscle mass and the reactions of other people. In parallel with these fluctuations, they experienced either positive (i.e., gratification, success, and happiness) or negative feelings (i.e., guilt, sadness, and the fear of confronting own inferiorities), which in turn forced them to maintain the bodybuilding activities.

3. 4. Discussion

The main purpose of this study was to understand deeply the meaning of bodybuilding experience for the men engaging in regular bodybuilding activities for at least two years. Detailed examination of their bodybuilding experience through interpretative phenomenological analysis yielded three superordinate themes that summarize the whole story of bodybuilding experience. Accordingly, the desire to compensate inferiority feelings through a muscular body led our participants to start bodybuilding activities (the first theme). Consistent with this desire, bodybuilding, actually improving muscle mass and having a muscular body drew their attention away from their inferiorities, which also resulted in enhanced self-worth during the bodybuilding process. However, this mechanism also undermined their self-worth and led them to get closer to their inferiority feelings when they faced with any negative condition about their muscles since their self-worth was highly dependent on their muscles (the second theme). In parallel with the fluctuations in their self-worth, they experienced either positive or negative emotions. When they noticed any improvement in their muscle mass or they got positive feedback from others about their muscles, their feelings of gratification, success, and happiness emerged. In the case of opposite experiences, in which they get closer to their constant inferiority feelings, their feelings of guilt, sadness, and fear of confronting their own inferiorities emerged (the third theme). Thus, they had to maintain bodybuilding activities and develop more muscles to pursue both their enhanced self-worth and the associated positive feelings; in other words, to avoid from confronting underlying inferiority feelings. Overall, the findings of the current study pointed out a vicious circle of bodybuilding activities; (1) the desire to compensate inferiority feelings through having a muscular body leads

men to engage in bodybuilding activities, (2) this results in muscle-contingent self-worth and positive/negative emotions, (3) since these men get closer to their inferiority feelings in the case of they faced any negative conditions about their muscles, they strive to improve their muscles constantly to compensate these feelings regardless of how muscular they are. Figure 6 illustrates this proposed process schematically.

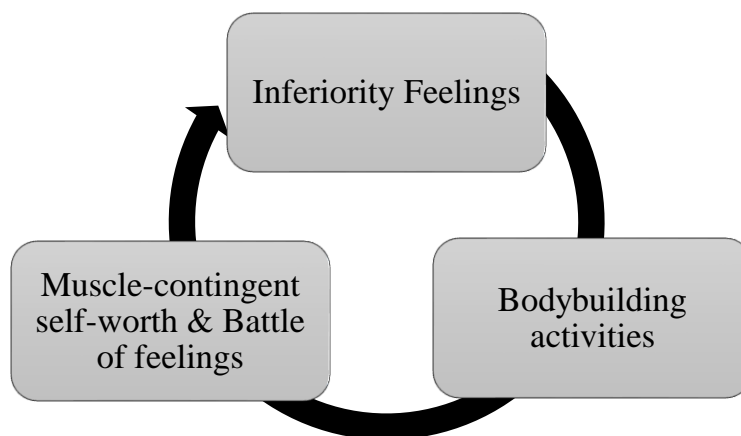


Figure 6. Vicious circle of bodybuilding activities

3. 4. 1. The desire to compensate for the inferiority feelings

An ex-bodybuilder, Fussell, confessed that he took up bodybuilding activities to compensate for his weakness, inferiorities, and helplessness that were caused by teasing and bullying he had been subjected to in his childhood (1991). Consistent with his experience, a desire to compensate for the inferiority feelings through a muscular body was found to be the underlying motivation for bodybuilding in the current study. Since improving muscles and having a muscular body was considered as an indicator of competence and strength by our participants, this led them to begin and maintain bodybuilding activities, which supported both the limited literature indicating poor self-worth as one of the major factors leading men to engage in bodybuilding activities (Grogan & Richards, 2002; Hale & Smith, 2012; Klein, 2007; Smith, Hale, Rhea, Olrich, & Collier, 2009) and Klein's assertion that bodybuilders are generally insecure

persons who have doubts about their self-worth so they use their body as both a castle to hide their doubts and an indicator of accomplishment.

Many theories (i.e., see Adler, 1929; Schultz & Schultz, 2013 for Adler's Individual Theory, see Young, Klosko, & Weishaar, 2003 for Schema Theory, see Beck, Freeman, & Davis, 2004 for Cognitive Theory, and see Deci & Ryan, 2000; Verstuyf, Patrick, Vansteenkiste, & Teixeira, 2012 for Self Determination Theory) pointed out the association between inferiority feelings and body image. Accordingly, when inferiority feelings are not accepted and resolved, people tend to compensate for their inferiorities and defectiveness by achieving extrinsic goals such as physical attractiveness, fame, wealth, and social status. In other words, they use these extrinsic goals to evoke admiration in others and avoid confronting their own vulnerabilities. Thus, our first theme emphasizing bodybuilding as an overcompensation of the inferiority feelings through achieving a muscular body supported this reasoning. Moving from this reasoning, it is thought that our participants have made an effort to compensate for their inferiorities by achieving a muscular body that perceived as an indicator of attractiveness, happiness, and success by society (Grogan, 2008; McCabe & Ricciardelli, 2005).

Striving for a muscular body and others' admiration that was pointed out in the current theme may also be conceptualized in light of the primitive-gender role of men. To state more precisely, a man in hunter and gatherer societies had to be physically strong to hunt, attract the opposite sex, and protect his family (Pawlowski, 2012; Reilly, 2007). Therefore, they needed to have a strong body. Although such a body is not necessary in contemporary societies, our findings revealed that our participants have been still striving for a muscular body and others' admiration, probably to compensate for their inferiority feelings with help of a primitive mechanism of humanity.

3. 4. 2. Bodybuilding process: Muscle-contingent self-worth

This theme revealed that the self-worth of the participants was highly dependent on their muscles. When they have achieved any improvement in their muscle mass or/and received positive reactions about their muscles, their self-worth increased, which was

consistent with the findings of previous studies pointing out the positive influence of bodybuilding on self-worth (Davis & Scott-Robertson, 2000; Pickett et al., 2005). On the other side, any negative condition about their muscles (e.g., a slowdown in muscle improvement or loss of muscle mass, seeing a more muscular man, getting a negative feedback about muscle mass) resulted in a decrease in their self-worth. Thus, to sustain their enhanced self-worth; in other words, to avoid from confronting their poor self-worth, our participants have strived to improve their muscles constantly even they were more muscular than a normal man, which supported a vicious cycle of self-worth indicating that poor self-worth leads bodybuilders to engage in bodybuilding activities, and the lack of appreciating physical improvement leads to further deprivations in self-worth (Parish et al., 2010).

Self Determination Theory (Deci & Ryan, 2000) did also provide an explanation for muscle-contingent self-worth. According to this theory, autonomy, competence, and relatedness are three basic psychological needs to be met for optimal human functioning. If these needs are not met, people become vulnerable to feel inferiority feelings, and in turn, they tend to develop a perfectionist standard (i.e., a maladaptive coping strategy) such as achieving a perfect body to prove their self-worth to both themselves and the others. However, their expectations are not met because even when they face with a small failure in that process, they cannot tolerate it, and their self-worth gets harm. Besides, since their inferiority feelings are constant, in the case of they achieve their perfectionist standard (e.g., a muscular body), this time they only feel short-lived satisfaction, and develop a new and more difficult standard so that achieving these perfectionist standards; in other words, enhancing the self-worth become more and more difficult over time for them (Deci & Ryan, 2000; Verstuyf et al., 2012). In line with this reasoning, it was observed that our participants could not tolerate any failure in pursuit of muscular body. For instance, as stated in the result part, one of our participants (Fatih) stated that he feels like a trash when he cannot follow his protein diet. Similarly, many of the present participants reported that missing a scheduled bodybuilding activity leads to a decrease in their self-worth. On the other hand, when there was no decrease in their muscle mass, constantly thinking

about enhancing their muscle mass and making efforts to achieve it was one the common aims of our participants, which supports the assumption of SDT about the relation between perfectionist standards and short-lived satisfaction. Even though our participants were more muscular than a normal man, they were still trying to improve their muscles by sticking to their intense workout schedule, going on high-protein diets, and using supplements. In this context, Berk, who had the most muscular body as compared to the other participants' bodies, confessed that he could not be satisfied by his appearance and had constant desire to improve his muscles, which led him to have future plans about using steroid. These examples clearly support the SDT assumption that achieving perfectionist standards to prove self-worth does not result in long-lived positive outcomes; on the contrary, this mechanism brings out the constant need of men that they should prove their self-worth by achieving their ever-growing perfectionist standards.

In addition to SDT, Adler's Individual Theory (Adler, 1929; Schultz & Schultz, 2013), Schema Theory (Young et al., 2003), and Cognitive Theory (Beck et al., 2004) did also put emphasis on the critical role of body image on self-worth. According to these theories, individuals with inferiority feelings regard body image as an armor of self-worth. Hence, they have excessive concerns about their body image. In this sense, the current theme supported this the armor metaphor (Beck et al., 2004) by demonstrating the close relation between muscle mass and self-worth. In other saying, our participants considered their muscles as an armor of their self-worth; so, they constantly strived to strengthen this armor by engaging bodybuilding activities, following high-protein diets, and using supplements. However, since they had an underlying feeling of inferiority (stable feelings), when they confront any negative condition about their muscles, this led them to come closer to their inferiorities, which in turn resulted in diminished self-worth.

3. 4. 3. Battle of Feelings

The theme of battle of feelings indicated that bodybuilding activities aroused either positive or negative emotions in our participants based on the fluctuations in their self-

worth. When they noticed any improvement in their muscle mass, achieved their targeted body image, and got positive comments about their muscles, their self-worth increased, which in turn aroused the feelings of gratification, success, and happiness in them. This finding was consistent with the results of previous studies indicating the positive relation between bodybuilding activities and positive mood (Emini & Bond, 2014; Sawicki, 2016). However, it was observed that the influence of these positive feelings was short-lived. Given that achieving an extrinsic goal produces only a short-lived satisfaction (Davis & Scott-Robertson, 2000; Verstuyf et al., 2012), our finding indicating that the effect of positive emotions is short-lived makes sense.

On the other side, when our participants faced any negative consequence about their muscles (e.g., a slowdown in muscle improvement or a loss of muscle mass, seeing a more muscular man, getting a negative feedback about muscle mass), it damaged their self-worth, which in turn led to their feelings of guilt, sadness, and the fear of confronting their own inferiorities. To state more precisely, since our participants had not enhanced self-worth because of their core inferiority feelings, they have needed to prove their self-worth by achieving constantly challenging goals in terms of muscle mass. Since it was not always possible to achieve it, when they faced with any obstacles in that process, the feelings of guilt, sadness and fear of confronting their own inferiorities aroused in them, which led them to make a great effort to stick with their workout schedules and high-protein diets.

The current theme was named as “battle of feelings” because it was observed that these positive and negative feelings chase off each other based on the muscle-contingent self-worth. In this sense, when our participants felt positive feelings, they tried to sustain it by achieving further improvement in their muscles because the influence of these positive feelings was also short-lived due to fluctuations in their muscle-contingent self-worth. Since it is not always possible to do it, the negative feelings also emerged when they missed a scheduled workout, ate fatty foods, and lost muscle mass. Hence, in that time, they have made more efforts (e.g., sticking intense workout schedules, using supplements) to replace these negative feelings with the positive ones. Given that achieving an extrinsic goal leads to short-term influence on positive

affect and further deprivations about inferiority feelings (e.g., Adler, 1929; Beck et al., 2004; Davis & Scott-Robertson, 2000; Deci & Ryan, 2000; Schultz & Schultz, 2013; Sheldon & Kasser, 1998; Verstuyf et al., 2012; Young et al., 2003), our findings pointing out the relation of bodybuilding with both positive and negative feelings seems to be consistent with the literature.

3. 4. 4. Strengths and Implications

In bodybuilding literature, most of the limited research has focused on the relation between bodybuilding activities and psychopathological conditions such as muscle dysmorphia and steroid abuse (e.g., Babusa & Tury, 2012; Mosley, 2009; Smith & Hale, 2004); however, only limited number of studies have tried to provide a deeper understanding of bodybuilding experience (e.g., Parish et al., 2010). In this sense, due to its qualitative nature, this study contributed to this limited literature by providing a more comprehensive and deep explanation for our understanding of bodybuilding experience.

To the best of our knowledge, the current study is the first qualitative research in Turkey investigating the meaning of bodybuilding experience. Given that cultural differences are always possible in any situation (Hofstede et al., 2010), this study becomes very valuable as it yielded unique findings of the meaning of bodybuilding experience for a Turkish sample. Due to this characteristic, this study is thought to provide an opportunity to make a comparison of bodybuilding experience across cultures.

The current study did indicate that men with inferiority feelings may engage in bodybuilding activities to compensate for these feelings by achieving a muscular body. However, it was seen that since this compensation strategy does not help men to accept and resolve the inferiority feelings, it produced only short-lived enhanced self-worth and the associated positive feelings (i.e., gratification, success, and happiness), which in turn led to constant efforts to improve muscles such as sticking to workout schedule and engaging in health-risk behaviors such as using steroids and supplements. Thus,

this study implicates that giving particular importance to body image and enhancing body image is not an effective strategy to overcome the feelings of inferiorities.

3. 4. 5. Clinical Implications

The current study yielded three important clinical implications. First, even though having a muscular body can be regarded as an indication of healthiness and active lifestyle by society (Grogan, 2008; McCabe & Ricciardelli, 2005), the present findings demonstrated that it can be a consequence of inferiority feelings and weaknesses. Therefore, society members should keep in mind that their positive attributions about a muscular body might make men more vulnerable to consider bodybuilding as an overcompensation strategy of these feelings, and so, to engage in excessive bodybuilding activities. Therefore, rather than reinforcing muscularity oriented behaviors and attitudes, trying to understand genuine motivations behind them might serve as a protective factor against the muscularity-related psychopathological conditions (i.e., steroid abuse, muscle dysmorphia).

Second, this study showed that the efforts to compensate for the inferiority feelings and pursue enhanced self-worth and associated positive emotions (i.e., gratification, success, and happiness) by improving muscles might result in excessive bodybuilding activities and health risk behaviors such as using steroids and supplements, which are some of the symptoms of a severe psychopathological condition, i.e., muscle dysmorphia (Olivardia, 2001; Pope et al., 2005). Therefore, it should be kept in mind that inferiority feelings might be an indicator of muscle dysmorphia.

The last but not least, the current study provided implications for psychotherapy. To state more precisely, when a man with a hypermuscular body and the symptoms of muscle dysmorphia applies to psychotherapy, enlightening the meaning of his muscular body for him, addressing his childhood experiences in which he might have felt inferior, focusing on his inferiority feelings, raising awareness about the dysfunctionality of his overcompensation strategy, and helping him to accept and resolve these feelings would be crucial for psychotherapists to provide a successful treatment.

3. 4. 6. Limitations of the Present Study and Future Research Directions

The current study has at least three limitations. First, since each participant was only interviewed once, this might have limited our understanding of bodybuilding experience. In other words, one interview might have been insufficient to form a trust relationship between the researcher and the participants, which might have led our participants to give more socially desirable responses. Hence, further studies are suggested to have two or more interviews with each participant to advance the meaning of bodybuilding activities. Second, most of our participants were university students. Although a homogenous sample is encouraged for interpretative phenomenological analysis (Smith & Osborn, 2003), this might have limited the generalizability of our findings. Therefore, in further studies, it is suggested to conduct a study based on grounded theory (Glasser & Strauss, 1967), which encourages a heterogonous sample (Howitt, 2010). Thus, involving bodybuilders from different parts of the community would increase the generalizability of the findings. Third, given that previous participation in a bodybuilding competition in the previous period or having intention to participate in such a competition within upcoming 12 months is considered one of the essential criteria for identifying someone as a bodybuilder (Blouin & Goldfield, 1995; Pickett et al., 2005), further studies are strongly suggested to compare the bodybuilding experiences of recreational and competitive bodybuilders.

CHAPTER 4

THIRD STUDY: THE DARK SIDE OF BODYBUILDING: THE ROLE OF BODYBUILDING ACTIVITIES IN COMPENSATION OF BASIC PSYCHOLOGICAL NEEDS

4. 1. Introduction

4. 1. 1. Overview

In the modern world, slim female and V-shaped male body images are presented in magazines, television, and advertisements as ideal body shapes (Tiggemann, 2011), and consequently they are perceived as indicators of attractiveness, happiness and success by society (Grogan, 2008; McCabe & Ricciardelli, 2005). Under the influence of these sociocultural factors, individuals internalize these ideal body shapes and strive to attain them, but most of the time it is not possible to achieve these unrealistic body shapes. Hence, a discrepancy between the ideal and the actual body shapes occurs, which in turn, may lead to body dissatisfaction (Clay et al., 2005; Tiggemann, 2011) and subsequent psychological disorders such as eating disorders and muscle dysmorphia (Klimek, Murray, Brown, Gonzales, & Blashill, 2018; Mason et al., 2016). However, the etiology of these psychological disorders cannot be that simple; although everyone is exposed to almost the same sociocultural factors, i.e., the same ideal body shapes, not all of them develop these psychological disorders. For this

reason, researchers have conducted numerous studies within the framework of different theories to investigate the factors that make people more vulnerable to such psychopathologies (e.g., Heath, Tod, Kannis, & Lovell, 2016; Stice, 1994). In this regard, Basic Psychological Needs Theory (Deci & Ryan, 2000) have also received considerable attention; studies consistently showed that unfulfilled –both unsatisfied and frustrated– basic needs (i.e., autonomy, competence, and relatedness) are predisposing factors for eating disorders (e.g., Straus & Ryan, 1987; Verstuyf, Patrick, Vansteenkiste, & Teixeira, 2012). However, muscle dysmorphia, which shares not only cognitive but also behavioral characteristics with anorexia nervosa (Murray, Rieger, Touyz, & De la Garza Garcia Lic, 2010), has not been studied within the scope of this theory yet. Hence, the present study mainly aimed to explore whether failure to satisfy the basic needs (i.e., low need satisfaction and need frustration) has a similar influence on muscle dysmorphia or not.

4. 1. 2. Basic Psychological Needs Theory

Basic Psychological Needs Theory –a mini-theory under the Self Determination Theory (SDT)– emphasizes that autonomy, competence, and relatedness are three innate basic psychological needs for healthy development (Deci & Ryan, 2000). Satisfaction of these needs is considered as an essential condition for individuals' integrity, growth, and well-being (Deci & Ryan, 2000; Ryan & Deci, 2000a). On the other side, low satisfaction and frustration of them are regarded as a risk factor for unhealthy development. Also, unfulfilled basic needs were stated to contribute psychopathology, ill-being situations, and maladaptive compensatory strategies (Ryan & Deci, 2000b; Vansteenkiste & Ryan, 2013). Before going on the influence of these basic needs on both healthy and unhealthy development, detailing these three needs would be very beneficial.

4. 1. 2. 1. Basic Psychological Needs

4. 1. 2. 1. 1. Competence

The need for competence refers to the sense of effectiveness in activities and the sense of attaining the desired targets (Deci & Ryan, 2000). When people feel effective in performing a task which is important for themselves, this enhances their self-worth but the opposite situation weakens their sense of control and hampers their capability to perform and organize actions. To state more precisely, for a person, attaining a target might not result in the satisfaction of this need unless this target is important for that person (Ryan & Deci, 2017).

4. 1. 2. 1. 2. Relatedness

The need for relatedness refers to the sense of belongingness and being connected to others (Deci & Ryan, 2000). Individuals desire to be respected by others and be important ones for them. Consistently, they avoid being rejected by others. For this reason, individuals may tend to behave in the direction of societal and cultural expectations to get approval and acceptance of others. In this sense, they might strive to have a perfect body, fame, and wealth to be accepted and admired (Ryan & Deci, 2011; 2017). However, this tendency of them may not lead to satisfaction of the need for relatedness, if their aims and efforts are not genuinely internalized and integrated to their self (Ryan & Deci, 2017; Vansteenkiste & Ryan, 2013; Verstuyf et al., 2012). Others' unconditional care and acceptance are essential elements for the satisfaction of the need for relatedness (Ryan & Deci, 2017).

4. 1. 2. 1. 3. Autonomy

The need for autonomy refers to sense of free choice and control over own behaviors (Deci & Ryan, 2000). When the actions of individuals are coherent with their genuine values, interests, and beliefs, this contributes to their need for autonomy. On the other side, if their actions contradict with their genuine values, interests, and beliefs, this may lead them to experience unfulfilled autonomy. Thus, actions regulated by self

rather than the ones regulated by external factors play a crucial role in the satisfaction of this need (Ryan & Deci, 2017).

4. 1. 2. 2. Influences of Basic Psychological Needs on both Well-Being and Ill-Being

According to SDT framework, each of the basic needs is essential elements for optimal human functioning, psychological health, and well-being; hence, each of them should be satisfied to attain positive consequences (Deci & Ryan, 2000). Within this context, an extensive body of literature emphasized that satisfaction of the basic needs has close relation with indicators of optimal human functioning, psychological health and well-being, such as positive affect, vitality (Chen et al., 2015; Reis et al., 2000), self-esteem, task-engagement, low anxiety level (Cihangir-Çankaya, 2009; Deci et al., 2001), satisfaction with life (Chen et al., 2015; Cihangir-Çankaya, 2009; Leversen et al., 2012), work performance (Baard et al., 2004), low depression, somatization, and hostility levels (Uzman, 2014). Besides, diary studies supported the close relation between satisfaction of the needs and well-being by demonstrating similar daily fluctuations of need satisfaction and well-being indicators (Reis et al., 2000; Ryan et al., 2010).

In addition to positive outcomes of fulfilled needs, SDT suggested an explanation for the development of psychopathology. Accordingly, individuals are prone to defectiveness and psychopathology despite their intrinsic growth tendencies (Vaansteenkiste & Ryan, 2013). In this sense, unfulfilled basic needs (both unsatisfied and frustrated needs; see pp. 18 for detailed information about the difference between unsatisfied and frustrated needs) are stated to have critical influence on the development of psychopathology and ill-being as well as maladaptive coping strategies, namely need substitutes (e.g., fame, body image, attractiveness, wealth) and compensatory mechanisms (i.e., releasing self-control, oppositional defiance, and rigid behavioral patterns; Ryan & Deci, 2000b; Ryan, Deci, & Grolnick, 1995; Vansteenkiste & Ryan, 2013). Many findings supported this statement by demonstrating the relation of unfulfilled basic needs with negative affect, depression

(Bartholomew et al., 2011; Chen et al., 2015; Ng et al., 2013; Nishimura & Suzuki, 2016), burnout, physical symptoms (Bartholomew et al., 2011), and suicidal behaviors (Britton et al., 2014). With respect to negative outcomes of unfulfilled basic needs, body image concerns have also received special attention in SDT literature, and studies have consistently shown that both low need satisfaction and need frustration are closely associated with problems related to body image such as weight-related anxiety, appearance esteem (Thøgersen-Ntoumani et al., 2011), unhealthy weight control behaviors (Ng et al., 2013; Thøgersen-Ntoumani et al., 2010), and binge eating (Schüler & Kuster, 2011; Vansteenkiste & Ryan, 2013), as well as more severe psychopathological conditions, namely bulimia (Pelletier, Dion, & Levesque, 2004; Straus & Ryan, 1987) and anorexia nervosa (Straus & Ryan, 1987). Also, daily fluctuations in need frustration were found to be associated with parallel daily fluctuations in binge eating behaviors (Verstuyf, Vansteenkiste, Soenens, Boone, & Mouratidis, 2013). All of these findings consistently supported SDT asserting that when there is a deficit in need fulfillment, people tend towards extrinsic goals (e.g., perfect body) or tend to use compensatory strategies (e.g., binge eating, eating disorders) to cope with the deficit in need fulfillment. However, while interpreting these results, it is important to note that almost all the aforementioned studies included female samples and investigated body image related problems that are remarkably more common in females than in males. Hence, this research trend is not helpful in advancing our understanding of males' body-image problems within the SDT framework, because, unlike females', males' body image-related problems are associated with their desire to have a more muscular body (Pope et al., 2000). As a reflection of this difference, the pathological conditions they suffer from are generally related to their desire for being more muscular rather than for being thin. Such a pathological condition that is more common among males is muscle dysmorphia (Pope et al., 1997). Although muscle dysmorphia shares a similar mechanism with anorexia nervosa (Murray et al., 2012; Olivardia, Pope, & Hudson, 2000) and can be regarded as a compensatory strategy for deficits in need fulfillment as it is anorexia nervosa, to the best of our knowledge, it has not been studied within the scope of Basic Psychological Needs Theory.

4. 1. 3. Muscle Dysmorphia

Muscle dysmorphia (MD) is a relatively newly defined psychopathological condition that leads individuals to think intensely that their body are insufficiently lean or muscular, and to believe that they are small and thin although they are more muscular than an average person (Olivardia, 2001; Pope et al., 2005). Hence, unhealthy muscularity oriented behaviors, such as using anabolic steroids (Rohman, 2009), excessive work out behaviors (Pope et al., 2005), and high-protein diets (Olivardia, 2002; Pope, Gruber, Choi, Olivardia, & Phillips, 1997) are common in MD. In addition to these behaviors, relentless mirror checking, wearing bulky clothes to hide own body from others, reassurance-seeking behaviors, constantly thinking about being more muscular, subjective distress, and impaired social and occupational functioning are other features of MD (Olivardia, 2001; Pope et al., 1997).

This pathological condition was firstly identified among male bodybuilders, and named as “reverse anorexia” since it showed similar characteristics with anorexia nervosa (Pope, Katz, & Hudson, 1993). In the following years, it was renamed as MD (Pope, et al., 1997) and included as a form of Body Dysmorphic Disorder in the fifth edition of The Diagnostic and Statistical Manual of Mental Disorders (DSM-V; American Psychiatric Association, 2013), and preoccupation about being small and having an insufficiently muscular body was described as main diagnostic criteria for muscle dysmorphia in DSM-V (American Psychiatric Association, 2013).

Even though the prevalence of MD is not clear yet, it is known that it is predominantly more common in men than in women (APA, 2013; Pope et al., 1997). Given the difference in ideal body image for males (V-shaped body) and females (thin body; Tiggemann, 2011), this difference in prevalence makes sense. In addition to gender effect, type of sports activities does also play a critical role in the prevalence of MD. That is to say, bodybuilders are more likely to experience muscle dysmorphia rather than powerlifters (Lantz, Rhea, & Cornelius, 2002); and among bodybuilders, competitive bodybuilders report higher muscle dysmorphia symptoms than their non-competitive counterparts (Mitchell et al., 2017).

Also, the etiology of MD has not been clarified yet. Although the limited number of studies pointed out the influence of muscular body imposed by media and society on MD (Klimek et al., 2018; Mason et al., 2016), not all people exposed to the muscular body suffer from MD. Thus, there is a need to conduct further studies to explore underlying causes of MD.

Despite the lack of information about its prevalence and etiology, the comorbidity of MD is well-known; studies revealed that MD is associated with several psychological problems, such as dissatisfaction with life, suicide attempt, substance abuse (Pope et al., 2005), obsessive-compulsive tendencies, anxiety, depression, perfectionism, and diminished self-esteem and self-concept (Mitchell et al., 2017). Besides these studies, the link between MD and eating disorders has received particular attention of researchers. They indicated that there is a close association between MD and eating disorders in terms of ego-syntonic features, body shape concerns, dietary restraints, functional impairment, and appearance intolerance (Griffiths, Mond, Murray, & Touyz, 2015; Murray et al., 2010; Murray et al., 2012). Consistent with these findings, some researchers claimed that MD should be categorized under eating disorders, since it has common characteristics with anorexia nervosa (Mosley, 2009; Murray & Touyz, 2013; Woodhill, Cooper, Zacharin, Cukier, & Vuillermin, 2014). Thus, considering both the similarities between MD and anorexia nervosa and the findings demonstrating the association between basic needs and eating disorders, we expected that basic psychological needs (both low need satisfaction and need frustration) would predict muscle dysmorphia.

4. 1. 4. The Present Study

The main purpose of the present study was to explore the predictive effects of unfulfilled (i.e., low satisfaction and frustration of basic needs) basic psychological needs for competence, autonomy, and relatedness on muscle dysmorphia symptoms. Although studies consistently supported the predictive effects of unfulfilled basic needs on body image disorders (Ng et al., 2013; Schüler & Kuster, 2011; Thøgersen-Ntoumani et al., 2010) as well as on anorexia nervosa (Straus & Ryan, 1987) which

shares many similarities with muscle dysmorphia (Mosley, 2009; Woodhill et al., 2014), their effects on MD has not been investigated yet. Therefore, this study would be first in demonstrating the association between basic needs and this psychopathological condition.

Also, it was aimed to examine the predictive roles of these needs on satisfaction with life. In literature, the relation between satisfaction of needs and satisfaction with life has been well-established (e.g., Cihangir-Çankaya, 2009; Leversen et al., 2012). However, in recent years, a new research trend emerged in SDT literature has been comparing the predictive effects of low satisfaction and frustration of needs based on how strongly they predict the indicators of both well-being and ill-being (e.g., Bartholomew et al., 2011; Chen et al., 2015). In line with this trend, in the current study, it was aimed to compare the predictive effects of low satisfaction and frustration of needs on both an indicator of well-being (i.e., satisfaction with life) and an indicator of ill-being (i.e., muscle dysmorphia).

In addition, as a preliminary stage needed to pursue the hypotheses of the study, it was aimed to adapt Muscle Appearance Satisfaction Scale (MASS; Mayville, Williamson, White, Netemeyer, & Drab, 2002) to Turkish. Therefore, it was thought that this study would contribute to the limited muscle dysmorphia literature in Turkey with help of this adaptation.

4. 1. 5. Hypotheses of the Present Study

In the light of the existing findings and theoretical basis mentioned above, it was hypothesized that:

H₁: Both low need satisfaction (*H_{1a}*) and need frustration (*H_{1b}*) would predict muscle dysmorphia.

H₂: Need frustration would explain higher variance in muscle dysmorphia as compared to low need satisfaction.

H_3 : Both low need satisfaction (H_{3a}) and need frustration (H_{3b}) would predict life satisfaction.

H_4 : Need satisfaction would explain higher variance in life satisfaction as compared to need frustration.

4. 2. Method

4. 2. 1. Participants

The data were collected from 245 adult males who had been engaging regular (at least twice a week) bodybuilding activities for at least a year. The mean age of them was 22.73 ($SD = 3.86$, range = 18–44), and a great majority of them were university students ($n = 213$, 86.9%). Twelve per cent of the participants ($n = 30$) reported their perceived income level as low, 77.1% ($n = 189$) reported as middle, and 8.2% ($n = 52$) reported as high. Whereas 29% of them ($n = 71$) were working at the time of data collection, 71% ($n = 174$) of them did not have any job. While 49.4% of the participants ($n = 121$) had a romantic relationship, the rest of the participants (50.6%, $n = 124$) did not have any romantic relationship.

The average duration of their regular bodybuilding activities was 28.32 months ($SD = 26.97$, range = 12–44), and the mean length of their workouts was 73.47 minutes ($SD = 26.80$, range = 8–80). Of the participants, 38.4% ($n = 94$) were working out 3 times per week, 21.2% ($n = 52$) were working out 4 times per week, 21.2% ($n = 52$) were working out 2 times per week, 18% ($n = 44$) were working out 5 or 6 times per week, and the rest ($n = 3$) were working out every day. Their height ranged from 165 to 198 centimeters ($M = 179.78$, $SD = 5.97$), whereas their weight ranged from 56 to 115 kilograms ($M = 78.30$, $SD = 9.45$). Moreover, the sample's mean body mass index (BMI) was 24.22 ($SD = 2.58$, range = 17.21–31.86). Table 20 presents the descriptive characteristics of the participants.

Table 20

Descriptive Characteristics of the Sample

	<i>M</i>	<i>SD</i>	<i>N</i>	%	Min.	Max.
Age	22.73	3.86	245		18	44
Height	179.78	5.97	245		165	198
Weight	78.30	9.45	245		56	115
BMI	24.22	2.58	245		17.21	31.86
Underweight			1	1.2		
Normal weight			158	64.5		
Overweight			76	31.0		
Obese			8	3.3		
For how long the participants have engaged in bodybuilding activities (for how many months)	28.32	26.97	245		12	200
The length of workouts (how many minutes)	73.47	26.80	245		8	180
Currently university student						
Yes			213	86.9		
No			32	13.1		
Working status						
Working			71	29.0		
Not working			174	71.0		
Relationship status						
In a relationship			121	49.4		
Not in a relationship			124	50.6		
Perceived income level						
Low			30	12.2		
Middle			189	77.1		
High			16	10.6		

4. 2. 2. Materials

4. 2. 2. 1. Demographic Information Form

This form was used to obtain information about both demographic characteristics of the participants (e.g., age, perceived income level, height, weight) and their bodybuilding activities (i.e., frequency, duration, and length of these activities). The form is presented in Appendix O.

4. 2. 2. 2. Muscle Appearance Satisfaction Scale (MASS)

This self-report inventory was developed by Mayville, Williamson, White, Netemeyer, and Drab (2002) to measure muscle dysmorphia symptoms. It consists of 19 items rated on a 5-point Likert-type scale ranging from 1 (definitely disagree) to 5 (definitely agree), and five subscales, namely bodybuilding dependence (e.g., I often feel like I am addicted to working out with weights), muscle checking (e.g., I often ask friends and/or relatives if I look big), substance use (e.g., it is OK to use steroids to add muscle mass.), injury (e.g., to get big, one must be able to ignore a lot of pain.), and muscle satisfaction (e.g., I am satisfied with my muscle tone/definition). Higher scores on the scale represent higher muscle dysmorphia symptoms. In the original study, the internal consistency reliabilities of the subscales were .78 for bodybuilding dependence, .79 for muscle checking, .77 for injury, .74 for substance use, and .75 for muscle satisfaction, and its test-retest reliability was greater than .70. In terms of construct validity, MASS factors yielded significant associations with theoretically relevant constructs such as body dysmorphic symptoms, bodybuilding dependence and social physique anxiety (Mayville et al., 2002). Turkish adaptation of MASS was carried out within the present dissertation, and as in the original scale, a five factor-structure (i.e., bodybuilding dependence, muscle checking, injury, substance use, and muscle satisfaction) was found for the Turkish sample (see pp. 144-149 for detailed information on the psychometric properties of Turkish MASS). After the adaptation process, we calculated a composite score of MASS by combining the scores obtained from each of its factors (see Appendix P).

4. 2. 2. 3. The Other Scales.

Since the other scales used in the current study (i.e., Body Mass Index, Basic Psychological Need Satisfaction and Frustration Scale, Rosenberg Self-Esteem Scale, Social Appearance Anxiety Scale, Appearance Esteem Scale, Body Image Scale, Sociocultural Attitudes towards Appearance Questionnaire-4 Revised, Satisfaction with Life Scale, and Drive for Muscularity Scale) were same with ones used in the first study of this dissertation (except Muscle Appearance Satisfaction Scale), only internal consistency reliabilities of these scales were reported within the current study. Table 21 presents Cronbach's alpha coefficients of these scales (see pp. 24-29 for more detailed information on the psychometric properties of the scales).

Table 21

Cronbach Alpha Coefficients of the scales (N = 245)

	Cronbach's Alpha Coefficient
Basic Psychological Needs Satisfaction and Frustration Scale	
Need satisfaction	.85
Autonomy satisfaction	.70
Competence satisfaction	.80
Relatedness satisfaction	.74
Need frustration	.85
Autonomy frustration	.81
Competence frustration	.73
Relatedness frustration	.67
Satisfaction with Life Scale	.85
Rosenberg Self-Esteem Scale	.90
Social Appearance Anxiety Scale	.94
Appearance Esteem Scale	.81
Body Image Scale	.93
Sociocultural Attitudes towards Appearance Questionnaire-4 Revised	
Internalization of thin/low-fat body	.61
Internalization of general attractiveness	.76
Internalization of muscular body	.77
Drive for Muscularity Scale	.83
Muscularity oriented body image attitudes	.84
Muscularity oriented workout behaviors	.59
Muscularity oriented supplement use and eating behaviors	.70

4. 2. 3. Procedure

After obtaining ethical approval from Human Subjects Ethics Committee of Middle East Technical University, three graduate students in psychology (including the author

of the present dissertation) translated the items of Muscle Appearance Satisfaction Scale into Turkish. Then, the present researcher and his advisor checked translated items, and they selected or formed the best ones based on their semantic similarities with the original ones. Then, a bilingual person translated these items back into English, and the researcher and his advisor determined the final versions of the items after they compared these back translated items with the original ones. After this translation process, the instruments were uploaded to one of the online research platforms, Qualtrics, and announcements about the study were made via METU Research Sign-Up System to reach the potential participants. Besides, social media platforms and some bodybuilding web forums were benefitted to reach more participants. After signing the inform consent form (see Appendix S), voluntary participants completed the questionnaire battery in approximately 20-30 minutes. Students, who participated in the study via METU Research Sign-Up System, were given one point extra credit for their contributions.

4. 2. 4. Strategy of Analysis

In the first place, a confirmatory factor analysis through EQS 6.1 was conducted for the Turkish adaptation of Muscle Appearance Satisfaction Scale. After this adaptation process, a series of independent samples *t*-tests and one-way univariate analysis of variance (ANOVAs) were carried out to compare the participants in different levels of demographic variables in terms of the study variables. Then, Pearson's Product-Moment Correlations were calculated to explore the linear associations among the study variables. Lastly, to test the study hypotheses, two hierarchical regression analyses with enter method were run via SPSS 24.

4. 3. Results

4. 3. 1. Preliminary Analyses

In this stage, firstly, a confirmatory factor analysis was conducted to test the factor structure of the adapted scale, and the psychometric properties of it were presented. Secondly, a series of independent samples *t*-tests and one-way ANOVAs were carried out to see whether there were any significant differences between the levels of

demographic variables in terms of the study variables. Lastly, Pearson zero-order correlation analysis was performed to examine the correlations among the variables included in the present study.

4. 3. 1. 1. Confirmatory Factor Analysis

In order to test the original 5-factor structure of Muscle Appearance Satisfaction Scale (MASS) in Turkish sample, a confirmatory factor analysis (CFA) through EQS 6.1 was performed. Item 2, item 7, item 8, item 12, and item 15 were entered as indicators of *bodybuilding dependence factor*; item 3, item 11, item 18, and item 19 were entered as indicators of *muscle checking factor*; item 5, item 6, item 9, and item 17 were entered as indicators of *substance use factor*; item 10, item 13, and item 16 were entered as indicators of *injury factor*, and lastly, item 1, item 4, and item 14 were entered as indicators of *muscle dis/satisfaction factor*. As a result of the CFA analysis, *Mardia's z* was found as 56.35. Depending on this value, the normality assumption was not met; thus, robust statistics were taken into consideration. The average off-diagonal absolute standardized residual value was found as .06. When the residuals were examined, it was seen that 42.63% of these residuals were between 0.0 and -0.1, and 39.47% of them were between 0.1 and 0.0. Robust statistics showed that the proposed model did not fit the data very well, Satorra–Bentler $X^2(142) = 257.74$, $p = .000$, CFI = .90, RMSEA = .06, SRMR = .08, CI [.05, .07]. Thus, to improve this initial model five modifications were carried out based on the suggestions of modification indices. In this sense, an error covariance was added between error terms of indicators of substance use (item 5 and item 17, item 6 and item 9, and item 5 and item 6), muscle checking (item 3 and item 18), and bodybuilding dependence (item 7 and item 8). Each modification was applied in separate analysis, and the model improved gradually and significantly ($\Delta\chi^2(1) = 16.19$, $p < .001$; $\Delta\chi^2(1) = 13.12$, $p < .001$; $\Delta\chi^2(1) = 11.08$, $p < .001$; $\Delta\chi^2(1) = 11.26$, $p < .001$; $\Delta\chi^2(1) = 10.66$, $p < .005$, respectively). Finally, the model fit the data very well, $\chi^2(137) = 195.43$, $p = .000$, CFI = .95, RMSEA = .04, SRMR = .07, CI [.03, .05]. Figure 7 shows the path diagram of CFA results regarding the Turkish adaptation of MASS.

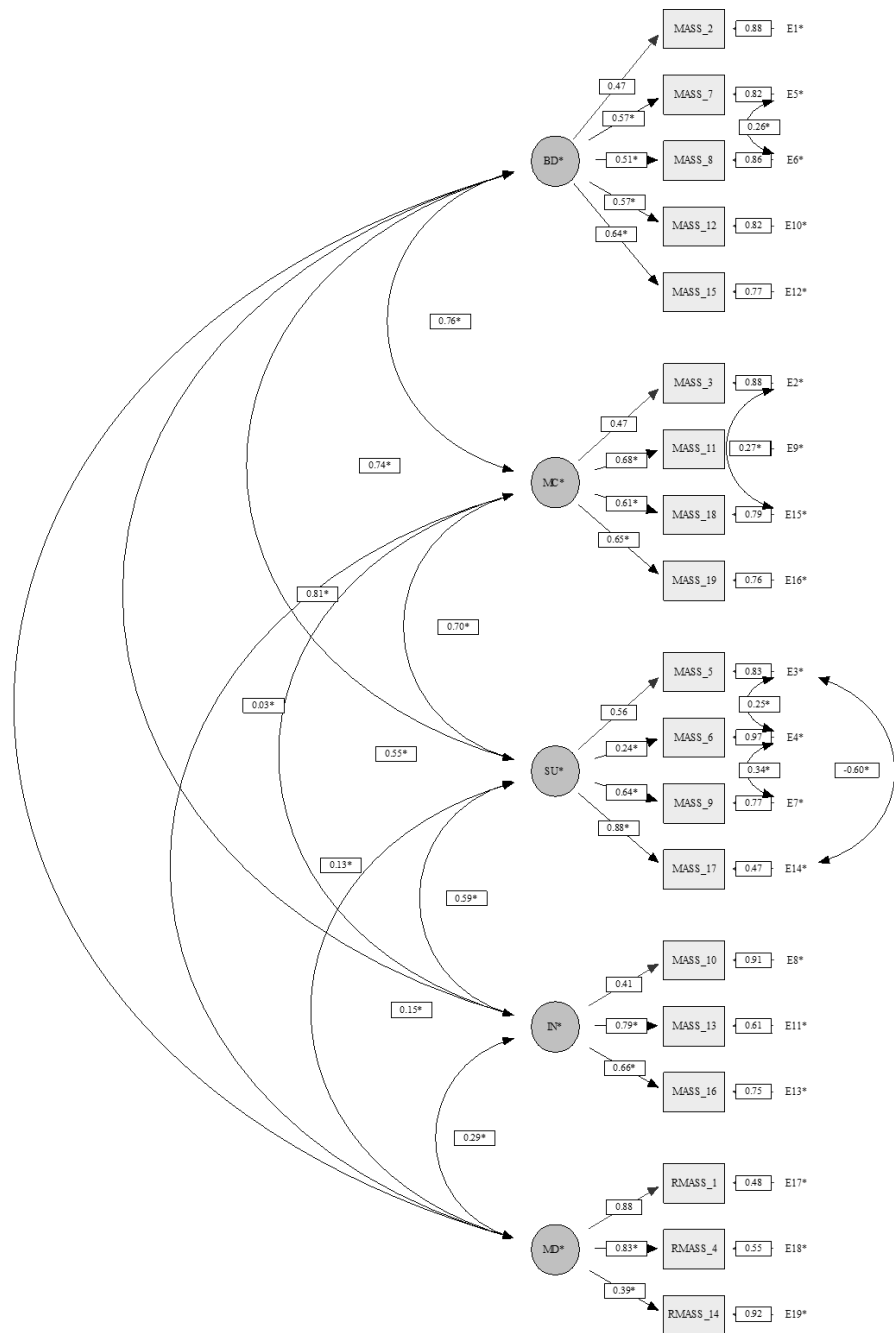


Figure 7. Path diagram of CFA results regarding the Turkish adaptation of MASS

Note. BD: Bodybuilding dependence, MC: Muscle checking, SU: Substance use, IN: Injury, and MD: Muscle dissatisfaction.

4. 3. 1. 1. 1. Internal Consistency Reliability

Reliability of MASS for the Turkish sample was tested with internal consistency reliability, and the Cronbach's alpha coefficients of the sub-factors were provided in Table 22.

Table 22

Cronbach Alpha Coefficients of MASS (N = 245)

	Cronbach's Alpha Coefficient
The whole scale	.83
Bodybuilding dependence	.72
Muscle checking	.73
Substance use	.68
Injury	.63
Muscle dissatisfaction	.73

4. 3. 1. 1. 2. Validity

Pearson zero-order correlation analysis was performed to test the validity of the Turkish adaptation of MASS. In terms of convergent validity, it was expected that the factors of MASS would be significantly correlated with conceptually related variables. In this sense, significant correlations between MASS-bodybuilding dependence and DMS-muscularity oriented behaviors ($r = .65, p < .001$), DMS-muscularity oriented body image attitudes ($r = .33, p < .001$), DMS-muscularity oriented supplement use and eating behaviors ($r = .34, p < .001$), SATAQ-internalization of muscular body ($r = .51, p < .001$), SATAQ-internalization of general attractiveness ($r = .35, p < .001$), and significant correlations between MASS-muscle checking and SATAQ-internalization of muscular body ($r = .44, p < .001$), DMS-muscularity oriented

behaviors ($r = .40, p < .001$), DMS-muscularity oriented body image attitudes ($r = .23, p < .001$), DMS-muscularity oriented supplement use and eating behaviors ($r = .26, p < .001$), SATAQ-internalization of general attractiveness ($r = .33, p < .001$), and significant correlations between MASS-substance use and DMS-muscularity oriented supplement use and eating behaviors ($r = .57, p < .001$), SATAQ-internalization of muscular body ($r = .43, p < .001$), DMS-muscularity oriented behaviors ($r = .40, p < .01$), DMS-muscularity oriented body image attitudes ($r = .33, p < .001$), SATAQ-internalization of general attractiveness ($r = .21, p < .01$), and significant correlations between MASS-injury and SATAQ-internalization of muscular body ($r = .34, p < .001$), DMS-muscularity oriented behaviors ($r = .48, p < .001$), DMS-muscularity oriented body image attitudes ($r = .22, p < .001$), DMS-muscularity oriented supplement use and eating behaviors ($r = .20, p < .01$), SATAQ-internalization of general attractiveness ($r = .23, p < .001$), and significant correlations between MASS-muscle dissatisfaction and body dissatisfaction ($r = .44, p < .001$), social appearance anxiety ($r = .32, p < .001$), appearance esteem ($r = -.39, p < .001$), SATAQ-internalization of muscular body ($r = .16, p < .05$), DMS-muscularity oriented body image attitudes ($r = .41, p < .001$) were obtained.

For discriminant validity, it was expected that the factors of MASS would not be correlated with conceptually irrelevant variables. In this context, insignificant correlations between MASS-bodybuilding dependence and SATAQ-internalization of thin/low fat body ($r = .11, ns$), BMI ($r = .13, ns$), appearance esteem ($r = -.00, ns$), body dissatisfaction ($r = -.08, ns$), social appearance anxiety ($r = .09, ns$), self-esteem ($r = -.08, ns$), and insignificant correlations between MASS-muscle checking and BMI ($r = .03, ns$), appearance esteem ($r = -.06, ns$), body dissatisfaction ($r = -.03, ns$), and insignificant correlations between MASS-substance use and BMI ($r = .04, ns$), appearance esteem ($r = -.08, ns$), body dissatisfaction ($r = .00, ns$) and relatively weak correlation with SATAQ-internalization of thin/low fat body ($r = .16, p < .05$), and insignificant correlations between MASS-injury and BMI ($r = .10, ns$), appearance esteem ($r = -.09, ns$), body dissatisfaction ($r = .04, ns$), social appearance anxiety ($r = .05, ns$), SATAQ-internalization of thin/low fat body ($r = .06, ns$), and lastly

insignificant correlations between MASS-muscle dissatisfaction and BMI ($r = -.02$, *ns*), SATAQ-internalization of thin/low fat body ($r = .08$, *ns*) were obtained. Table 23 shows the correlation coefficients between the sub-factors of MASS and the other constructs

Table 23

Correlations between the Factors of MASS and the Other Constructs

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. MASS-BD	(.72)															
2. MASS-MC	.47***	(.73)														
3. MASS-SU	.51***	.47***	(.68)													
4. MASS-IN	.56***	.35***	.36***	(.63)												
5. MASS-MD	-.05	.02	.04	.09	(.73)											
6. SATAQ-IMB	.51***	.44***	.43***	.34***	.16*	(.77)										
7. SATAQ-IGA	.35***	.33***	.21**	.23***	.09	.66***	(.76)									
8. SATAQ-ITB	.11	.26***	.16*	.06	.08	.10	.04	(.61)								
9. DMS-MA	.33***	.23***	.33***	.22***	.41***	.57***	.41***	.16*	(.84)							
10. DMS-MB	.65***	.40***	.40***	.48***	.04	.55***	.39***	.18**	.41***	(.59)						
11. DMS-MSEB	.34***	.26***	.57***	.20**	.02	.39***	.23***	.13*	.35***	.32***	(.70)					
12. BMI	.13	.03	.04	.10	-.02	.04	.00	.06	-.11	.18**	.01	-				
13. AE	-.00	-.06	-.08	-.09	-.39***	-.05	-.02	-.32***	-.28***	-.07	-.07	-.04	(.81)			
14. SAA	.09	.17**	.21**	.05	.32***	.11	.18**	.39***	.27***	.17**	.14*	-.05	-.62**	(.94)		
15. BD	-.08	-.03	.00	.04	.44***	-.01	.07	.06	.24***	-.11	-.03	-.15*	-.50**	.44**	(.93)	
16. SE	-.08	-.17**	-.20**	-.06	-.27***	-.03	-.04	-.40***	-.21**	-.12	-.15*	.04	.59**	-.66**	-.36**	(.90)

Note 1. * Correlation is significant at the .05 level (2-tailed), ** Correlation is significant at the .01 level (2-tailed), *** Correlation is significant at the .001 level (2-tailed).

Note 2. MASS-BD: MASS-Bodybuilding Dependence, MASS-MC: MASS-Muscle Checking, MASS-SU: MASS-Substance Use, MASS-IN: MASS-Injury, MASS-MD: MASS-Muscle Dissatisfaction, SATAQ-IMB: SATAQ-Internalization of Muscular Body, SATAQ-IGA: SATAQ-Internalization of General Attractiveness, SATAQ-ITB: SATAQ-Internalization of Thin/Low Fat Body, DMS-MA: DMS-Muscularity Oriented Body Image Attitudes, DMS-MB: DMS-Muscularity Oriented Workout Behaviors, DMS-MSEB: DMS- Muscularity Oriented Supplement Use and Eating Behaviors, BMI: Body Mass Index, AE: Appearance Esteem, SAA: Social Appearance Anxiety, BD: Body Dissatisfaction, SE: Self-Esteem

Note 3. Bold scores in the parentheses on the diagonal indicate the Cronbach's alpha values of the factors.

4. 3. 1. 2. Differences among the Levels of Demographic Variables in terms of the Study Variables

A series of independent samples *t*-tests and one-way ANOVAs were conducted to compare the participants in different levels of demographic variables (i.e., body mass index, perceived income level, relationship status, working status) in terms of the study variables (i.e., need satisfaction, need frustration, muscle dysmorphia, and satisfaction with life). Descriptive characteristics of the study variables were presented in Table 24.

Table 24

Descriptive Characteristics of the Study Variables

Variables	<i>N</i>	<i>M</i>	<i>SD</i>	Min-Max
Basic psychological needs				
Need satisfaction	245	4.10	.53	2.50 – 5.00
Need frustration	245	2.22	.66	1.00 – 4.25
Muscle dysmorphia	245	2.57	.57	1.26 – 4.05
Satisfaction with life	245	4.46	1.27	1.00 – 7.00

4. 3. 1. 2. 1. Differences among the Levels of Demographic Variables in terms of Muscle Dysmorphia

The participants with and without a romantic relationship were compared in terms of their scores on muscle dysmorphia, and no significant difference between them was observed in terms of this variable [$t(243) = -1.51, ns$].

Second independent samples *t*-test was conducted to see whether the scores obtained from muscle dysmorphia variable change between the participants who were working and who were not. The results of analysis demonstrated that the scores of them were not significantly different from each other [$t(243) = -.70, ns$].

Also, two one-way ANOVAs were performed to examine the differences among the levels of body mass index and perceived income on muscle dysmorphia variable. The results of the ANOVAs showed that the scores obtained from this variable were not significantly different across body mass index categories [$F(3, 241) = 1.20, ns$] and perceived income levels [$F(2, 242) = .07, ns$].

4. 3. 1. 2. 2. Differences among the Levels of Demographic Variables in terms of Satisfaction with Life

Participants in different levels of relationship status and working status were compared in terms of satisfaction with life, and the results of independent samples *t*-tests indicated that the scores obtained from this variable did not differ significantly across the participants' romantic relation status [$t(243) = 1.02, ns$] and working status [$t(241) = -.40, ns$].

Moreover, the scores on this variable were compared among body mass index categories (i.e., underweight, normal weight, overweight, and obese), and the results of one-way ANOVA revealed that there was not any significant difference among body mass index categories in terms of satisfaction with life [$F(3, 241) = .44, ns$].

Another one-way ANOVA was performed to examine possible differences among perceived income levels (i.e., low, middle and high) on the satisfaction with life. According to one-way ANOVA results, there was a significant difference among income levels in terms of this variable [$F(2, 242) = 7.37, p < .005$]. Tukey post hoc test showed that participants with high income level reported significantly higher satisfaction with life ($m = 5.22, sd = 1.15$) than participants with both middle ($m = 4.44, sd = 1.21$) and low income levels ($m = 3.95, sd = 1.47$), whereas participants with middle income and participants with low income did not differ from each other significantly.

4. 3. 1. 2. 3. Differences among the Levels of Demographic Variables in terms of Basic Psychological Needs

The participants in different levels of demographic variables were also compared in terms of the variables associated basic psychological needs (i.e., need satisfaction and need frustration). Participants with and without a romantic relationship differed from each other in terms of both need satisfaction [$t(243) = 3.10, p < .01$] and need frustration [$t(243) = -2.20, p < .05$]. More precisely, participants with a romantic relationship reported significantly higher scores on need satisfaction ($m = 4.20, sd = .47$) and significantly lower scores on need frustration ($m = 2.13, sd = .62$) as compared to participants without a romantic relationship ($m = 4.00, sd = .56; m = 2.31, sd = .69$, respectively). However, the participants who were working and who were not did not differ from each other in terms of the scores obtained from need satisfaction [$t(243) = 1.29, ns$] and need frustration [$t(243) = -1.34, ns$].

In addition, the scores on need satisfaction and need frustration were compared across body mass index categories and perceived income levels of the participants. The results of ANOVAs demonstrated that the scores obtained from need satisfaction and need frustration were not significantly different across body mass index categories [$F(3, 241) = .97, ns$] and perceived income levels [$F(2, 242) = 2.48, ns$]. Table 25 presents detailed group comparisons in terms of the study variables.

Table 25

Mean Differences among the Levels of Demographic Variables in terms of the Study Variables

Variables	Need satisfaction					Need frustration				Muscle dysmorphia				Satisfaction with life			
	<i>N</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>T</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>	<i>m</i>	<i>sd</i>	<i>t</i>	<i>F</i>
Relationship status				3.10**	–			–2.20*	–			–1.51	–			1.02	–
Have a relationship	121	4.20	.47			2.13	.62			2.51	.59			4.54	1.26		
Have not a relationship	124	4.00	.56			2.31	.69			2.62	.54			4.38	1.29		
Body mass index category				–	.14			–	.97			–	1.20			–	.44
Underweight	3	3.97	.13			2.50	.72			2.93	.26			4.27	1.14		
Normal weight	158	4.09	.52			2.26	.65			2.52	.57			4.50	1.22		
Overweight	76	4.13	.54			2.13	.68			2.64	.56			4.35	1.39		
Obese	8	4.09	.64			2.07	.73			2.60	.65			4.80	1.29		
Perceived income level				–	2.48			–	2.20			–	.07			–	7.37**
Low	30	3.95	.50			2.42	.83			2.55	.63			3.95 ^a	1.47		
Middle	189	4.10	.54			2.21	.64			2.57	.55			4.44 ^a	1.21		
High	26	4.27	.39			2.06	.60			2.53	.62			5.22 ^b	1.15		
Working status				1.29	–			–1.34	–			–.70	–			–.40	–
Working	71	4.17	.55			2.13	.61			2.53	.57			4.41	1.32		
Not working	174	4.07	.52			2.26	.68			2.58	.57			4.48	1.25		
History of psychological disorder				–.86	–			1.60	–			–1.00	–			–1.12	–
Yes	19	4.00	.55			2.45	.75			2.44	.68			4.15	1.05		
No	226	4.11	.53			2.20	.65			2.58	.56			4.49	1.29		
History of physical disorder				–.40	–			1.38	–			.27	–			–.21	–
Yes	24	4.06	.48			2.40	.67			2.60	.54			4.41	1.31		
No	221	4.10	.53			2.20	.66			2.56	.57			4.47	1.27		

Note 1. * $p < .05$, ** $p < .005$.

Note 2. Means that do not share same subscript are significantly different from each other at least at the $p < .05$ level.

4. 3. 1. 3. Bivariate Correlational Analyses among the Study Variables

Pearson zero-order correlation analyses were performed to examine the correlations among the study variables (i.e., age, perceived income level, body mass index, for how long participants have engaged in bodybuilding activities, the frequency of workouts, the length of workouts, need frustration, need satisfaction, muscle dysmorphia, and satisfaction with life). According to the results, muscle dysmorphia was positively correlated with the frequency of workouts ($r = .23, p < .001$), the length of workouts ($r = .14, p < .05$), and need frustration ($r = .20, p < .01$), whereas negatively correlated with age ($r = -.15, p < .05$).

Satisfaction with life was positively correlated perceived income level ($r = .23, p < .001$) and need satisfaction ($r = .46, p < .001$), and negatively correlated with need frustration ($r = -.41, p < .001$) and muscle dysmorphia ($r = -.17, p < .01$).

In terms of basic psychological needs dimensions, need satisfaction was positively correlated with perceived income level ($r = .14, p < .05$) and for how long the participants have been engaging in bodybuilding activities ($r = .17, p < .01$), and negatively correlated with need frustration ($r = -.66, p < .001$). Lastly, need frustration was negatively correlated with perceived income level ($r = -.13, p < .05$) and for how long the participants have been engaging in bodybuilding activities ($r = -.13, p < .05$). All correlations among these variables were presented in Table 26.

Table 26

Means and Standard Deviations of the Study Variables, and Bivariate Correlations among Them

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Age	22.73	3.86	—									
2. Perceived income level	1.98	.48	.02	—								
3. Body mass index	24.22	2.58	.24***	-.01	—							
4. Duration of bodybuilding activities (months)	28.32	26.97	.42***	-.04	.28***	—						
5. Frequency of workouts (in a week)	—	—	.12	-.00	.30***	.22***	—					
6. The length of workouts (how many minutes)	73.47	26.80	-.10	-.05	.05	.01	.09	—				
7. Need frustration	2.22	.66	-.06	-.13*	-.10	-.15*	-.10	-.00	(.85)			
8. Need satisfaction	4.10	.53	.06	.14*	.03	.17**	.10	.11	-.66***	(.85)		
9. Muscle dysmorphia	2.57	.57	-.15*	-.01	.09	-.05	.23***	.14*	.20**	-.11	(.83)	
10. Life satisfaction	4.46	1.27	.06	.23***	-.00	.00	.01	-.03	-.41***	.46***	-.17**	(.85)

Note 1. * $p < .05$, ** $p < .01$, *** $p < .001$.

Note 2. Bold scores in the parentheses indicate the Cronbach's alpha values of the factors.

4. 3. 2. Main Analyses and Hypotheses Testing

4. 3. 2. 1. Investigating the Predictors of Muscle Dysmorphia

A three-step hierarchical regression analysis with enter method was performed to explore the predictors of muscle dysmorphia within the context of basic psychological needs. For this aim, age and BMI were entered the equation in the first step as control variables, and these variables explained 4% of the variance in muscle dysmorphia, $F(2, 242) = 4.93, p < .01$. When their unique contributions were analyzed, it was observed that both age ($\beta = -.18, t(242) = -2.82, p < .01$, partial $\eta^2 = .18$) and BMI ($\beta = .13, t(242) = 2.00, p < .05$, partial $\eta^2 = .13$) predicted muscle dysmorphia significantly. Specifically, young participants and participants with high BMI were more prone to experience muscle dysmorphia. In the second step, the variables related to bodybuilding activities (i.e., for how many months the participants have been engaging in bodybuilding activities, and frequency and length of workouts) were added to the equation, and they explained additional 6% of the variance in muscle dysmorphia, $\Delta F(3, 239) = 5.38, p < .01$. However, only frequency of workouts was a significant predictor of muscle dysmorphia, $\beta = .23, t(239) = 3.49, p < .005$, partial $\eta^2 = .22$. In the final step, the variables related to basic psychological needs were added to the equation, and they explained additional 4% of the variance in the dependent variable, $\Delta F(2, 237) = 6.14, p < .01$. While need frustration was positively and significantly predicting muscle dysmorphia ($\beta = .23, t(237) = 2.77, p < .01$, partial $\eta^2 = .18$), need satisfaction was not ($\beta = .02, t(237) = .21, ns$, partial $\eta^2 = .01$). Thus, depending on these results, H_1 was supported partially whereas H_2 was supported fully. Table 27 presents the details related to predictors of muscle dysmorphia.

Table 27

Results of Hierarchical Regression Analysis Predicting Muscle Dysmorphia

	Step 1			Step 2			Step 3		
	β	t	partial η^2	β	t	partial η^2	β	t	partial η^2
Age	-.18	-2.82**	.18	-.16	-2.39*	.15	-.17	-2.49*	.16
BMI	.13	2.00*	.13	.07	1.00	.06	.08	1.20	.08
Duration of bodybuilding activities (months)				-.05	-.68	-.04	-.02	-.32	-.02
Frequency of workouts (in a week)				.23	3.49***	.22	.24	3.74***	.24
The length of workouts (how many minutes)				.10	1.65	.11	.10	1.61	.10
Need satisfaction							.02	.21	.01
Need frustration							.23	2.77**	.18
Df		2,242			3,239			2,237	
ΔF		4.93			5.31			6.14	
Sig. ΔF		.008			.001			.003	
ΔR^2		.04			.06			.04	

Note. * $p < .05$, ** $p < .01$, *** $p < .005$.

4. 3. 2. 2. Investigating the Predictors of Satisfaction with Life

To explore the predictors of satisfaction with life, a two-step hierarchical regression analysis with enter method was run. In the first step of the analysis, age, BMI, and perceived income levels were entered to the equation as control variables, and these variables explained 6% of the variance in satisfaction with life, $F(3, 241) = 4.91$, $p < .01$. When their unique contributions were analyzed, it was seen that only perceived income level yielded a significant association with satisfaction with life, $\beta = .23$, $t(241) = 3.73$, $p < .001$, partial $\eta^2 = .23$. In the second step, both need satisfaction and need frustration were entered to the model, and these variables explained additional 20% of the variance in satisfaction with life, $\Delta F(2, 239) = 31.89$, $p < .001$. Specifically, need satisfaction was

a significant and positive predictor of satisfaction with life ($\beta = .32$, $t(239) = 4.21$, $p < .001$, partial $\eta^2 = .26$), whereas need frustration was a significant and negative predictor of it ($\beta = -.18$, $t(239) = -2.36$, $p < .05$, partial $\eta^2 = .15$). Overall, these results fully supported both H_3 and H_4 . Table 28 presents the details related to predictors of satisfaction with life.

Table 28

Results of Hierarchical Regression Analysis Predicting Satisfaction with Life

	Step 1			Step 2		
	β	t	partial η^2	β	t	partial η^2
Age	.05	.82	.05	.03	.54	.04
BMI	-.01	-.19	-.01	-.03	-.57	-.04
Perceived income level	.23	3.73***	.23	.17	2.94**	.19
Need satisfaction				.32	4.21***	.26
Need frustration				-.18	-2.36*	-.15
df		3,241			2,239	
ΔF		4.91			31.88	
Sig. ΔF		.002			.000	
ΔR^2		.06			.20	

Note. * $p < .05$, ** $p < .005$, *** $p < .001$.

4. 4. Discussion

The main purpose of the current study was to examine the predictive roles of needs for autonomy, competence and relatedness on muscle dysmorphia in men engaging in regular bodybuilding activities (at least twice a week) for at least a year. In addition to this main purpose, it was aimed to test self-determination theory (SDT) assumption that frustration of needs is more related to ill-being, whereas satisfaction of these needs (i.e., bot low and high satisfaction of them) is more related to well-being (e.g., Bartholomew et al., 2011).

Hence, satisfaction with life was included in the current study to compare the predictive strengths of need satisfaction and need frustration on both an indicator of ill-being (i.e., muscle dysmorphia) and an indicator of well-being (i.e., satisfaction with life). To achieve these aims, first, the adaptation of Muscle Appearance Satisfaction Scale (MASS; Mayville et al., 2000) was done and its psychometric properties were examined. Then, the differences between the levels of the demographic variables in terms of study variables and bivariate correlations of the variables were examined. Lastly, two hierarchical regression analyses were carried out to test the study hypotheses. The findings were discussed below.

4. 4. 1. The Turkish Version of Muscle Appearance Satisfaction Scale

The results of confirmatory factor analysis revealed that after some modifications the original five-factor structure of MASS fit the Turkish data very well. The reliability of MASS was tested through internal consistency reliability, the Cronbach's alpha coefficients of the factors were found to be in acceptable range except two factors ($\alpha = .63$ for injury and $\alpha = .68$ for substance use). The validity of MASS was examined through both convergent and divergent validities. For convergent validity, as expected, MASS factors were found to be highly correlated with conceptually relevant scales (i.e., DMS-muscularity oriented body image attitudes, DMS-muscularity oriented workout behaviors, DMS-muscularity oriented supplement use and eating behaviors, SATAQ-internalization of muscular body, and SATAQ-internalization of general attractiveness). Additionally, muscle dissatisfaction subscale of MASS was found to be associated with appearance esteem, body dissatisfaction, social appearance anxiety, and self-esteem. Given the fact that having a muscular body plays a critical role in how men feel about their bodies (e.g., Clay et al., 2005; Fussell, 1991; Tiggemann, 2011), this association makes sense. For divergent validity, it was expected that MASS factors would have insignificant correlations with conceptually irrelevant variables. In this context, MASS factors yielded weak significant or insignificant associations with SATAQ-internalization of thin/low-fat body, which was coherent with previous findings demonstrating that drive for thinness

and drive for muscularity are two separate constructs (McCreary & Sasse, 2000). Also, consistent with the findings of Cafri et al. (2005) indicating that there is a lack of association between BMI and muscularity oriented behaviors and cognitions, insignificant correlations between MASS factors and BMI were found. In short, when these findings were considered altogether, Turkish MASS was accepted as a valid and reliable measure of muscle dysmorphia.

4. 4. 2. The Predictors of Muscle Dysmorphia

In line with our main aim of testing the predictive effects of basic psychological needs on muscle dysmorphia (i.e., H_1 and H_2), we conducted a three-step hierarchical regression analysis. In the first step, the demographic characteristics of the participants (i.e., age and BMI) were controlled and both of them were found to be significant predictors of MD. Specifically, as the ages of the participants increased, the symptoms of MD decreased which supported the previous findings demonstrating a negative association between age and MD (Dryer, Farr, Hiramatsu, Quinton, 2016; Hughes, Dean, & Allen, 2016). Moreover, the results yielded a positive association between BMI and MD. When we considered the idea that males with MD have elevated BMI due to their excessive muscle mass (Tod, Edwards, & Cranswick, 2016), this finding is not surprising. Considering this finding, future studies are suggested to include the indices of fat-free mass or fat mass (Kouri, Pope, Katz, & Oliva, 1995; VanItallie, Yang, Heymsfield, Funk, & Boileau, 1990) to clarify their pure effects on MD.

In addition to demographic characteristics of the participants, bodybuilding-related variables (i.e., the frequency of workouts, the length of workouts, and for how many months the participants have been engaging in bodybuilding activities) were also controlled. Among these variables, only the frequency of workouts was a significant predictor of MD; more frequent workouts were associated with higher symptoms of MD. This finding can be considered as meaningful and consistent with the literature as it was

found that men with MD maintain a strict workout schedule to enhance their muscle mass (Olivardia, 2001).

After controlling the aforementioned variables, the predictive effects of both low satisfaction and frustration of the basic needs on MD were examined. Results revealed that need frustration was a significant predictor of MD, while low need satisfaction was not. Even though this finding partially supported our first hypothesis stating that both of these variables would predict MD, actually it is consistent with the previous findings (Bartholomew et al., 2011; Chen et al., 2015) and the assumptions of Self-Determination Theory (SDT) (Vansteenkiste & Ryan, 2013) indicating that satisfaction of the basic needs is critical for well-being, whereas need frustration plays a critical role in ill-being situations. This finding also provided an evidence for maladaptive responses given to experienced need frustration. In other words, according to SDT framework, individuals with need frustration may develop two maladaptive coping strategies, namely need substitute and compensatory behaviors (Deci & Ryan, 2000; Vansteenkiste & Ryan, 2013). In this regard, to cope with need frustration, individuals may determine extrinsic goals such as perfect body, fame, and wealth (examples of need substitute) and/or engage in maladaptive compensatory behaviors such as releasing control and rigid behavioral patterns. Actually, although these maladaptive coping strategies might lead to short-lived positive outcomes, they do not lead to satisfaction of the needs in the long term; on the contrary, they lead to further need frustration and subsequent psychopathological conditions (Deci & Ryan, 2000; Van Hiel & Vasteenkiste; 2009; Vansteenkiste & Ryan, 2013; Verstuyf et al., 2012). When the current findings are evaluated in the line with this reasoning, it can be stated that our participants with high need frustration aimed to reach hyper-muscular body (need substitute) and engaged in rigid behavioral patterns such as strict workouts and diets (compensatory behaviors) to compensate experienced need frustration. However, despite their efforts for compensation, these maladaptive strategies have led to more MD symptoms.

Regarding the rigid behavioral patterns as maladaptive compensatory behaviors, Verstuyf et al. (2012) provided a more comprehensive explanation. Accordingly, when people experience chronic failure in meeting basic needs, they may develop perfectionist standards (e.g., perfect body) to prove their worth to both themselves and others, and they strive to reach these standards. In pursuit of these standards, if they confront even with a small failure, they cannot tolerate it and they tend to experience inferiority. On the other side, if they reach these standards, they are likely to settle more difficult ones, which in turn, may lead to relentless rigid desires and behaviors to reach constantly updated standards. Thus, our findings demonstrating the association between frustrated needs and MD supported this reasoning. Specifically, in our study bodybuilders with higher need frustration reported higher scores on MD measure. Moving from the reasoning of Verstuyf et al. (2012), it is thought that our participants with high need frustration might have targeted a V-shape muscular body as a perfectionist standard to shift their attention away from deficits in their basic needs, and began to strive to reach this standard. Thus, it is thought that our participants with high need frustration have exhibited rigid behavioral patterns that are common in MD (e.g., excessive work out behaviors, high protein diets, relentless mirror checking, and constantly thinking about being more muscular). Besides, considering constantly updated standards mentioned by Verstuyf et al. (2012), our participants might have constantly raised their standards and this might have led to the belief that they are small and thin even if they are more muscular than an average man, which is one of the common characteristics of MD (Olivardia, 2001). Taken together, it can be concluded that MD might be a consequence of rigid behavioral patterns to cope with experienced need frustration.

To the best of our knowledge, there is no other study that has examined the association between frustration of basic needs and MD. However, given the common similarities between MD and anorexia nervosa (e.g., Murray et al., 2010; Murray et al., 2012) and the suggestion that MD should be evaluated as an eating disorder (e.g., Mosley, 2009; Murray & Touyz, 2013), it can be stated that the pattern of the association between need

frustration and MD is consistent with the previous findings indicating the links between basic needs and anorexia nervosa (e.g., Strauss & Ryan, 1987) as well as related symptoms, such as fasting and skipping meals (Thogersen et al., 2010; Thogersen-Ntoumani et al., 2011).

4. 4. 3. The Predictors of Satisfaction with Life

We ran a two-step hierarchical regression analysis to explore the predictive effects of basic needs on satisfaction with life (i.e., H_3 and H_4). Demographic variables, i.e., perceived income level, age, and BMI added to the equation as control variables, and among them only perceived income level predicted satisfaction with life. To state more precisely, as perceived income level increased, life satisfaction of our participants also increased, which provided an additional support for an extensive body of literature indicating the positive relation between income level and satisfaction with life (e.g., Cheung & Lucas, 2015; Plouffe & Tremblay, 2017). After controlling the demographic variables, the influences of need satisfaction and need frustration on satisfaction with life were examined, and both of them were found to be significant predictors of it. Besides, consistent with the previous findings (e.g., Chen et al., 2015) and our hypothesis (i.e., H_4 , states that need satisfaction would explain higher variance in life satisfaction as compared to need frustration), need satisfaction was found to be a more powerful predictor of life satisfaction.

Ryan and Deci (2000a) stated basic needs as essential nutriment for personal well-being. Besides, Ryan (1995) and Vansteenkiste and Ryan (2013) used a plant metaphor to emphasize the importance of the satisfied needs on psychological well-being, and claimed that just as sunlight and water are necessary for a plant to grow and blossom (which can be regarded as indicators of that plant's well-being), similarly satisfied needs are necessary for people's psychological well-being. Consistent with the statement of Ryan and Deci (2000a) and the plant metaphor, several studies robustly demonstrated significant associations between satisfied needs and indicators of well-being such as

positive affect, low-negative affect, life satisfaction (Landry et al., 2016; Olafsen, 2017; Vansteenkiste, Lens, Soenens, & Luyckx, 2006), self-esteem (Chen et al., 2015), and subjective vitality (Adie, Duda, & Ntoumanis, 2008; Chen et al., 2015; Vansteenkiste et al., 2006). Moreover, in their longitudinal study, Leon and Nunez (2013) showed a causal ordering between satisfied needs and indicators of well-being (i.e., subjective well-being, life satisfaction, and self-esteem). In this regard, our finding that demonstrating the link between need satisfaction and life satisfaction yielded an additional evidence for the critical role of satisfied needs on well-being (H_3).

According to SDT, in addition to one's inner resources, environmental factors also have a vital influence on his/her well-being. In other words, environmental factors might contribute to one's self-growth and well-being by facilitating the satisfaction process of three basic needs or lead to detrimental effects on one's self-growth and well-being by thwarting the needs, which in turn mostly result in experienced need frustration (Ryan & Deci, 2000a). In this regard, studies showed that need frustration is more related with ill-being situations (Bartholomew, Ntoumanis, Ryan, Bosch, & Thogersen-Ntoumani, 2011; Bartholomew et al., 2011; Chen et al., 2015), whereas need satisfaction is strongly linked with well-being situations (e.g., Chen et al., 2015, Vansteenkiste et al., 2006). Consistent with these studies, the current study also revealed that, as compared to need frustration, need satisfaction has a stronger association with the indicator of well-being (i.e., life satisfaction), and need satisfaction explained higher variance in this dependent variable (H_4).

4. 4. 4. Strength of the Present Study

The current study is the first in adapting MASS to Turkish and to test its psychometric properties. With help of this adaptation, this study is expected to contribute to an increase the numbers of studies on muscle dysmorphia, which in turn would lead to advance our understanding of muscle dysmorphia in the Turkish population.

In the literature, the etiology of muscle dysmorphia has been investigated based on only ideal body shapes imposed by media and society members (Klimek et al., 2018; Mason et al., 2016). In this sense, the current study contributed to the limited literature by demonstrating that unfulfilled basic needs might be the predisposing factor for the development of muscle dysmorphia.

Even though the associations between unfulfilled basic needs and anorexia nervosa (e.g., Strauss & Ryan, 1987) and related body image problems such as unhealthy weight control behaviors (e.g., Thogersen-Ntoumani et al., 2010; Thogersen-Ntoumani et al., 2011) were well-documented in literature, the relation between unfulfilled basic needs and the psychopathological condition –muscle dysmorphia– which is accepted to have very similar characteristics with anorexia nervosa has not been investigated till the current study. In this context, the current study yielded a unique contribution to the literature by indicating the predictive effect of unfulfilled basic needs on muscle dysmorphia.

In addition, the current study indicated that (1) need frustration is significant predictor of muscle dysmorphia (i.e., an indicator of ill-being), whereas need satisfaction is not significant predictor of it, (2) need satisfaction was a stronger predictor of satisfaction with life as compared to the predictive effect of need frustration. This finding of the study provided an additional evidence for the SDT assumption indicating that satisfaction of needs (i.e., low satisfaction and high satisfaction of the needs) is more related to well-being while frustration of them is more related to ill-being (e.g., Bartholomew et al., 2011).

4. 4. 5. Clinical Implications of the Present Study

The present study yielded important clinical implications. First, society perceives a V-shaped muscular body as an indicator of attractiveness, happiness, and a good character (Grogan, 2008). However, it should be kept in mind that having this body shape might not be an indicator of healthiness; conversely, it might be a sign of MD. Therefore, family members, peers, and significant others of bodybuilders should keep in their mind that their

encouraging behaviors and attitudes on being muscular might increase the risk of MD in bodybuilders with high need frustration.

Second, personal trainers in gyms should be informed about MD and its symptoms to be able to identify bodybuilders with MD risk and to motivate them to receive a psychological help for both primary and secondary prevention of MD.

Third, when a person with MD symptoms applies for a psychological treatment, addressing experiences in which the basic needs were thwarted, creating awareness about maladaptive coping strategies to compensate experienced need frustration, and strengthening internal goals that are known to be effective in satisfying basic needs (e.g., personal growth, affiliations, community feeling; Kasser & Ryan, 1996; Ryan, Patrick, Deci, & Williams, 2008) might be beneficial for clinicians to administer a successful treatment.

However, this study does not implicate that men with unfulfilled basic needs, and who are engaging in bodybuilding activities will certainly suffer from muscle dysmorphia. As Vaanstenkiste, Simmons, Braet, Bachman, and Deci (2003) indicated, if individuals engage in activities in the direction of their intrinsic goals (e.g., to be healthy) rather than their extrinsic goals (e.g., to have attractive body image), this might result in positive outcomes (as cited in Ryan et al., 2008, p. 4). In the line with this finding, men engaging in bodybuilding activities to achieve their intrinsic goals might not suffer from negative consequences such as muscle dysmorphia; on the contrary, they might attain positive outcomes.

4. 4. 6. Limitations of the Present Study and Future Research Directions

The current study is not without its limitations. First, due to its cross-sectional nature, the findings did not produce a causal relation between basic needs and the outcome variables (i.e., muscle dysmorphia and life satisfaction). Hence, in future studies, it is suggested to examine these associations with longitudinal and/or experimental designs.

Second, we did not ask a question to identify competitive and non-competitive bodybuilders. Given the findings indicating MD is more common among competitive bodybuilders than non-competitive ones (Mitchell et al., 2017), further studies are suggested to compare need frustration-MD relation across both groups.

Third, despite the adequate sample size, qualitative information might have been collected through semi-structured interviews to reach a deeper understanding of the basic needs-MD relation. Thus, this quantitative study might be considered as a primary step in this topic, and in future studies it is suggested to use qualitative data to advance the findings.

4. 4. 7. Conclusion

In conclusion, when all the implications and limitations are considered together, the current study (1) made a unique contribution to the literature by addressing the significant association between basic psychological needs and MD, (2) supported SDT assumption indicating that as compared to low need satisfaction, frustrated basic needs are more strongly related to psychopathologic conditions (Bartholomew et al., 2011), (3) provided an evidence for the existing literature emphasizing the link between the basic needs and body image concerns (Strauss & Ryan, 1987), and lastly (4) provided additional support for the influence of need satisfaction on well-being (e.g., Chen et al., 2015; Lopez-Walle, Balaguer, Castillo, & Tristan, 2012; Leon & Nunez, 2013). Taken all, these findings suggested that basic psychological needs for autonomy, competence and relatedness play a critical role in well-being as well as ill-being.

CHAPTER 5

GENERAL CONCLUSION

Within this dissertation, it was mainly aimed to provide a deeper understanding of body image concerns of males and to enlighten the underlying mechanism of muscle dysmorphia. For this aim, three studies were designed by adopting a mixed-method approach. In the first study, body image concerns were compared between females and males, and the predictive effects of basic psychological needs (i.e., competence, relatedness, and autonomy; Deci & Ryan, 2000) on body image concerns were examined. Since the findings of the first study revealed that body image concerns of males are highly related to having a muscular body; in the second study, semi-structured interviews were conducted with males engaging in regular bodybuilding activities to provide a deeper understanding of their motivations for bodybuilding. In the last study, the predictive effects of basic psychological needs on muscle dysmorphia and life satisfaction were tested both to contribute to the limited literature about the etiology of muscle dysmorphia and to provide additional evidence for existing literature indicating the influence of basic needs on well-being.

The findings of the first study revealed that males and females did not differ from each other in terms of body image concerns (i.e., body dissatisfaction, social appearance anxiety, and appearance esteem), which means that these concerns are problems of humanity rather than being a female issue. On the other side, they did differ from each

other with respect to manifestations (i.e., internalization of muscular body, internalization of thin/low-fat body, and drive for muscularity) of these concerns; males reported significantly higher scores on internalization of muscular body and drive for muscularity, whereas females reported significantly higher scores on internalization of thin/low-fat body. Given the sociocultural expectations for ideal female and male body images (Grogan, 2008; McCabe & Ricciardelli, 2005), this finding was sensible. Thus, it can be suggested that to understand body image concerns of males, muscularity oriented variables should be used rather than thinness oriented ones.

The first study also indicated that unfulfilled basic psychological needs (i.e., low satisfaction and frustration of the needs) were risk factors for body image concerns, which provided support for the SDT statement indicating that unfulfilled basic needs may lead individuals to attach particular importance to extrinsic goals such as achieving a perfect body, which may result in further deprivations in satisfaction of these needs (e.g., Vansteenkiste & Ryan, 2013; Verstuyf et al., 2012). Hence, considering this finding, individuals with unfulfilled basic needs can be suggested to adopt intrinsic goals (e.g., affiliation and health) to satisfy these unfulfilled needs.

In the second study, bodybuilding experiences of six males were examined in detail through interpretative phenomenological analysis, and three superordinate themes (i.e., the desire to compensate for the inferiority feelings, bodybuilding process: muscle-contingent self-worth, and battle of feelings) were identified. Accordingly, inferiority feelings led men to engage in bodybuilding activities to overcompensate for these feelings with a muscular body, which was also consistent with previous literature (e.g., Fussell, 1991; Grogan & Richards, 2002; Hale & Smith, 2012; Klein, 2007). However, this mechanism resulted in muscular-contingent self-worth; when individuals observed an improvement in their muscles or got positive feedback from others about their muscles, their self-worth increased, and in the exact opposite conditions, their self-worth diminished. Besides, depending on the fluctuations in their muscular-contingent self-worth, they experienced either positive (i.e., gratification, success, and happiness) or

negative feelings (i.e., guilt, sadness, and the fear of confronting own inferiorities). Thus, they showed a tendency to constantly improve their muscles to benefit from these positive outcomes (i.e., enhanced self-worth and the positive feelings), which can also be considered as a predisposing mechanism for muscle dysmorphia. Collectively, these findings were consistent not only with the association between inferiority feelings and body image, which was emphasized by several theories (see Adler, 1929; Schultz & Schultz, 2013 for Adler's Individual Theory; see Young et al., 2003 for Schema Theory; see for Beck et al., 2004 for Cognitive Theory; see for Deci & Ryan, 2000 for Self Determination Theory) but also with previous research advocating the ineffectiveness of extrinsic goals (e.g., perfect body) on overcoming inferiority feelings (e.g., Verstuyf et al., 2012). Based upon these findings, it can be suggested that rather than avoiding the feelings of inferiority with help of extrinsic goals, raising awareness about own inferiority feelings will contribute to the well-being and psychological health of individuals.

In the third study, the predictive roles of basic psychological needs (i.e., satisfaction and frustration of the needs) on muscle dysmorphia and life satisfaction were examined, and the results demonstrated that (1) need frustration was significant predictor of muscle dysmorphia but need satisfaction was not, (2) although both need satisfaction and need frustration had significant associations with life satisfaction, need satisfaction was stronger predictor of life satisfaction, which supported the SDT assertion that frustration of the needs is more related to ill-being situations whereas satisfaction of the needs is more related to well-being situations (e.g., Bartholomew et al., 2011). Also, SDT assumes that when the basic psychological needs of individuals are thwarted chronically, these individuals may adopt maladaptive compensatory strategies. That is to say, these individuals may show a tendency to achieve extrinsic goals (i.e., wealth, fame, perfect body) which provides only short-lived satisfaction and may result in further need frustration and ill-being in the long-term (Verstuyf et al., 2012). When this reasoning and the findings of the third study were considered together, it can be concluded that the desire

to compensate frustrated needs through achieving a muscular body might be a predisposing factor for muscle dysmorphia.

Overall, the findings of this dissertation pointed out that (1) males suffer from body image concerns as much as females do, but males' concerns are more related to muscle mass or having a muscular body rather than thinness, (2) the desire and the actions to overcompensate for inferiority feelings and frustrated needs do not lead long-term positive outcomes; on the contrary, they result in ill-being in the long term, which can be considered as a predisposing factor for muscle dysmorphia and other related psychopathological conditions (e.g., bulimia nervosa, anorexia nervosa, unhealthy weight control behaviors). Thus, for those who attach great importance to body appearance, developing and providing primary and secondary prevention programs to raise awareness about the inferiority feelings, frustrated basic needs, and ineffectiveness of extrinsic goals (i.e., fame, wealth, perfect body) in overcoming the inferiority feelings and frustrated basic needs, might be helpful in the prevention and treatment of body image related disorders.

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APPENDICES

APPENDIX A. DEMOGRAPHIC INFORMATION FORM (FIRST STUDY)

Cinsiyet: () Kadın () Erkek **Yaş:**

Boyunuz (cm): **Kilonuz (kg) :**

Öğrenci misiniz? () Evet () Hayır

En son mezun olduğunuz okul:

() İlkokul () Ortaokul () Lise () Yüksekokul () Üniversite

() Yüksek lisans () Doktora

Çalışıyor musunuz? () Evet ise mesleğinizi belirtiniz..... () Hayır

İlişki durumu? () İlişkim var () İlişkim Yok

Nerede yaşıyorsunuz?

() Ailem ile birlikte () Yurtta () Akaraba yanında () Arkadaşlar ile evde

() Tek başıma evde () Diğer (Lütfen belirtiniz).....

Hayatınızın büyük bir bölümünü nerede yaşayarak geçirdiniz?

() Köy () Kasaba () İlçe () Şehir () Büyükşehir

Kendinizi hangi gelir grubuna ait hissediyorsunuz?

() Düşük () Orta () Yüksek

Düzenli olarak yaptığınız bir spor var mı? () Evet ise belirtiniz..... () Hayır

Ne sıklıkta bu sporu yapıyorsunuz?

() Her gün () Haftada 5-6 kez () Haftada 4 kez () Haftada 3 kez

() Haftada 2 kez () Haftada 1 kez () Ayda 3 kez () Ayda 2 kez veya daha az

Kaç aydır bu sporu yapıyorsunuz?

Daha önce herhangi bir psikolojik veya psikiyatrik tanı aldınız mı?

() Evet ise belirtiniz: () Hayır

Herhangi bir fiziksel hastalık tanısı aldınız mı?

() Evet ise belirtiniz: () Hayır

Lütfen kaç kardeş olduğunuzu belirtiniz:

Lütfen kaçınıcı çocuk olduğunuzu belirtiniz:

APPENDIX B. BODY IMAGE SCALE

Aşağıda çeşitli vücut özellikleri ve beğenip beğenmeme ifadeleri bulunmaktadır. Yapmanız gereken, bir vücut özelliğiniz hakkındaki duygularınızı bu ifadelere göre değerlendirmektir. Herhangi bir vücut özelliğinizi genel olarak beğenip beğenmediğinize göre duygularınızı derecelendiriniz.

		Çok beğeniyorum	Oldukça beğeniyorum	Kararsızım	Pek beğenmiyorum	Hiç beğenmiyorum
1	Saçlarım					
2	Yüzümün rengi					
3	İştahım					
4	Ellerim					
5	Vücudumdaki kıl dağılımı					
6	Burnum					
7	Fiziksel gücüm					
8	İdrar-dışkı düzenim					
9	Kas kuvvetim					
10	Belim					
11	Enerji düzenim					
12	Sırtım					
13	Kulaklarım					
14	Yaşım					
15	Çenem					
16	Vücut yapım					
17	Profilim					

Cont'd

18	Boyum					
19	Duyularımın keskinliği					
20	Ağrıya dayanaklılığım					
21	Omuzlarımın genişliği					
22	Kollarım					
23	Göğüslerim					
24	Gözlerimin şekli					
25	Sindirim sistemimim					
26	Kalçalarım					
27	Hastalığa direncim					
28	Bacaklarım					
29	Dişlerimin şekli					
30	Cinsel gücüm					
31	Ayaklarım					
32	Uyku düzenim					
33	Sesim					
34	Sağlığım					
35	Cinsel faaliyetlerim					
36	Dizlerim					
37	Vücudumun duruş şekli					
38	Yüzümün şekli					
39	Kilom					
40	Cinsel organlarım					

APPENDIX C. GENERAL NEED SATISFACTION SCALE

Aşağıdaki her maddeyi dikkatlice okuyup size uygunluk derecesine göre ilgili kareyi işaretleyiniz.

		Hiç doğru değil			Biraz doğru		Çok doğru	
1	Hayatımı nasıl yaşayacağıma karar verme özgürlüğümün olduğunu hissediyorum.	1	2	3	4	5	6	7
2	Etkileşimde bulunduğum insanlardan gerçekten hoşlanıyorum.	1	2	3	4	5	6	7
3	Kendimi çoğu zaman çok yeterli hissetmem.	1	2	3	4	5	6	7
4	Hayatımda kendimi baskı altında hissediyorum.	1	2	3	4	5	6	7
5	Tanıdığım insanlar yaptığım şeylerde iyi olduğumu söylerler.	1	2	3	4	5	6	7
6	Etkileşimde bulunduğum insanlarla iyi geçinirim.	1	2	3	4	5	6	7
7	Daha çok kendi başımayımdır ve çok fazla sosyal etkileşime girmem	1	2	3	4	5	6	7
8	Görüş ve düşüncelerimi ifade etmede genellikle kendimi özgür hissederim.	1	2	3	4	5	6	7
9	Düzenli olarak etkileşimde bulunduğum insanları arkadaşım olarak görürüm.	1	2	3	4	5	6	7
10	Son zamanlarda yeni ve ilginç beceriler öğrendim.	1	2	3	4	5	6	7
11	Günlük yaşamımda bana söylenenleri sıklıkla yapmak zorunda kalırım.	1	2	3	4	5	6	7
12	Hayatımdaki insanlar benimle ilgilenirler.	1	2	3	4	5	6	7
13	Çoğu zaman, yaptıklarımdan dolayı başarı duygusunu hissedirim.	1	2	3	4	5	6	7
14	Günlük yaşamımda etkileşimde bulunduğum insanlar duygularımı dikkate alırlar.	1	2	3	4	5	6	7
15	Hayatımda ne kadar yetenekli olduğumu gösterme şansını bulamıyorum.	1	2	3	4	5	6	7
16	Yakın olduğum çok fazla insan yok.	1	2	3	4	5	6	7
17	Günlük yaşamımda kendi benliğimi ortaya koyabildiğimi hissediyorum.	1	2	3	4	5	6	7
18	Düzenli olarak etkileşimde bulunduğum insanlar benden hoşlanmıyor gibi gözüküyor	1	2	3	4	5	6	7
19	Kendimi çoğu zaman becerikli hissetmem	1	2	3	4	5	6	7
20	Günlük yaşamımda kendi kararlarımı vermek için çok fazla imkanım yoktur.	1	2	3	4	5	6	7
21	Genellikle insanlar bana karşı oldukça dostane davranır.	1	2	3	4	5	6	7

APPENDIX D. SOCIAL APPEARANCE ANXIETY SCALE

Lütfen aşağıdaki maddeleri dikkatle okuyun ve her maddenin altındaki 4 cevap şikkından, size en uygun olanını daire içine alarak işaretleyn.

1	2	3	4	5
Hiç Uygun Değil	Uygun Değil	Biraz Uygun	Uygun	Tamamen Uygun

1	Dış görünüşümle ilgili kendimi rahat hissederim.	1	2	3	4	5
2	Fotoğrafım çekilirken kendimi gergin hissederim.	1	2	3	4	5
3	İnsanlar doğrudan bana baktıklarında gerilirim.	1	2	3	4	5
4	İnsanların görünüşümden dolayı benden hoşlanmayacakları konusunda endişelenirim.	1	2	3	4	5
5	Yanlarında olmadığım zamanlarda insanların, görünüşümle ilgili kusurlarımı konuşacaklarından endişelenirim.	1	2	3	4	5
6	Görünüşümden dolayı insanların benimle beraber vakit geçirmek istemeyeceklerinden endişelenirim.	1	2	3	4	5
7	İnsanların beni çekici bulmamalarından korkarım.	1	2	3	4	5
8	Görünüşümün yaşamımı zorlaştıracığından endişe duyarım.	1	2	3	4	5
9	Karşıma çıkan fırsatları görünüşümden dolayı kaybetmekten kaygılanırım.	1	2	3	4	5
10	İnsanlarla konuşurken görünüşümden dolayı gerginlik yaşarım.	1	2	3	4	5
11	Diğer insanlar görünüşümle ilgili bir şey söylediklerinde kaygılanırım.	1	2	3	4	5
12	Dış görünüşümle ilgili başkalarının beklentilerini karşılayamamaktan endişeleniyorum	1	2	3	4	5
13	İnsanların görünüşümü olumsuz olarak değerlendirecekleri konusunda endişelenirim.	1	2	3	4	5
14	Diğer insanların görünüşümdeki bir kusurun farkına vardıklarını düşündüğümde kendimi rahatsız hissederim.	1	2	3	4	5
15	Sevdiğim kişinin görünüşümden dolayı beni terk edeceğinden endişe duyuyorum.	1	2	3	4	5
16	İnsanların görünüşümün iyi olmadığını düşünmelerinden endişeleniyorum.	1	2	3	4	5

APPENDIX E. APPEARANCE ESTEEM SCALE

Lütfen aşağıdaki maddeleri dikkatle okuyun ve her maddenin altındaki 4 cevap şikkından, size en uygun olanını daire içine alarak işaretleyin.

		Çok Doğru	Doğru	Yanlış	Çok Yanlış
1	Dış görünüşümden memnunum.	1	2	3	4
2	Kendimi fiziki yönden çekici buluyorum.	1	2	3	4
3	Kilomdan şikayetçiyim.	1	2	3	4
4	Görünüşümün daha iyi olmasını isterim.	1	2	3	4
5	Çevremdeki insanların pek çoğu kadar çekici olduğumu düşünüyorum.	1	2	3	4
6	Çevremdeki insanların pek çoğundan daha kilolu olduğumu düşünüyorum.	1	2	3	4
7	Fizik görünüşümden dolayı utanıyorum.	1	2	3	4
8	Karşı cinsten kişilerin beni fizik yönden çekici bulduğunu sanıyorum.	1	2	3	4
9	Giysisiz görünüşüm beni kaygılandırıyor.	1	2	3	4
10	Arkadaşlarım kadar çekici olmadığımı düşünüyorum.	1	2	3	4

APPENDIX F. SATISFACTION WITH LIFE SCALE

Aşağıdaki ifadelere katılıp katılmadığınızı görüşünüzü yansıtan rakamı işaretleyerek belirtiniz. Doğru ya da yanlış cevap yoktur. Sizin durumunuzu yansıttığını düşündüğünüz rakam bizim için en doğru yanıttır. Lütfen, açık ve dürüst şekilde yanıtlayınız.

	Kesinlikle katılmıyorum	Katılmıyorum	Biraz katılmıyorum	Çok az katılıyorum	Ne katılıyorum ne de katılmıyorum	Biraz katılıyorum	Kesinlikle katılıyorum
Pek çok açıdan ideallerime yakın bir yaşamım var	1	2	3	4	5	6	7
Yaşam koşullarım mükemmeldir	1	2	3	4	5	6	7
Yaşamım beni tatmin ediyor	1	2	3	4	5	6	7
Şimdiye kadar, yaşamda istediğim önemli şeyleri elde ettim	1	2	3	4	5	6	7
Hayatımı bir daha yaşama şansım olsaydı, hemen hemen hiçbir şeyi değiştirmezdim	1	2	3	4	5	6	7

APPENDIX G. ROSENBERG SELF-ESTEEM SCALE

Lütfen aşağıdaki maddeleri dikkatle okuyun ve her maddenin altındaki 4 cevap şıkkından, size en uygun olanını daire içine alarak işaretleyin.

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

APPENDIX H. SOCIOCULTURAL ATTITUDES TOWARDS APPEARANCE
QUESTIONNAIRE-4 REVISED

Lütfen aşağıdaki soruları size uygun olacak şekilde cevaplayınız.

		Kesinlikle katılmıyorum	Çoğunlukla katılmıyorum	Ne katılıyorum ne katılmıyorum	Çoğunlukla katılıyorum	Kesinlikle katılıyorum
1	Kaslı görünmek benim için önemlidir.	1	2	3	4	5
2	Giydiğim kıyafetlerin içinde iyi görünmek benim için önemlidir.	1	2	3	4	5
3	Vücudumun çok zayıf görünmesini isterim.	1	2	3	4	5
4	Kaslı görünmekle ilgili çok fazla düşünürüm.	1	2	3	4	5
5	Dış görünüşümle ilgili çok fazla düşünürüm.	1	2	3	4	5
6	Zayıf görünmekle ilgili çok fazla düşünürüm.	1	2	3	4	5
7	Güzel/yakışıklı görünmek isterim.	1	2	3	4	5
8	Vücudumun kaslı görünmesini isterim.	1	2	3	4	5
9	Dış görünüşüm hakkında çok da fazla düşünmem.	1	2	3	4	5
10	Vücudumun kaslı görünmesini istemem.	1	2	3	4	5
11	Vücudumun çok ince görünmesini isterim.	1	2	3	4	5
12	Çekici olmak benim için önemlidir.	1	2	3	4	5
13	Vücudumda çok az yağ olması ile ilgili çok fazla düşünürüm.	1	2	3	4	5
14	Nasıl görüldüğümle ilgili çok fazla düşünmem.	1	2	3	4	5
15	Çok kaslı görünen bir vücudum olsun isterim.	1	2	3	4	5

Aşağıdaki soruları ailenizi (ebeveynleri, ağabeyleri, ablaları, kardeşleri ve akrabalarınızı içerecek şekilde) düşünerek cevaplayınız

		Kesinlikle katılmıyorum	Çoğunlukla katılmıyorum	Ne katılıyorum ne katılmıyorum	Çoğunlukla katılıyorum	Kesinlikle katılıyorum
16	Daha zayıf görünmem konusunda üzerimde ailemin baskısını hissedirim.	1	2	3	4	5
17	Dış görünüşümü düzeltmem konusunda üzerimde ailemin baskısını hissedirim.	1	2	3	4	5
18	Vücut yağımı düşürmem konusunda ailem beni teşvik eder.	1	2	3	4	5
19	Ailem vücudumu daha iyi bir şekle sokmam konusunda beni teşvik eder.	1	2	3	4	5

Aşağıdaki soruları akranlarınızı (yakın arkadaşlarınızı, sınıf arkadaşlarınızı ve aynı yaş grubunda olduğunuz diğer kişileri içerecek şekilde) düşünerek cevaplayınız.

		Kesinlikle katılmıyorum	Çoğunlukla katılmıyorum	Ne katılıyorum ne katılmıyorum	Çoğunlukla katılıyorum	Kesinlikle katılıyorum
20	Zayıflamam konusunda akranlarım beni teşvik eder.	1	2	3	4	5
21	Dış görünüşümü düzeltmem konusunda üzerimde akranlarımın baskısını hissedirim.	1	2	3	4	5
22	Vücudumun daha iyi görünmesi konusunda üzerimde akranlarımın baskısını hissedirim.	1	2	3	4	5
23	Vücut yağımı düşürmem konusunda akranlarımdan baskı görürüm.	1	2	3	4	5

Aşağıdaki soruları hayatınızdaki önemli kişileri (romantik ilişkide bulunduğunuz kişileri, öğretmenleri ve koçlarınızı içerecek şekilde) düşünerek cevaplayınız.

		Kesinlikle katılmıyorum	Çoğunlukla katılmıyorum	Ne katılıyorum ne katılmıyorum	Çoğunlukla katılıyorum	Kesinlikle katılıyorum
24	Zayıflamam konusunda hayatımdaki önemli kişiler beni teşvik eder.	1	2	3	4	5
25	Dış görünüşümü düzeltmem konusunda üzerimde hayatımdaki önemli kişilerin baskısını hissederim.	1	2	3	4	5
26	Vücudumun daha iyi görünmesi konusunda üzerimde hayatımdaki önemli kişilerin baskısını hissederim.	1	2	3	4	5
27	Vücut yağımı düşürmem konusunda hayatımdaki önemli kişilerden baskı görürüm.	1	2	3	4	5

Aşağıdaki soruları medyayı (televizyon, dergiler, internet, filmler, reklam panoları ve reklamları içerecek şekilde) düşünerek cevaplayınız.

		Kesinlikle katılmıyorum	Çoğunlukla katılmıyorum	Ne katılıyorum ne katılmıyorum	Çoğunlukla katılıyorum	Kesinlikle katılıyorum
28	Vücudumun daha iyi görünmesi konusunda üzerimde medyanın baskısını hissederim.	1	2	3	4	5
29	Daha zayıf görünmem konusunda üzerimde medyanın baskısını hissederim.	1	2	3	4	5
30	Dış görünüşümü düzeltmem konusunda üzerimde medyanın baskısını hissederim.	1	2	3	4	5
31	Vücut yağımı düşürmem konusunda üzerimde medyanın baskısını hissederim.	1	2	3	4	5

APPENDIX I. MARLOWE-CROWNE SOCIAL DESIRABILITY SCALE

Aşağıda kişisel tutum ve özelliklerle ilgili bazı cümleler sıralanmıştır. Her birini okuyarak sizin için uygun olup olmadıklarını, doğru ya da yanlış şıklarından birini işaretleyerek belirtiniz.

		Doğru	Yanlış
1	Oy vermeden önce tüm adayların niteliklerini araştırırım.		
2	Başı dertte olan birine yardım etmek için elimden geleni yapmakta hiçbir zaman tereddüt etmem		
3	Bazen, biri beni cesaretlendirmedeğinde yaptığım işe devam etmek benim için güçtür.		
4	Birinden aşırı derecede hoşlanmadığım bir durum hiç olmadı.		
5	Zaman zaman hayatta başarılı olabileceğime dair şüphelerim oldu.		
6	İşler istediğim gibi gitmediği zaman bazen kızgınlık duyarım.		
7	Giyimime her zaman özen gösteririm.		
8	Evde yemek yerken dışarıda bir lokantada yemek yemiş gibi sofraya özen gösteririm.		
9	Bilet almadan bir sinemaya girebileceğimi bilsem ve yakalanmayacağımdan emin olsam sanırım bunu yapardım.		
10	Birkaç kez yeteneklerimi fazlaca küçümseyip yaptığım işten vazgeçtiğim oldu.		
11	Bazen dedikodu yapmak hoşuma gider.		
12	Haklı olduklarımı bildiğim halde, otorite konumundaki insanlara isyan etmek istediğim zamanlar oldu.		
13	Karşımdaki kim olursa olsun, her zaman iyi bir dinleyiciyimdir.		
14	Bir işin içinden sıyrılmak için 'hasta numarası' yaptığımı hatırlıyorum.		
15	Birini kullanıp ondan yararlandığım durumlar olmuştur.		
16	Bir yanlış yaptığımda bunu kabul etmeye her zaman razıyım.		
17	Her zaman başkalarına yapmalarını söylediğim şeyleri kendim de uygulamışım.		
18	Ağzı kalabalık, pervasız kişilerle geçinmenin özellikle zor olduğunu düşünmüyorum.		
19	Bazen unutmak ve bağışlamak yerine karşımdakiyle ödeşmeye çalışırım.		
20	Eğer bir şeyi bilmiyorsam bunu kabul etmek benim için hiç de zor olmaz.		
21	Aksi insanlara karşı dahi her zaman nazik davranırım.		
22	İşlerin ille de benim istediğim şekilde olması için ısrar ettiğim zamanlar oldu.		
23	Birşeyleri kırıp dökmek istediğim zamanlar oldu.		
24	Bir başkasının benim yaptığım bir yanlış yüzünden cezalandırılmasına asla izin vermem.		
25	Yapılan bir iyiliğin karşılığı istendiğinde hiç kızmam.		
26	İnsanlar, benimkilerden çok farklı görüşler dile getirdiklerinde hiçbir zaman kızmadım.		
27	Arabamın güvenli olup olmadığını kontrol etmeden asla yola çıkmam.		
28	Başkalarının şansını çok kıskandığım zamanlar oldu.		
29	Hemen hemen hiçbir zaman birini azarlama isteği duymadım.		
30	Bazen, benden iyilik isteyen insanlara sinirlenirim.		
31	Hiçbir zaman haksız yere cezalandırıldığım hissine kapılmadım.		
32	Bazen şansları yaver gitmeyen insanların bunu hak etmiş olduklarını düşünürüm.		
33	Hiçbir zaman kasıtlı olarak birinin duygularını incitecek birşey söylemedim.		

APPENDIX J. BASIC PSYCHOLOGICAL NEEDS SATISFACTION AND FRUSTRATION SCALE

Aşağıda hayatınız boyunca tecrübe edebileceğiniz farklı yaşantılar sorulmaktadır. Lütfen her maddeyi dikkatlice okuyunuz. İfadeyi hayatınızın bu döneminde sizin için geçerli olacak şekilde 1’den 5’e kadar derecelendiriniz.

1	2	3	4	5
Tamamen yanlış				Tamamen doğru

1.	Üstlendiğim işlerde seçim yapabildiğimi ve özgür olduğumu hissediyorum.	1	2	3	4	5
2.	Yaptığım pek çok şeyi yapmak zorundaymışım gibi hissediyorum.	1	2	3	4	5
3.	Önemsediğim insanların da beni önemseddiğini hissediyorum.	1	2	3	4	5
4.	Ait olmak istediğim gruptan dışlanmış olduğumu hissediyorum.	1	2	3	4	5
5.	İşleri iyi yapabileceğim konusunda kendimden emin olduğumu hissediyorum.	1	2	3	4	5
6.	İşleri iyi yapıp yapamayacağım konusunda ciddi şüphelerim var.	1	2	3	4	5
7.	Kararlarımın, isteklerimi iyi bir şekilde yansıttığını hissediyorum.	1	2	3	4	5
8.	Yapmayı tercih etmeyeceğim birçok şeye mecbur bırakıldığımı hissediyorum.	1	2	3	4	5
9.	Önemsediğim ve önemsendiğim insanlarla iletişim içinde olduğumu hissediyorum.	1	2	3	4	5
10.	Benim için önemli olan insanların bana karşı soğuk ve mesafeli olduğunu hissediyorum.	1	2	3	4	5
11.	Yaptığım işlerde kendimi becerikli hissediyorum.	1	2	3	4	5
12.	Ortaya koyduğum birçok performansa dair hayal kırıklığı hissediyorum.	1	2	3	4	5
13.	Seçimlerimin, beni iyi bir şekilde yansıttığını hissediyorum.	1	2	3	4	5
14.	Çok fazla şey yapma konusunda üzerimde baskı hissediyorum.	1	2	3	4	5
15.	Benim için önemli olan kişilere yakın ve bağlı olduğumu hissediyorum.	1	2	3	4	5
16.	Birlikte zaman geçirdiğim insanların benden hoşlanmadıklarına dair bir izlenimim var.	1	2	3	4	5
17.	Hedeflerime ulaşmak için yeterli olduğumu hissediyorum.	1	2	3	4	5
18.	Yeteneklerim konusunda kendime güvenmediğimi hissediyorum.	1	2	3	4	5
19.	Gerçekten ilgimi çeken şeyleri yaptığımı hissediyorum.	1	2	3	4	5
20.	Günlük aktivitelerimin bir yükümlülükler silsilesi olduğunu hissediyorum.	1	2	3	4	5
21.	Birlikte zaman geçirdiğim insanlara karşı samimi duygular hissediyorum.	1	2	3	4	5
22.	Sahip olduğum ilişkilerin yüzeysel olduğunu hissediyorum.	1	2	3	4	5
23.	Zor görevleri başarıyla tamamlayabileceğimi hissediyorum.	1	2	3	4	5
24.	Yaptığım hatalardan dolayı kendimi başarısız hissediyorum.	1	2	3	4	5

APPENDIX K. DRIVE FOR MUSCULARITY SCALE

Lütfen aşağıdaki maddeleri dikkatle okuyup 6 cevap şikkından size en uygun olanını seçiniz.

		Tamamen Yanlış						Tamamen Doğru					
1.	Daha kaslı olmayı dilerdim.	1	2	3	4	5	6	1	2	3	4	5	6
2.	Kas geliştirmek için ağırlık kaldırıram.	1	2	3	4	5	6	1	2	3	4	5	6
3.	Protein veya enerji takviyesi kullanırım.	1	2	3	4	5	6	1	2	3	4	5	6
4.	Kilo aldırıcı veya protein içeren karışımlar içerim.	1	2	3	4	5	6	1	2	3	4	5	6
5.	Gün içerisinde olabildiğince çok kalori almaya çalışırım.	1	2	3	4	5	6	1	2	3	4	5	6
6.	Ağırlık çalışma antrenmanlarımdan birini bile kaçırsam kendimi suçlu hissedirim.	1	2	3	4	5	6	1	2	3	4	5	6
7.	Daha fazla kasım olsaydı kendime daha çok güvenirdim diye düşünürüm.	1	2	3	4	5	6	1	2	3	4	5	6
8.	Diğer insanlar benim çok sık ağırlık çalıştığımı düşünür.	1	2	3	4	5	6	1	2	3	4	5	6
9.	4.5 kg daha hacim kazanırsam daha iyi görüneceğimi düşünürüm.	1	2	3	4	5	6	1	2	3	4	5	6
10.	Anabolik (kas yapıcı) steroid kullanmayı düşünürüm.	1	2	3	4	5	6	1	2	3	4	5	6
11.	Kas kütlemini biraz daha arttırırsam daha güçlü hissedeceğimi düşünürüm.	1	2	3	4	5	6	1	2	3	4	5	6
12.	Ağırlık çalışma programımın hayatımdaki diğer alanları aksattığını düşünürüm.	1	2	3	4	5	6	1	2	3	4	5	6
13.	Kollarımın yeterince kaslı olmadığını düşünürüm.	1	2	3	4	5	6	1	2	3	4	5	6
14.	Göğsümün yeterince kaslı olmadığını düşünürüm.	1	2	3	4	5	6	1	2	3	4	5	6
15.	Bacaklarımın yeterince kaslı olmadığını düşünürüm.	1	2	3	4	5	6	1	2	3	4	5	6

APPENDIX L. INFORMED CONSENT FORM (FIRST STUDY)

Değerli Katılımcı,

Bu çalışma Orta Doğu Teknik Üniversitesi Klinik Psikoloji Doktora Programı Öğrencisi Uzm. Psikolog Kerim Selvi tarafından, Doç. Dr. Özlem Bozo danışmanlığında yürütülmektedir. Çalışmanın amacı temel psikolojik ihtiyaçlar ile vücut algısı, görünüşe ilişkin öz-değer ve sosyal görünüş kaygısı arasındaki ilişkinin araştırılmasıdır. Bu çalışma kapsamında yaklaşık 20-25 dakika sürecek bir anket cevaplamanız beklenmektedir. Bu anket genel olarak rahatsız edecek maddeleri içermemektedir. Ancak katılım sırasında herhangi bir nedenden dolayı rahatsız hissederseniz cevaplamayı bırakabilirsiniz. Katılımcılardan alınan bilgiler kesinlikle gizli tutulacak ve cevaplar toplu halde değerlendirilecektir. Bu çalışma ile ilgili daha fazla bilgi almak ve soru sormak için Kerim Selvi (e-mail: kselvi@metu.edu.tr) ile iletişime geçebilirsiniz. Çalışmaya katıldığınız ve destek verdiğiniz için çok teşekkür ederiz.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman çalışmayı yarım bırakabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı kullanılmasını Kabul ediyorum.

Evet

Hayır

APPENDIX M. INFORMED CONSENT FORM (SECOND STUDY)

Değerli Katılımcı,

Bu çalışma Orta Doğu Teknik Üniversitesi Klinik Psikoloji Doktora Programı Öğrencisi Uzm. Psikolog Kerim Selvi tarafından, Doç. Dr. Özlem Bozo danışmanlığında yürütülmektedir. Çalışmanın amacı vücut geliştirme sporuna başlama motivasyonunun araştırılmasıdır. Bu çalışma kapsamında yaklaşık bir saat sürecek yarı yapılandırılmış bir mülakat gerçekleştirilecektir. Sorulara samimi cevaplar vermeniz araştırmanın sonucu için çok büyük önem arz etmektedir. Sorulara verdiğiniz cevapların dışında eklemek istediğiniz hususlar olur ise bunları paylaşmanız bizi çok memnun edecektir.

Bu mülakat genel olarak rahatsız edecek maddeleri içermemektedir. Ancak katılım sırasında herhangi bir nedenden dolayı rahatsız hissederseniz mülakatı bırakabilirsiniz. Sizlerden alınan bilgiler kesinlikle gizli tutulacak ve elde edilen cevaplar toplu halde değerlendirilecektir. Ayrıca mülakat sırasında ses kaydı alınacaktır. Ses kaydının amacı verdiğiniz bilgilerin sonraki süreçte dinlenebilmesi ve hiçbir veri kaybının yaşanmamasıdır. Ses kaydınız sadece araştırmacı tarafından dinlenilecek olup araştırma sonunda tamamen silinecektir. Çalışma ile ilgili daha fazla bilgi almak ve soru sormak için Kerim Selvi (Tel: 5062715402, e-mail: kselvi@metu.edu.tr) ile iletişime geçebilirsiniz. Çalışmaya katıldığınız ve bilime destek verdiğiniz için çok teşekkür ederiz.

Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman çalışmayı yarım bırakabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı kullanılmasını kabul ediyorum.

İsim Soyisim

İmza

Tarih

APPENDIX N. INTERVIEW QUESTIONS

1. Vücut geliştirmeye başlama kararınızda neler etkili olmuştur?
2. Vücut geliştirmenin sizin için anlamı nedir?
3. Vücut geliştirme aktivitesi düşünceleriniz üzerinde etkili oluyor mu?
4. Vücut geliştirme aktivitesi size neler hissettiriyor?
5. Vücut geliştirmeye yönelik motivasyonlarınız nelerdir?

APPENDIX O. DEMOGRAPHIC INFORMATION FORM (THIRD STUDY)

Cinsiyet: () Kadın () Erkek

Yaş:

Boy:

Kilo:

Kaç aydır düzenli vücut geliştirme aktivitesi yapıyorsunuz?

Vücut geliştirme aktivitesini ne sıklıkta yapıyorsunuz?

() Her gün () Haftada 5-6 kez () Haftada 4 kez () Haftada 3 kez Haftada
2 kez () Haftada 1 kez () Ayda 3 kez () Ayda 2 kez veya daha az

Vücut geliştirme antrenmanınız yaklaşık kaç dakika sürüyor?

Öğrenci misiniz? () Evet () Hayır

Çalışıyor musunuz? () Evet () Hayır

İlişki durumu? () İlişkim var () İlişkim Yok

Kendinizi hangi gelir grubuna ait hissediyorsunuz?

() Düşük () Orta () Yüksek

Düzenli olarak yaptığınız başka bir spor/sporlar varsa lütfen belirtiniz:.....

Bu sporu kaç aydır yapıyorsunuz?

Ne sıklıkta yapıyorsunuz?

Daha önce herhangi bir psikolojik veya psikiyatrik tanı aldınız mı?

() Evet ise belirtiniz: () Hayır

Herhangi bir fiziksel hastalık tanısı aldınız mı?

() Evet ise belirtiniz: () Hayır

Lütfen kaç kardeş olduğunuzu belirtiniz:

Lütfen kaçınıcı çocuk olduğunuzu belirtiniz:

APPENDIX P. MUSCLE APPEARANCE SATISFACTION SCALE

Lütfen aşağıdaki maddeleri son 4 haftanızı düşünerek cevaplayınız. Doğru ya da yanlış cevap bulunmamaktadır. Lütfen her bir soruyu dürüstçe cevaplayınız. Sağladığımız tüm bilgiler gizli kalacaktır.

		Kesinlikle Katılmıyorum	Çoğunlukla Katılmıyorum	Ne katılmıyorum ne katılmıyorum	Çoğunlukla Katılıyorum	Kesinlikle Katılıyorum
1	Aynada kaslarıma baktığımda genellikle kaslarımın mevcut boyutundan memnuniyet duyarım.	1	2	3	4	5
2	Programım, ağırlık çalışmama ara vermeme gerektiriyorsa çok üzülürüm.	1	2	3	4	5
3	Arkadaşlarıma veya yakınlarıma sık sık, iri görünüp görünmediğimi sorarım.	1	2	3	4	5
4	Kaslarımın boyutundan memnunum.	1	2	3	4	5
5	Kas geliştirici takviyelere sık sık para harcarım.	1	2	3	4	5
6	Kas kütlesini artırmak için steroid kullanmakta bir sakınca görmüyorum.	1	2	3	4	5
7	Sık sık, ağırlık egzersizi yapmaya bağımlı olduğumu hissedirim.	1	2	3	4	5
8	Antrenmanım kötü geçtiyse bu günümün geri kalanını da olumsuz etkileyebilir.	1	2	3	4	5
9	Kaslarımı geliştirmek için her şeyi deneyebilirim.	1	2	3	4	5
10	Kaslarım veya eklemlerim önceki antrenmandan dolayı ağrıya bile genellikle antrenman yapmaya devam ederim.	1	2	3	4	5
11	Genellikle aynada kaslarıma bakmak için çok zaman harcarım.	1	2	3	4	5
12	Antrenman yapan çoğu kişiye göre spor salonunda daha fazla zaman harcarım.	1	2	3	4	5
13	Daha iri yarı olabilmek için birçok acıya katlanmak gerekir.	1	2	3	4	5
14	Kaslarımın tonusundan (dinlenme durumundaki kasın gerginlik hali)/belirginliğinden memnunum.	1	2	3	4	5
15	Kendime verdiğim değer kaslarımın nasıl görüldüğüyle oldukça ilişkilidir.	1	2	3	4	5
16	Daha iri yarı olabilmek için, ağırlık kaldırırken hissettiğim fiziksel acıya genellikle aldırış etmem.	1	2	3	4	5
17	Her ne şekilde olursa olsun daha iri kaslara sahip olmalıyım.	1	2	3	4	5
18	Kaslarımın yeterince büyük olup olmadığı konusunda sık sık diğer insanların onayını beklerim.	1	2	3	4	5
19	Kaslarımın boyutunu kontrol etmemek için kendimi sıklıkla zor tutarım.	1	2	3	4	5

APPENDIX R. INFORMED CONSENT FORM (THIRD STUDY)

Değerli Katılımcı,

Bu çalışma Orta Doğu Teknik Üniversitesi Klinik Psikoloji Doktora Programı Öğrencisi Uzm. Psikolog Kerim Selvi tarafından, Doç. Dr. Özlem Bozo danışmanlığında yürütülmektedir. Çalışmanın amacı temel psikolojik ihtiyaçlar ile erkeklerin vücut geliştirme motivasyonları arasındaki ilişkinin araştırılmasıdır. Bu çalışma kapsamında yaklaşık 20-25 dakika sürecek bir anket cevaplamanız beklenmektedir. Bu anket genel olarak rahatsız edecek maddeleri içermemektedir. Ancak katılım sırasında herhangi bir nedenden dolayı rahatsız hissederseniz cevaplamayı bırakabilirsiniz. Katılımcılardan alınan bilgiler kesinlikle gizli tutulacak ve cevaplar toplu halde değerlendirilecektir. Bu çalışma ile ilgili daha fazla bilgi almak ve soru sormak için Kerim Selvi (e-mail: selvikerim@gmail.com) ile iletişime geçebilirsiniz.

Çalışmaya katıldığınız ve destek verdiğiniz için çok teşekkür ederiz.

Düzenli olarak (en az 1 yıldır, haftada en az 2 kez) vücut geliştirme aktivitesi yapıyorum. Bu çalışmaya tamamen gönüllü olarak katılıyorum ve istediğim zaman çalışmayı yarım bırakabileceğimi biliyorum. Verdiğim bilgilerin bilimsel amaçlı kullanılmasını kabul ediyorum.

Ad-Soyad

İmza

APPENDIX S. CURRICULUM VITAE

PERSONAL INFORMATION

Surname, Name: Selvi, Kerim
Nationality: Turkish (TC)
Date and Place of Birth: 6 May 1988, Manisa/Turgutlu
Marital Status: Married
email: selvikerim@gmail.com

EDUCATION

2011 – 2018	Post Bachelor's Ph.D. in Clinical Psychology, Middle East Technical University, Ankara
2006 – 2011	B.S. in Department of Psychology, Middle East Technical University, Ankara

INTERNSHIP & WORK EXPERIENCE

<u>Year</u>	<u>Place</u>	<u>Enrollment</u>
2017 – Present	Eskişehir Osmangazi University, Department of Psychology	Research Assistant
2013 – 2017	Middle East Technical University Office of Sponsored Projects	Research Assistant, Project Expert
2015 – 2017	Middle East Technical University, AYNA-Clinical Psychology Support Unit	Clinical Psychologist
2015 – 2016	Middle East Technical University, AYNA-Clinical Psychology Support Unit	Supervisor
2012 – 2015	Middle East Technical University, AYNA-Clinical Psychology Support Unit	Intern Clinical Psychologist
2012, Spring	Hacettepe University Faculty of Medicine Department of Psychiatry	Intern Psychologist
2009 July – September	Manisa Mental Health and Disease Hospital	Intern Psychology Student

FOREIGN LANGUAGES

Advanced English

RESEARCH INTEREST

- Psychotherapy applications
- Psychopathological disorders
- Body image dissatisfaction, body dysmorphic disorders, muscle dysmorphia, eating disorders
- Somatization
- Self Determination Theory, Basic Psychological Needs

PUBLICATIONS

1. Dilekler, İ., Törenli, Z., & Selvi, K. (2014). Öfkeye farklı açılardan bakış: Öfkenin mekanizması, farklı psikopatolojilerde öfke ve terapistin öfkesi. *Ayna Klinik Psikoloji Dergisi*, 1(3), 44–59.
2. Selvi, K. (2018). Narsisistik kişilik bozukluğunun Adler'in aşağılık ve üstünlük kompleksleri açısından analizi: Bir olgu çalışması. *Ayna Klinik Psikoloji Dergisi*, 5(1), 1–20. doi: 10.31682/ayna.423353

CONFERENCE PRESENTATIONS

1. Selvi, K. (2015, July). The Effects of Adaptive and Maladaptive Humor Styles on Depression and Anxiety in Turkish Culture. Oral presentation presented at 14th European Congress of Psychology, Milano, Italy.
2. Selvi, K. (2016). Mizah Tarzlarının Pozitif Ve Negatif Duygulanım Üzerindeki Yordayıcı Etkisi. 19. Ulusal Psikoloji Kongresi, İzmir, Türkiye.

TRANSLATIONS

1. Holson, M. H., ve Hergenhahn, B.R (2016). An Introduction to theories of learning, (9. eds.). New York, Routledge. Translation to Turkish: Öğrenmenin kuramları. Şahin, M. (2016). Ankara, Nobel Yayınları. Chapter 7 and Chapter 9 were translated by Selvi, K.
2. Oltmanns, T. F., Martin, M. T., Neale, M. J., ve Davison, G. C. (2015). Case studies in abnormal psychology (10. eds.). United States of America, John Wiley & Sons, Inc. Translation to Turkish: Anormal psikolojide vaka çalışmaları. Şahin, M. (2017). Ankara, Nobel Yayınları. Chapter 11, Chapter 12, Chapter 13, Chapter 14, and Chapter 15 were translated by Selvi, K.

APPENDIX T. TURKISH SUMMARY/TÜRKÇE ÖZET

BÖLÜM 1

GENEL GİRİŞ

Yeme bozukluklarının kadınlarda daha yaygın olması, beden imajı kaygılarının kadınlara özgü problemler olduğu görüşünü ortaya çıkarmıştır (Cash, 2004; Pearson ve ark., 2010). Ancak bazı araştırmacılar, ölçüm araçlarının yanlılığına dikkat çekerek beden imajı kaygılarının kadınlarla ilişkili olduğunu gösteren bulguları (örn., Chng ve Fassnacht, 2016) eleştirmiştir (McCabe ve Ricciardelli, 2004). Nitekim bu eleştiriler, beden imajı kaygıları bağlamında herhangi bir cinsiyet farkı olmadığını gösteren diğer araştırmalarca da desteklenmiştir (Hale ve Smith, 2012; Tiggemann, 1994). Ancak cinsiyetin bu kaygılar üzerindeki etkisine dair bir fikir birliğine henüz varılamamıştır.

Ayrıca erkeklerin beden imajı kaygılarının bir göstergesi olarak değerlendirilebilecek vücut geliştirme faaliyetleri ile bu faaliyetler sonucunda ulaşılan kaslı vücut toplum tarafından sağlıklı olmanın bir göstergesi olarak kabul edilmektedir (Grogan, 2008; McCabe ve Ricciardelli, 2005). Fakat bu faaliyetler toplumun değerlendirdiği kadar masum faaliyetler olmayabilir zira bunların hem fiziksel hem de psikolojik sağlığı büyük ölçüde tehdit eden kas algı bozukluğu ile ilişkili olduğu bulunmuştur (Lantz ve ark., 2002; Pope ve ark., 1993). Bu bozukluk, bedendeki kaslar ile patolojik bir şekilde meşgul olmak, normal kişilerden daha kaslı olursa da kendinin yeterince kaslı olmadığına inanmak,

kasları geliřtirmek iin ok byk porsiyonda besinler tketmek ve saėlıėa zararlı steroid gibi takviyeler kullanmak gibi zelliklere sahiptir. Bu zellikleri sebebiyle yařam kalitesini ve saėlıėı olduka olumsuz etkileyen kas algı bozukluėu nispeten yeni tanımlanan bir problem olması dolayısıyla sadece sınırlı sayıda arařtırmaya konu olmuřtur (rn., Devrim ve ark., 2017; Devrim ve ark., 2018; Lantz ve ark., 2002; Pope ve ark., 1993). stelik bu bozukluėa zemin hazırlayan etmenler de henz netleřtirilememiřtir.

Erkeklerin vcut imajı kaygılarına iliřkin alanyazındaki bu eksiklikler gz nnde bulundurularak mevcut doktora tezi kapsamında erkeklerin vcut imajı konusundaki kaygılarını derinlemesine anlamak ve kas algı bozukluėunun olası risk etmenlerini saptamak amalanmıřtır. Bu ama doėrultusunda  alıřma yrtlmřtr. İlk alıřmada 632 katılımcıdan veri toplanmıř, erkeklerin ve kadınların vcut imajı kaygıları karřılařtırılmıřtır. Bununla birlikte Temel Psikolojik İhtiyalar Kuramı (Deci ve Ryan, 2000) erevesinde hem kadınların hem de erkeklerin vcut imaj kaygılarını yordayan etmenler belirlenmeye alıřılmıřtır. İkinci alıřmada ise vcut geliřtirme faaliyetlerinin altında yatan motivasyonları belirlemek iin en az iki yıldır dzenli (haftada en az iki kere) vcut geliřtirme faaliyetleri ierisinde yer alan altı erkek katılımcı ile yarı yapılandırılmıř grřmeler gerekleřtirilmıř, elde edilen veriler yorumlayıcı fenomenolojik analiz yntemi ile incelenmiřtir. Son alıřmada ise temel psikolojik ihtiyaların hem kas algı bozukluėu hem de yařam doyumunu zerindeki yordayıcı etkileri en az bir yıldır dzenli vcut geliřtiren 245 erkek katılımcıdan elde edilen veriler ıřıėında test edilmiřtir. Sz konusu alıřmaların detayları ilerleyen blmlerde anlatılmıřtır.

BÖLÜM 2

ÇALIŞMA 1

2. 1. Giriş

Her yaştan bireyi etkileyen beden görünümüne ilişkin memnuniyetsizlik, genel olarak, bireyin kendi fiziksel bedenine dair olumsuz değerlendirmeleri olarak tanımlanmaktadır (Stive ve Shaw, 2002). Bu memnuniyetsizlik, batı toplumuna özgü bir sorun olarak algılansa da kültürel farklılıklara rağmen hemen hemen her toplumda yaygındır (örn., Swami ve ark., 2010). Yaygınlığının yanı sıra bu memnuniyetsizliğin yeme bozuklukları (Stice, 2002), sağlıksız kilo verme yöntemleri (Neumark-Sztainer ve ark., 2003), steroid kullanımı (McCabe ve Ricciardelli, 2004), depresyon (McCreary ve Sasse, 2000) ve zayıf öz-saygı (Tiggemann, 2005) gibi birçok olumsuz sonuca zemin hazırladığı bilinmektedir.

Söz konusu yaygınlığı ve olumsuz sonuçları göz önünde bulundurulduğunda, beden görünümüne ilişkin memnuniyetsizliğin gelişim sürecine odaklanmak ve risk etmenlerini belirlemek elzem hale gelmiştir. Bu noktada birçok çalışma ideal vücut imajının önemine vurgu yapmıştır (örn., Tiggemann, 2011). Buna göre modern dünyada bireyler gerçekçi olmayan beden imajlarına (ince kadın ve V şeklindeki kaslı erkek beden imajları) fazlasıyla maruz bırakılmakta, dolayısıyla bu vücut imajları toplum tarafından çekiciliğin, mutluluğun ve başarının bir göstergesi olarak algılanmakta, bu yüzden bireyler bu vücut imajlarını elde edemediklerinde beden memnuniyetsizliği ile karşı kaşıya kalmaktadır (Tiggemann, 2011). Ancak bu süreç herkes için geçerli olsa da bazı bireyler beden

memnuniyetsizliđi deneyimlerken bazıları deneyimlememekte ve hatta deneyimlenen memnuniyetsizliđin seviyesi bireyden bireye deđiřmektedir. Bu yzden bu memnuniyetsizliđe zemin hazırlayan biyopsikososyal etmenleri gzden geirmek tm resmi grmemiz iin faydalı olacaktır.

2. 1. 1. Vcut Memnuniyetsizliđinin Risk Etmenleri

Bu etmenlerden biri olan vcut kitle indeksi (kg/m^2) bireylerin dřk kilolu, normal kilolu, obez ve ařırı obez olarak kategorize edilmesinde kullanılan bir lm aracıdır (WHO, 2000). Yksek vcut kitle indeksine sahip olmak beden memnuniyetsizliđi iin bir risk etmeni olarak deđerlendirilmektedir (rn., Stice, 2002). Ancak bazı arařtırmalar vcut kitle indeksinin kadınlarda ve erkeklerde farklı řekilde etkili olduđunu bulgulamıřtır. Bu bulgulara gre kadınlarda, vcut kitle indeksi arttıķa beden memnuniyetsizliđi de artmaktadır (rn., Dion ve ark., 2015). Erkeklerde ise bu tr dođrusal bir iliřki olmamakla beraber yksek ve dřk vcut kitle indeksi beden memnuniyetsizliđi iin risk oluřtırmaktadır (rn., Fallon ve ark., 2014). Ayrıca, vcut kitle indeksi ile beden memnuniyetsizliđi arasında herhangi bir iliřkinin olmadıđını gsteren alıřmalar da mevcuttur (rn., Stice ve Bearman, 2001).

Sosyokltrel etmenlerin (ideal ince vcut hakkında farkındalık, ideal ince vcudun işelleřtirilmesi, zayıflamaya ynelik algılanan baskı ve aile, akran ve medya etkisi) beden memnuniyetsizliđi zerindeki etkisi de birok alıřmaya konu olmuřtur (rn., Stice, 1994; 2002). Bu alıřmalar sonucunda ideal ince vcut hakkında farkındalıđın, ideal ince vcudun işelleřtirilmesinin ve zayıflamaya ynelik algılanan baskının kadınlara deneyimlediđi beden memnuniyetsizliđi zerindeki etkisi tutarlı olarak gsterilmiřtir (Cafri ve ark., 2005; Lawler ve Nixon, 2011). Lakin kashlıđa iliřkin sosyokltrel deđerkenler ile erkeklerdeki beden memnuniyetsizliđi arasındaki iliřkiyi inceleyen alıřmaların yok denecek kadar az olduđu da bir gerektir. Ayrıca sosyokltrel etmenlerden biri olan medyanın ideal vcut řekillerini belirlemedeki rolyle birlikte beden memnuniyetsizliđini řekillendirdiđi de bilinmektedir (Barlett ve ark., 2008). Tm

bunlara ek olarak, alıřmaların byk bir oęunluęu akran (Lawler ve Nixon, 2011) ve aile etkisinin (rn., Chng ve Fassnacht, 2016) vcut memnuniyetsizlięini artırdıęını gstermiřtir.

z-saygı, sosyal grnř kaygısı ve grnme iliřkin z-saygı beden imajı alanyazınında dikkat eken psikolojik etmenlerdendir. Bu baęlamda birok alıřma z-saygı ile beden memnuniyetsizlięi arasındaki iliřkiyi tutarlı bir řekilde gstermiřtir (Pop, 2016; Tiggemann, 1994). Grnme iliřkin z-saygı ise z-saygının alt alanlarından biri olup, vcudun genel grnmne iliřkin duyguları iermektedir (Franzoi ve Shields, 1984). Alanyazında vcut memnuniyetsizlięine alternatif olarak kullanılan (Groesz ve ark., 2002) bu deęiřken vcut memnuniyetsizlięinden farklı bir kavramdır ve ikisi arasındaki iliřki herhangi bir alıřma tarafından henz gsterilmemiřtir. Vcut memnuniyetsizlięi ile iliřkili olan dięer bir psikolojik etmen ise sosyal grnř kaygısıdır (Hart ve ark., 2008). Sosyal grnř kaygısı, alanyazında nispeten yeni bir kavram olsa da, yksek sosyal grnř kaygısının vcut memnuniyetsizlięi iin bir risk etmeni olduęunu gsteren tutarlı bulgular mevcuttur (rn., Levinson ve Rodebaugh, 2012; 2015).

2. 1. 2. Cinsiyetin Vcut Memnuniyetsizlięi zerindeki Rol

Beden memnuniyetsizlięi uzunca bir sre kadınlara zg bir problem olarak grlse de, bu problemin erkekler arasında da yaygın olduęu aıktır (Pearson ve ark., 2010); bazı bulgular kadınlara daha fazla beden memnuniyetsizlięi yařadıęını rapor etse de (Chng ve Fassnacht, 2016; Chen ve ark., 2007) bu farkın erkeklerin beden memnuniyetsizlięini lecek uygun lm aralarının olmayıřından kaynaklandıęını savunan bir grřn (McCabe ve Ricciardelli, 2004) yanı sıra beden memnuniyetsizlięinin cinsiyete gre deęiřmedięini gsteren alıřmalar da mevcuttur (Hale ve Smith, 2012; Tiggemann, 1994). Bu baęlamda arařtırmacılar, cinsiyetin beden memnuniyetsizlięi zerindeki rolne iliřkin bir fikir birlięi saęlayamamıřtır. Ancak bu memnuniyetsizlięin kadınlarda ve erkeklerde farklı řekillerde tezahr ettięi konusunda hemfikirdirler. Dięer bir ifade ile erkeklerdeki beden memnuniyetsizlięinin kaslı olmakla iliřkili olduęu, kadınlardakinin ise ince/zayıf

olmakla ilişkili olduğu araştırmacılar tarafından kabul edilmiştir (Cohane ve Pope, 2001; McCabe ve Ricciardelli, 2004).

2. 1. 3. Temel Psikolojik İhtiyaçlar Kuramı

Mevcut doktora tezinde beden imajı kaygıları, özellikle de beden memnuniyetsizliği, Öz-Belirleme Kuramı (Deci ve Ryan, 2000) çatısı altında yer alan Temel Psikolojik İhtiyaçlar Kuramı (Ryan ve Deci, 2000a) çerçevesinde araştırılmıştır. Bu kurama göre doğuştan gelen ve evrensel olan üç tane temel psikolojik ihtiyaç vardır ve bunlar özerklik, ilişkisellik ve yeterlidir. Genel olarak özerlik, kişinin davranışları üzerindeki kontrolünü ve seçim özgürlüğünü; ilişkisellik, aidiyet ve başkaları ile yakın olma duygusunu; yeterlik ise davranışları üzerinde etkili hissetmesini ve hedeflediği şeyi başarmanın getirdiği olumlu duyguları ifade etmektedir. Bu kurama göre bu ihtiyaçlardan her birinin karşılanması, kişinin iyilik hali, işlevselliği ve psikolojik sağlığı için çok büyük önem arz etmektedir (Deci ve Ryan, 2000). Bu bağlamda birçok çalışma karşılanmış psikolojik ihtiyaçlar ile pozitif duygulanım, yaşam doyumu (Chen ve ark., 2015), çalışma performansı (Baard ve ark., 2004), düşük kaygı, somatizasyon, depresyon ve düşmanlık hisleri (Uzman, 2014) arasında anlamlı ilişkiler olduğunu göstermiştir. Diğer taraftan bu ihtiyaçların düşük seviyede tatmin edildiği veya engellendiği durumlarda psikopatolojik sonuçların ortaya çıkabileceği belirtilmiştir (Deci ve Ryan, 2000; Vaansteenkiste ve Ryan, 2013). Paralel olarak, çalışmalar karşılanmamış ihtiyaçlar (düşük ihtiyaç tatmini ve engellenmiş ihtiyaçlar) ile olumsuz duygulanım, depresyon (Bartholomew ve ark., 2011) ve intihar davranışları (Britton ve ark., 2014) gibi olumsuz sonuçlar arasındaki ilişkileri bulgulanmıştır. Aynı doğrultuda karşılanmamış ihtiyaçların beden imajı ve beden imajına ilişkin kaygılarla olan ilişkisi de araştırmacıların ilgisini çekmiş ve karşılanmamış ihtiyaçların beden memnuniyetsizliği, sağlıksız kilo kontrol davranışları (Ng ve ark., 2013), sosyal görünüş kaygısı, görünüme bağlı öz-saygı (Thogersen-Ntoumani et al., 2011) ve hatta yeme bozuklukları (Schüler ve Kuster, 2011) ile ilişkili olduğu bulgulanmıştır. Bu ilişkilerin temelinde yatan süreç ise karşılanmamış ihtiyaçlar sebebiyle ortaya çıkan uyumsuz baş etme mekanizmaları çerçevesinde ele alınmıştır. Buna göre

ihtiyaları karřılanmayan (zellikle de ihtiyaları engellenen) kiřiler, deęersizlik ve ařaęı olma hisleri ile bař edebilmek iin ihtiyaların karřılanmasında etkisiz olan dıřsal hedefleri (vcut grnmn iyileřtirme, zengin ve nl olmaya alıřma gibi) benimsemektedir. Ancak bu hedeflere ulařmak kısa sreli tatmin hissi ortaya ıkarsa da uzun vadede bu kiřilerde daha fazla karřılanmamıř ihtiya ve daha ciddi psikopatolojik sonulara yol amaktadır (Vanteenkiste ve Ryan, 2013; Verstuyf ve ark., 2012). Bu baęlamda karřılanmamıř ihtiyaları olan bireylerin, ideal vcut tiplerini daha fazla benimsemeleri ve bunun sonucunda da daha fazla beden imajına iliřkin sorunlar deneyimlemeleri muhtemeldir.

2. 1. 4. Mevcut alıřma ve Hipotezler

Bu alıřmada ilk olarak beden imaj kaygılarının cinsiyete gre deęiřip deęiřmedięini incelemek amalanmıřtır. Bylece tartıřmalı olan alanyazına yeni kanıtlar saęlanacaęı dřnlmřtr. Ayrıca temel psikolojik ihtiyaların beden memnuniyetsizlięi, sosyal grnř kaygısı ve grnme iliřkin z-saygı deęiřkenleri zerindeki yordayıcı etkisinin yukarıda belirtilen biyopsikososyal etmenler kontrol edildikten sonra arařtırılması da hedeflenmiřtir. Bu hedefler gz nnde bulundurularak ařaęıdaki hipotezler oluřturulmuřtur.

H₁: Erkekler ve kadınlar beden memnuniyetsizlięi aısından birbirlerinden farklılařmayacaklardır.

H₂: Erkekler ve kadınlar sosyal grnř kaygısı aısından birbirlerinden farklılařmayacaklardır.

H₃: Erkekler ve kadınlar grnme iliřkin z-saygı aısından birbirlerinden farklılařmayacaklardır.

H₄: Erkekler ve kadınlar incelięe ve kaslılıęa iliřkin deęiřkenler bakımından birbirlerinden farklılařacaklardır; erkekler kaslılıęa iliřkin deęiřkenlerden daha yksek

puanlar alırken (H_{4a}), kadınlar incelikle ilişkili değişkenden daha yüksek puanlar alacaklardır (H_{4b}).

H_5 : Biyopsikososyal etmenler kontrol edildikten sonra düşük seviyede tatmin edilmiş (H_{5a}) ve yüksek seviyede engellenmiş (H_{5b}) temel psikolojik ihtiyaçlar beden memnuniyetsizliğini anlamlı bir şekilde yordayacaktır.

H_6 : Düşük seviyede tatmin edilmiş ihtiyaçlar ile karşılaştırıldığında engellenmiş ihtiyaçlar beden memnuniyetsizliğinde daha fazla varyans açıklayacaktır.

H_7 : Biyopsikososyal etmenler kontrol edildikten sonra düşük seviyede tatmin edilmiş (H_{7a}) ve yüksek seviyede engellenmiş (H_{7b}) temel psikolojik ihtiyaçlar sosyal görünüş kaygısını anlamlı bir şekilde yordayacaktır.

H_8 : Düşük seviyede tatmin edilmiş (H_{8a}) ve yüksek seviyede engellenmiş (H_{8b}) temel psikolojik ihtiyaçlar, biyopsikososyal etmenler kontrol edildikten sonra, görünüme ilişkin öz-saygıyı anlamlı bir şekilde yordayacaktır.

H_9 : Biyopsikososyal etmenler kontrol edildikten sonra sosyal görünüş kaygısı (H_{9a}) ve görünüme ilişkin öz-saygı (H_{9b}) beden memnuniyetsizliğini anlamlı bir şekilde yordayacaktır.

H_{10} : Tatmin edilmiş temel psikolojik ihtiyaçlar beden memnuniyetsizliğini, sosyal görünüş kaygısı (H_{10a}) ve görünüme ilişkin öz-saygı (H_{10b}) değişkenleri vasıtasıyla dolaylı olarak yordayacaktır.

H_{11} : Engellenmiş temel psikolojik ihtiyaçlar beden memnuniyetsizliğini, sosyal görünüş kaygısı (H_{11a}) ve görünüme ilişkin öz-saygı (H_{11b}) değişkenleri vasıtasıyla dolaylı olarak yordayacaktır.

H_{12} : Tatmin edilmiş temel psikolojik ihtiyaçlar beden memnuniyetsizliğini, ince/az-yagli bedenin içselleştirilmesi (H_{12a}), kaslı bedenin içselleştirilmesi (H_{12b}) ve

genel çekiciliğin içselleştirilmesi (H_{12c}) değişkenleri vasıtasıyla dolaylı olarak yordayacaktır.

H_{13} : Engellenmiş temel psikolojik ihtiyaçlar beden memnuniyetsizliğini, ince/az-yağlı bedenin içselleştirilmesi (H_{13a}), kaslı bedenin içselleştirilmesi (H_{13b}) ve genel çekiciliğin içselleştirilmesi (H_{13c}) değişkenleri vasıtasıyla dolaylı olarak yordayacaktır.

2. 2. Yöntem

2. 2. 1. Katılımcılar

Mevcut çalışmanın verileri %53'ü kadın ($n = 335$) ve %47'si erkek ($n = 297$) olmak üzere toplamda 632 gönüllü katılımcıdan elde edilmiştir. Katılımcıların yaşları 18 ile 65 arasında olup, yaşlarının ortalaması 23.36'dır ($S = .49$).

2. 2. 2. Ölçüm Araçları

Veriler Demografik Bilgi Formu, Vücut Kitle İndeksi, Beden İmajı Ölçeği, Temel Psikolojik İhtiyaçlar Ölçeği, Sosyal Görünüş Kaygısı Ölçeği, Görünüme İlişkin Öz-Saygı Ölçeği, Yaşam Doyumu Ölçeği, Rosenberg Öz-Saygı Ölçeği, Görünüme Yönelik Sosyokültürel Tutumlar Anketi, Marlowe-Crowne Sosyal İstenirlik Ölçeği, Temel Psikolojik İhtiyaçların Tatmini ve Engellenmesi Ölçeği ve Kaslı Olma İsteği Ölçeği vasıtasıyla toplanmıştır. Temel Psikolojik İhtiyaçların Tatmini ve Engellenmesi Ölçeği ile Kaslı Olma İsteği Ölçeğinin Türkçe adaptasyonu mevcut çalışma kapsamında gerçekleştirilmiştir.

2. 2. 3. İşlem

Orta Doğu Teknik Üniversitesi İnsan Araştırmaları Etik Kurulu'ndan gerekli izinler alındıktan sonra adapte edilecek iki ölçek çeviri-geri çeviri yöntemi ile Türkçe'ye çevrilmiştir. Çeviri sürecinin tamamlanması ile birlikte ölçüm araçlarının tümü Qualtrics adlı çevrimiçi veri toplama platformuna yüklenmiştir. Araştırmanın duyurusu özellikle

kadın ve erkek sayısının birbirine yakın olması sebebiyle genel psikoloji dersine kayıtlı üniversite öğrencilerine yapılmış ve çalışmaya katılan öğrenciler .5 bonus puan ile ödüllendirilmiştir. Ayrıca, Facebook gibi sosyal medya platformları da potansiyel katılımcılara ulaşmak için kullanılmıştır.

2. 3. Sonuç ve Tartışma

2. 3. 1. Ölçek Adaptasyon Çalışmaları

2. 3. 1. 1. Temel Psikolojik İhtiyaçların Tatmini ve Engellenmesi Ölçeğinin Adaptasyonu

Doğrulamalı faktör analizi sonuçları, ilgili ölçeğin 6 faktörlü yapısının Türk örneklemini için geçerli olduğunu göstermiştir, Satorra–Bentler $X^2(237) = 502.59$, $p = .000$, CFI = .95, RMSEA = .04, CI [.04, .05], Rho: .61. Ölçeğin güvenirliği iç tutarlık katsayısı bağlamında hesaplanmış olup, bu katsayıların alt faktörler için .74 ile .88 arasında değiştiği gözlenmiştir. Ölçeğin geçerliği ise yakınsama ve ıraksama geçerliği kapsamında incelenmiştir. Yakınsama geçerliği bakımından ölçeğin alt faktörleri, hem temel psikolojik ihtiyaçlar ölçeğinin alt faktörleri ile hem de temel psikolojik ihtiyaçlarla ilişkisi olduğu bilinen yaşam doyumu, öz-saygı, beden memnuniyetsizliği ve sosyal görünüş kaygısı (Chen ve ark., 2015; Cihangir-Çankaya, 2009; Deci ve ark., 2001; Leversen ve ark., 2012) gibi değişkenler ile korelasyon göstermiştir. İraksama geçerliliği kapsamında ise ilgili faktörlerin sosyal istenirlik değişkeni ile göreceli olarak daha düşük seviyede korelasyon gösterdiği ve vücut kitle indeksi ile ise anlamlı bir korelasyon göstermediği gözlenmiştir.

2. 3. 1. 2. Kaslı Olma İsteği Ölçeğinin Adaptasyonu

Ölçeğin faktör yapısının cinsiyete göre değiştiği (McCreary ve Sasse, 2000) göz önünde bulundurularak hem kadınlar hem de erkekler için olmak üzere iki farklı açımlayıcı faktör analizi uygulanmıştır. Analizlerin sonuçlarına göre erkekler için üç faktörlü yapının (kashılık odaklı egzersiz davranışları, kashılık odaklı beden imajı tutumları ve kashılık

odaklı beslenme ve takviye kullanımı) Türk örneklemine uygun olduğu bulunmuştur. Bu bulgu Meksikalı erkeklerle yapılan çalışmanın sonuçları ile tutarlık göstermiştir (Escoto ve ark., 2013). Diğer taraftan kadınlar için ise iki faktörlü yapının (kaslılık odaklı egzersiz davranışları ve kaslılık odaklı beden imajı tutumları) uygun olduğu bulunmuş; bu sonucun, ölçeğin orijinal faktör yapısını (McCreary ve Sasse, 2000) desteklediği gözlenmiştir. Ayrıca ölçeğin güvenilirliği iç tutarlık katsayısı, geçerliği ise yakınsama ve ıraksama geçerliği bağlamında test edilmiş; sonuçlar, ölçeğin kaslı olma isteğini ölçmede güvenilir ve geçerli bir ölçek olduğunu göstermiştir.

2. 3. 2. Hipotezlerin Test Edilmesi

2. 3. 2. 1. Cinsiyetin Vücut Görünümüne İlişkin Kaygılar Üzerindeki Etkisi

Mevcut çalışmanın hipotezleri doğrultusunda öncelikle beden memnuniyetsizliğinin cinsiyete göre farklılaşıp farklılaşmadığını görmek için bağımsız örneklem *t*-test analizi yapılmış; sonuçlara göre erkeklerin ve kadınların benzer seviyede beden memnuniyetsizliği deneyimlediğini görülmüştür, $t(630) = 1.85, ns$. Diğer bir ifadeyle erkekler ($Ort. = 2.51, S = .58$) ve kadınlar ($Ort. = 2.59, S = .56$) beden memnuniyetsizliği açısından farklılaşmamıştır. Bu bulgu alanyazındaki bir kısım araştırmanın sonuçları ile çelişirken (örn., Dion ve ark., 2015), erkeklerin de kadınlar kadar beden memnuniyetsizliği yaşadığını gösteren diğer çalışmaları (örn., Hale ve Smith, 2012) desteklemiştir. Mevcut çalışmanın da katkıda bulunduğu alanyazındaki bu tutarsızlığın çalışmalarda kullanılan ölçeklerin özellikleri ile ilişkili olabileceği düşünülmüştür zira bazı araştırmacılar beden memnuniyetsizliği alanyazınındaki ölçeklerin büyük bir kısmının kadınlara yönelik olduğunu, bu durumun da kadınların daha fazla beden memnuniyetsizliği yaşadığını gösteren yanlı bulgular ile sonuçlandığına dikkat çekmiştir (McCabe ve Ricciardelli, 2004).

Ayrıca birinci tip hatayı bertaraf etmek için iki adet çok değişkenli varyans analizi (MANOVA) uygulanmıştır. İlk analizde beden memnuniyetsizliği, sosyal görünüş kaygısı ve görünüme ilişkin öz-saygı değişkenlerinin,; ikinci analizde ise ince/az-yağlı

bedenin içselleştirilmesi, kaslı bedenin içselleştirilmesi ve kaslı olma isteği değişkenlerinin cinsiyete bağlı olarak değişip değişmediği araştırılmıştır. Analiz sonuçları erkeklerin ve kadınların beden memnuniyetsizliği, sosyal görünüş kaygısı ve görünüme ilişkin öz-saygı değişkenleri bakımından farklılaşmazken [Multivariate $F(3, 628) = 1.90$, $ns.$; Wilks' Lambda = .99, kısmi $\eta^2 = .01$]; kaslılığı ve inceliği ölçen değişkenler bakımından farklılaştığını göstermiştir [Multivariate $F(3, 628) = 103.95$, $p < .001$; Pillai's Trace = .33, kısmi $\eta^2 = .33$]. Detaylandırmak gerekirse, erkekler kaslı bedenin içselleştirilmesi ve kaslı olma isteği değişkenlerinden daha yüksek puanlar alırken, kadınlar ince/az-yaglı bedenin içselleştirilmesi değişkeninden daha yüksek puanlar almışlardır. Bu sonuçlar kadınlar ve erkeklerin beden imajı kaygıları bakımından farklılaşmadığını (Hart ve ark., 2008; Kartal, 1996; Şahin ve ark., 2013) ancak bu kaygıların tezahürleri bakımından farklılaştığını gösteren bulguları (Cho ve Lee, 2013; Cohane ve Pope, 2001) desteklemiştir. Ayrıca bu sonuçlar sosyokültürel etmenlerce dayatılan ideal vücut tiplerinin (kadınlar için ince vücut tipi, erkekler için kaslı vücut tipi) beden imajı kaygılarının tezahürlerindeki etkisine ek kanıtlar sağlamıştır (McCabe ve Ricciardelli, 2004). Tezahürlerdeki bu farklılık erkeklere oranla kadınlarda daha yaygın görülen yeme bozuklukları ile kadınlara oranla erkeklerde daha sık karşılaşılan kas algı bozukluğuna zemin hazırlayan etmenlerin öncül göstergeleri olarak değerlendirilmiştir.

2. 3. 2. 2. Beden İmajı Kaygılarının Yordayıcıları

Temel Psikolojik İhtiyaçlar Kuramı çerçevesinde beden memnuniyetsizliğini yordayan etmenleri araştırmak için üç aşamalı hiyerarşik regresyon analizi uygulanmıştır. Öncelikle alanyazında etkisi gösterilmiş olan değişkenlerin etkisi kontrol edilmiş (cinsiyet, vücut kitle indeksi, kaslı vücudun içselleştirilmesi, genel çekiciliğin içselleştirilmesi, ince/zayıf vücudun içselleştirilmesi, öz-saygı, medya, akran ve aileden gelen baskılar) sonrasında ise ihtiyaç tatmini ile engellenmiş ihtiyaçlar değişkenleri denkleme eklenmiştir. Tüm model beden memnuniyetsizliğindeki varyansın %43'ünü açıklamış; temel psikolojik ihtiyaçlar ise açıklanan bu varyansa anlamlı katkıda bulunmuştur, $\Delta F(2, 620) = 28.06$, $\Delta R^2 = .05$, $p < .001$. Ancak temel psikolojik ihtiyaçlar değişkenlerinden sadece ihtiyaç tatmini, beden

memnuniyetsizliğini anlamlı olarak yordamıştır [$\beta = -.34$, $t(620) = -16.72$, $p < .001$, kısmi $\eta^2 = .58$]. Bu bulgu karşılanmamış ihtiyaçların beden imajına ilişkin problemler ile ilişkili olduğunu gösteren çalışmalar ile tutarlı olsa da (örn., Thogersen-Ntoumani ve ark., 2010) düşük ihtiyaç tatminine oranla engellenmiş ihtiyaçların olumsuz sonuçlar ile daha güçlü bir ilişki gösterdiğini belirten Bartholomew ve arkadaşlarının (2011) savı ile çelişmiştir.

İkinci regresyon analizi sosyal görünüş kaygısının yordayıcılarını bulmak için uygulanmış olup, bir önceki analizde kontrol edilen değişkenler bu analizde de kontrol edildikten sonra ihtiyaç tatmini ile engellenmiş ihtiyaçlar değişkenleri denkleme eklenmiştir. Tüm model sosyal görünüş kaygısında %53 varyans açıklamış, temel psikolojik ihtiyaçlar ise açıklanan bu varyansa anlamlı katkıda bulunmuştur, $\Delta F(2, 620) = 13.51$, $\Delta R^2 = .02$, $p < .001$. Ancak temel psikolojik ihtiyaçlar değişkenlerinden sadece engellenmiş ihtiyaçlar sosyal görünüş kaygısını anlamlı olarak yordamıştır, $\beta = .21$, $t(620) = 4.76$, $p < .001$, kısmi $\eta^2 = .19$. Bu sonuç, engellenmiş ihtiyaçların olumsuz sonuçları yordamada daha etkin olduğunu gösteren çalışmalar (örn., Bartholomew ve ark., 2011) ile tutarlı bulunmuştur.

Üçüncü regresyon analizinde ise görünüme ilişkin öz-saygı değişkenini yordayan değişkenler incelenmiştir. Öz-saygı, görünüme ilişkin öz-saygıyı da kapsadığı için önceki analizlerden farklı olarak bu değişken analizden çıkarılmıştır. Tüm model görünüme ilişkin öz-saygıda %40 varyans açıklamış, bu açıklanan varyansın %9'u denkleme en son eklenen ihtiyaçların tatmini ile engellenmiş ihtiyaçlar tarafından açıklanmıştır, $\Delta F(2, 621) = 48.83$, $p < .001$. Her iki değişkenin görünüme ilişkin öz-saygıyı anlamlı olarak yordadığı görülse de engellenmiş ihtiyaçlar [$\beta = -.17$, $t(621) = -3.49$, $p < .01$, kısmi $\eta^2 = -.14$] ile karşılaştırıldığında ihtiyaçların tatmininin [$\beta = .18$, $t(621) = 3.68$, $p < .001$, kısmi $\eta^2 = .15$] daha güçlü yordayıcı olduğu gözlenmiştir. Bu sonucun da yukarıda belirtilen alanyazındaki çalışmalar (örn., Bartholomew ve ark., 2011) ile tutarlı olduğu görülmüştür.

Dördüncü ve son regresyon analizinde ise sosyal görünüş kaygısı ile görünüme ilişkin öz-saygının, beden memnuniyetsizliği üzerindeki yordayıcı etkisinin araştırılması

hedeflenmiştir. Bu bağlamda öncelikle ince/zayıf bedenin içselleştirilmesi değişkeni denkleme eklenmiş ve etkisi kontrol edilmiştir. İkinci basamak da ise sosyal görünüş kaygısı ile görünüme ilişkin öz-saygı denkleme eklenmiştir. Tüm model beden memnuniyetsizliğindeki varyansın %47'sini açıklamış, ikinci basamakta girilen değişkenler ise açıklanan bu varyansa anlamlı derecede katkı sağlamıştır, $\Delta F(2, 628) = 185.27$, $\Delta R^2 = .41$, $p < .001$. Bu sonuçlar, sosyal görünüş kaygısı ile beden memnuniyetsizliği arasındaki pozitif ilişkiyi gösteren sınırlı sayıdaki çalışmaya (Claes ve ark., 2012; Levinson ve Rodebaugh, 2011; 2015) destek vermekle beraber görünüme ilişkin özsaygı-beden memnuniyetsizliği ilişkisini ilk defa bulgulararak alanyazına özgün bir katkı sağlamıştır.

2. 3. 2. 3. Temel Psikolojik İhtiyaçların Beden Memnuniyetsizliği Üzerindeki Dolaylı Etkileri

Regresyon analizlerine ek olarak temel psikolojik ihtiyaçların beden memnuniyetsizliği üzerindeki dolaylı etkisini test etmek için bootstrap yöntemi kullanılarak dört adet çoklu aracı değişken analizi uygulanmıştır (Hayes, 2013). İlk analizde ihtiyaçların tatmini ile beden memnuniyetsizliği arasındaki ilişkide hem sosyal görünüş kaygısının hem de görünüme ilişkin öz-saygının aracı değişken olarak rol aldığı görülmüştür. İkinci analizde ise bu değişkenlerin aracı rolü engellenmiş ihtiyaçlar-beden memnuniyetsizliği arasındaki ilişkide test edilmiştir. Sonuçlar her iki değişkenin bu ilişkideki aracı rolünü de desteklemiştir. Sosyal görünüş kaygısı ile görünüme ilişkin öz-saygının temel psikolojik ihtiyaçlar-beden memnuniyetsizliği arasındaki ilişkideki aracı rolü mevcut çalışma ile ilk kez gösterilmiş olsa da bu bulguların, temel psikolojik ihtiyaçların görünüm odaklı öz-saygı ve görünüme ilişkin kaygılar ile ilişkili olduğunu gösteren önceki çalışmalar (Thøgersen-Ntoumani ve ark., 2011) ile bir şekilde tutarlı olduğu sonucuna varılmıştır.

Üçüncü ve dördüncü analizde ise tatmin edilmiş ihtiyaçlar-beden memnuniyetsizliği ve engellenmiş ihtiyaçlar-beden memnuniyetsizliği ilişkilerinde ince/zayıf bedenin içselleştirilmesi, kaslı bedenin içselleştirilmesi ve genel çekiciliğin içselleştirilmesi

değişkenlerinin aracı rolü incelenmiştir. Analizlerin sonuçlarına göre, her iki ilişkide de sadece ince/zayıf bedenın içselleştirilmesinin aracı olduđu bulgulanmıştır. Öz-Belirleme Kuramı'na göre ihtiyaçlar karşılanmadığında bireyler bu ihtiyaçlarını karşılamak için dışsal hedefler belirleyebilmekte ama dışsal hedefler, ihtiyaçların karşılanmasında etkili olmadığı gibi ileriki süreçte daha ciddi problemler doğurabilmektedir (Verstuyf ve ark., 2012). İnce/zayıf bedenın içselleştirilmesinin aracı rolü bu bağlamda ele alındığında, temel psikolojik ihtiyaçları karşılanmamış bireylerin ince/zayıf beden imajını daha çok içselleştirme eğiliminde olduđu bunun da daha fazla beden memnuniyetsizliği ile sonuçlandığı düşünülmüştür.

BÖLÜM 3

ÇALIŞMA 2

3. 1. Giriş

Vücut geliştirme, ağırlık çalışmaları ve özel beslenme programı vasıtasıyla kaslı bir vücut elde etmek için yapılan aktivitelerin tümünü ifade etmektedir (Mosley, 2009). Modern vücut geliştirmenin tarihçesi 19. Yüzyılda, ilk profesyonel vücut geliştirici olan Eugen Sandow'un etkisiyle başlamıştır (Chapman; 1994; Mosley, 2009). Sonraki yıllarda Mr. America ve Mr. Olimpia gibi vücut geliştirme yarışmaları düzenlenmiş ve bu yarışmalarda derece elde eden Steve Reeves, Sergio Olivia ve Arnold Schwarzenegger gibi vücut geliştiriciler bu spor aktivitesinin popülaritesini iyiden iyiye artırmıştır (Schwarzenegger ve Dobbins, 1999). Günümüzde de bu spor aktivitesinin yaygınlığı ve popülaritesi artmaya devam etmektedir. Örneğin, TC Gençlik ve Spor Bakanlığı verilerine göre (2017) 2007 yılında 9486 olan lisanslı erkek vücut geliştirici sayısı yıllar içinde sürekli olarak artmış ve 2017 yılında 25611'e ulaşmıştır. Popülaritesindeki bu hızlı artış akıllara şu soruları getirmiştir: Neden bu kadar çok erkek vücut geliştirme faaliyetleriyle ilgileniyor? Bu erkekler neden yüzme, koşu, basketbol vb. spor faaliyetlerini değil de vücut geliştirmeyi tercih ediyor? Vücut geliştirmenin olumlu ve olumsuz sonuçları nelerdir? Kaslı bir vücuda sahip olmanın bu erkekler için anlamı nedir? Ancak bu sorular büyük oranda cevapsız kalmıştır zira alanyazındaki birçok çalışma bu soruların cevaplarını araştırmak yerine vücut geliştirmenin steroid kullanımı, kas algı bozukluğu, beden memnuniyetsizliği gibi çeşitli psikopatolojik durumlarla ilişkisine odaklanmıştır

(Bloin ve Goldfield, 1995; Mangweth-Matzek ve ark., 2001; Mitchell ve ark., 2017). Sadece birkaç istisna çalışma vücut geliştirmenin altında yatan motivasyonları özellikle araştırmıştır (örn., Parish ve ark., 2010). Alanyazındaki bu eksiklik göz önünde bulundurularak mevcut çalışmada düzenli vücut geliştirme faaliyetleri içerisinde yer alan erkeklerin deneyimlerinin derinlemesine anlaşılması amaçlanmıştır. Ancak söz konusu çalışmaya geçmeden önce bir şekilde vücut geliştirme faaliyetlerinin altında yatan motivasyonlarla ilişkili olduğu düşünülen mevcut alanyazını incelemek faydalı olacaktır.

3. 1. 1. Vücut Geliştirme Motivasyonları

3. 1. 1. 1. Öz-değer

Öz-değer, vücut geliştirme faaliyetleri ile yakından ilişkili bir yapıdır (Parish ve ark., 2010). Özellikle zayıf öz-değer bireyleri vücut geliştirme faaliyetlerine yönelten önemli bir etmen olarak değerlendirilmektedir (Klein, 2007). Hatta vücut geliştiren kişilerin yetersiz kişiler olduklarını, vücut geliştirme ile elde ettikleri kaslı vücut ile bu yetersizlikleri kapatmaya çalıştıklarını belirten görüşler de mevcuttur (Fussell, 1991; Klein, 2007). Ancak bu yetersizliklerin kaslı vücut ile kapatılmaya çalışılması kısır bir döngü ile sonuçlanabilmektedir. Diğer bir deyişle, zayıf öz-değer, kişileri vücut geliştirme faaliyetlerine yönetmekte ancak her zaman daha kaslı kişilerin olması sebebiyle bireyler fiziksel gelişimlerinden tatmin olmamakta, bunun sonucunda da kas oranları artsa bile yine zayıf öz-değer hissetmeye devam etmektedir (Parish ve ark., 2010). Bu bağlamda bir kısım çalışma, vücut geliştiricilerin zayıf öz-değere sahip olduğunu göstermiştir (Blouin ve Goldfield, 1995; Wolke ve Sapouna, 2008) ancak bazı diğer çalışmalar ise bu bulguların tam tersini rapor etmiştir (Davis ve Scott-Robertson, 2000; Pickett ve ark., 2005). Alanyazındaki bu çelişki belki de vücut geliştirmenin kısa vadede öz-değeri yükselttiği ancak uzun vadede öz-değerle ilişkili yeni problemler ortaya çıkardığı görüşü ile açıklanabilir (Davis ve Scott-Robertson, 2000).

3. 1. 1. 2. İdeal Kaslı Bedene Ulaşma İsteği

V şeklindeki kaslı erkek beden imajının medyada sıklıkla gösterilmesi bu imajın ideal erkek beden imajı olarak algılanmasının yanı sıra olumlu kişilik özelliklerinin bir göstergesi olarak kabul edilmesi ile sonuçlanmaktadır (Tiggemann, 2011). Bunun neticesinde de erkekler bu beden imajını içselleştirme, idealize etme ve ona ulaşmak için kas geliştirici aktiviteler içerisinde yer alma gibi eğilimler göstermektedir (Cho ve Lee, 2013; Pope ve ark., 2000). Bu doğrultuda birçok çalışma ideal kaslı vücut tipinin erkekler için önemini tutarlı bir şekilde göstermiştir (Leit ve ark., 2001; Peters ve Phelps, 2001). Bunun yanı sıra çok az sayıdaki çalışma da sosyokültürel etmenler tarafından dayatılan ideal vücut tipinin bireyleri vücut geliştirme faaliyetlerine yöneltmedeki etkisini göstermiştir (örn., Parish ve ark., 2010; Wright ve ark., 2000).

3. 1. 1. 3. Sağlık Nedenleri

Birçok çalışma vücut geliştirmenin psikopatolojik sonuçlarla olan ilişkisine odaklandığından (Bjornestad ve ark., 2014) bireyleri vücut geliştirme aktivitelerine yönelten sağlıkla ilişkili motivasyonlar çok az sayıdaki araştırmacının ilgisini çekmiş ve bu araştırmacılar vücut geliştirme aktivitelerinin hem psikolojik (örn., Probert ve ark., 2007) hem de fiziksel sağlığı (Zhang ve ark., 2002 içinde Parish ve ark., 2010) iyileştirdiğini bulgulamıştır.

3. 1. 1. 4. Duygu Regülasyonu

Duygu regülasyonu vücut geliştirmenin altında yatan motivasyonlardan bir diğeridir. Vücut geliştiriciler bu spor aktivitesi ile olumlu duyguları artırmak istemektedir. Özellikle stresin etkisini azaltmak, günlük endişelerle baş etmek, olumlu duygulanımı artırmak ve agresyonu boşaltmak bu spora yönelim aşamasındaki önemli amaçlar olarak görülmektedir (Emini ve Bond, 2014; Parish ve ark., 2010; Sawicki, 2016).

3. 1. 1. 5. Diğer Nedenler

Kişisel meydan okuma ve belli bir vücut geliştirme grubuna ait olma da bu sporu yapan kişileri motive edici diğer etmenler olarak bulunmuştur. Kişisel meydan okuma açısından bireyler, vücut geliştirmeyi (aslında kaslı vücuda ulaşmayı) zorlu bir hedef ve keyif kaynağı olarak değerlendirebilmektedir (Emini ve Bond, 2014). Ayrıca belli bir vücut geliştirme grubuna ait olarak sosyal destek ve aidiyet duygusundan faydalanma isteği de bu sporu tercih etmede önemli bir rol oynamaktadır (Sawicki, 2016).

3. 1. 2. Mevcut Çalışma

Mevcut çalışma kapsamında (1) düzenli vücut geliştirme faaliyetlerine katılan erkeklerin motivasyonları ve kazanımları üzerine bir miktar ışık tutulması, (2) bu sporun erkekler tarafından neden bu kadar çok tercih edildiğine dair kapsamlı bir açıklama getirilmesi ve (3) kas algı bozukluğuna yol açan süreç hakkında bilgi üretilmesi hedeflenmiştir. Bu hedeflere ulaşmak için fenomenolojik nitel analiz yöntemi tercih edilmiştir.

3. 2. Yöntem

3. 2. 1. Nitel Analizin Tercih Edilme Sebepleri

Mevcut çalışmada, üç ana sebepten ötürü nitel analiz yöntemi benimsenmiştir. Birincisi, nitel analiz yöntemi belirli bir deneyimin derinlemesine anlaşılmasında nicel yöntemlere göre avantaj sağlamaktadır (Howitt, 2010). İkincisi, nitel analiz yöntemleri hipotez testi yerine orijinal kavram ve yapıların keşfedilmesi ile ilgilenmektedir (Denzin ve Lincoln, 2000). Üçüncüsü, vücut geliştirmenin altında yatan motivasyonları ölçmeye uygun ölçüm araçları henüz geliştirilmemiştir. Bu üç neden göz önünde bulundurulduğunda nitel analiz yönteminin bu çalışma için en uygun yöntem olduğu kanısına varılmıştır.

3. 2. 2. Yorumlayıcı Fenomenolojik Analizin Tercih Edilme Sebepleri

Yorumlayıcı fenomenolojik analiz, her bir vakanın deneyimlediği yaşantının derinlemesine incelenmesi ve birbirleriyle karşılaştırması sonucu bilgi üretmeyi sağlayan bir yöntemdir. Bu özelliği sebebiyle az sayıda vaka ile çok detaylı bilgiler üretmeye olanak sağlamaktadır. Ayrıca, belirli bir hipotezi test etme gibi bir amaca hizmet etmediği için yeni konuların ve temaların oluşmasına fırsat sağlamaktadır. Üstelik varsayımları ve uygulamaları bakımından ana akım araştırmalardan ayrışsa da, elde edilen bulguların mevcut alanyazın çerçevesinde tartışılmasını teşvik etmesi nedeniyle belirli bir konu hakkındaki alanyazının gelişmesi ve ilerlemesi için destek sağlamaktadır. Tüm bunlara ek olarak hem vakanın hem de araştırmacının ortaya çıkan bilgideki etkisine özel bir önem vermektedir (Smith, 2004).

3. 2. 3. Katılımcılar ve Örneklem Yöntemi

Katılımcılar, Smith ve Osborn'un (2003) tavsiyeleri doğrultusunda, amaçlı örneklem yöntemi kullanılarak çalışmaya dahil edilmiştir. Erkek olmak, 20 ile 30 yaş arasında olmak ve en az iki yıldır düzenli (haftada en az iki kere) vücut geliştirme faaliyetlerinde bulunuyor olmak katılım kriterleri olarak belirlenmiştir. Bu kriterleri karşılayan altı erkek çalışmaya dahil edilmiştir.

3. 2. 4. İşlem

Gerekli etik izinler alındıktan sonra katılımcılar ile yarı-yapılandırılmış görüşmeler gerçekleştirilmiştir. Katılımcılar görüşme öncesinde çalışma hakkında bilgilendirilmiş ve izinleri doğrultusunda görüşmelerde ses kaydı alınmıştır. Görüşmelerde kendilerine beş adet genel soru sorulmuş ve kendilerini özgürce ifade etmelerine olanak sağlanmıştır. Görüşmeler 37 ila 52 dakika arasında sürmüştür.

3. 2. 5. Veri Analizi

Veri analizi ilk görüşmenin detaylı analizi ile başlamıştır; sıralıyla görüşmenin dökümü çıkarılmış, vakanın ifadeleri kodlanmış, tekrar eden temalar belirlenmiş ve en sonunda ana ve alt temalar tespit edilmiştir. Bu analiz süreci her bir vaka için ayrı ayrı uygulanmıştır. Sonrasında ise ortaya çıkan temalar, vakalar arasında karşılaştırılmış, ortak ana ve alt temalar oluşturulmuştur. En son süreçte ise araştırmacı mevcut temaların üzerinden iki çalışma arkadaşı ile geçmiş ve söz konusu temaların nihai yapısı oluşturulmuştur. Sonuç olarak “*Aşğılık duygularını telafi etme arzusu*”, “*Vücut geliştirme süreci: Kas odaklı öz-değer*” ve “*Duyguların savaşı*” olmak üzere üç ana tema belirlenmiştir.

3. 2. 6. Kendini Yansıtma

Nitel analiz yöntemini benimseyen çalışmalarda, çalışma sonuçlarını etkileyebilecek araştırmacıyla ilgili etmenleri (geçmişini ve deneyimlerini) açıkça belirtmek söz konusu çalışmanın güvenilirliği için çok kritik bir öneme sahiptir (Morrow, 2005; Patton, 2002). Bu bağlamda araştırmacının vücut geliştirme ile olan ilişkisine bakmak faydalı olacaktır. Mevcut araştırmacı, bir dönem vücut geliştirme faaliyetleri içerisinde yer almış ve o dönemde hem antrenman hem de diyet programına uymak için özel bir çaba sarf etmiştir. Hatta belirli bir süre için protein tozu kullanmıştır. Bu deneyiminden yola çıkarak vücut geliştirmenin kendisi ve diğer insanlar için önemini sorgulamış ve neticesinde mevcut çalışma ile bu sorgulamalara cevap bulmayı amaçlamıştır.

3. 3. Sonuçlar ve Tartışma

3. 3. 1. Aşğılık Duygularını Telafi Etme Arzusu

Bu tema katılımcıların derinlerde var olan aşğılık ve eksiklik hislerini kaslı bir vücut elde ederek telafi etme arzusu içinde olduklarını göstermektedir. Bu aşğılık ve eksiklik hislerinin farkına varmak veya bu hisleri kabul etmek bireyler için oldukça zor bir durum olduğundan katılımcıların sadece bir kısmı eksikliklerini açıkça itiraf etmiştir. Bu

itiraflara ek olarak, kaslı vücutlarına ilişkin olumlu geri bildirim aldıklarında hemen hemen hepsinin yeterli, başarılı ve çekici hissetmesi, aşağılık ve eksiklik hislerinin örtülü ifadesi olarak değerlendirilmiştir zira bu ifadelerden, bu kişilerin aşağılık ve yetersizlik hislerinin olduğu ve bunları toplumun dayattığı ideal beden imajını elde ederek telafi etmeye çalıştıkları çıkarımı yapılmıştır.

Söz konusu tema, vücut geliştiricilerin genellikle yetersiz ve öz-değeri düşük kişiler olduklarını savunan alanyazın bulgularını desteklemiştir (Fusselll, 1991). Bunun yanı sıra, aşağılık hisleri ile beden imajı arasındaki ilişkiye vurgu yapan birçok kuram için de ek kanıtlar sunmuştur (Adler'in Bireysel Psikoloji Kuramı için bkz., Adler, 1929; Schultz ve Schultz, 2013, Şema Kuramı için bkz., Young ve ark., 2003, Bilişsel Kuram için bkz., Beck ve ark., 2004 ve Öz-Belirleme Kuramı için bkz., Deci ve Ryan, 2000; Verstuyf ve ark., 2012). Bu kuramlara göre aşağılık ve eksiklik hisleri kabul edilip çözümlenmez ise bireyler, ideal beden imajı, zenginlik ve ün gibi dışsal hedefleri gerçekleştirerek bu hisleri telafi etmeye çalışmaktadır. Diğer bir deyişle, bu bireyler, gerçekleştirdikleri dışsal hedefleri, başkaları üzerinde hayranlık yaratmak ve kendi eksiklikleri ile yüzleşmekten kaçınmak için kullanmaktadır. Mevcut tema bu mantık çerçevesinde değerlendirildiğinde, katılımcılarımızın, toplum tarafından başarının, yeterliliğin ve mutluluğun bir göstergesi olarak kabul edilen ideal vücut şekline (Grogan, 2008; McCabe ve Ricciardelli, 2005) ulaşarak bu yetersizlikleri ile baş etmeye çalıştığı düşünülmüştür.

3. 3. 2. Vücut Geliştirme Süreci: Kas Odaklı Öz-Değer

Bu tema katılımcılarımızın öz-değerlerinin kendi kaslarına aşırı derecede bağlı olduğunu göstermektedir. Buna göre, bu bireyler, kaslarında herhangi bir gelişme gördüklerinde ya da başkalarından kaslarına ilişkin olumlu geri bildirim aldıklarında öz-değerleri yükselmekte; daha fazla kas gelişimi sağlayamadıklarında, kaslarında gerileme hissettiklerinde ya da başkalarından kaslarına dair olumsuz geri bildirimler aldıklarında ise öz-değerleri düşmektedir. Bu nedenle bu kişiler ne kadar kaslı olurlarsa olsunlar, öz-

değerlerini yüksek tutmak için sürekli olarak kaslarını geliştirmek istemektedir. Bir be buna altta yatan yetersizlik hisleri sebebiyle hiçbir zaman uzun süreli yüksek öz-değer deneyimleyemedikleri eklendiğinde (Verstuyf et al., 2012), bu kişilerin sürekli olarak kaslarıyla kendilerini kanıtlama mecburiyeti hissettikleri ortaya çıkmaktadır.

Öz-Belirleme Kuramı'nın (Deci ve Ryan, 2000) ortaya attığı sav kas odaklı öz-değer temasının içerdiği bu bulguları açıklar niteliktedir. Bu kurama göre özerlik, yeterlik ve ilişkisellik üç temel psikolojik ihtiyaçtır ve bu ihtiyaçlar karşılanmadığında (düşük seviyede karşılandığında veya engellendiğinde) bireyler, öz-değerlerini hem kendilerine hem de başkalarına kanıtlamak için ideal beden imajı gibi mükemmeliyetçi dışsal hedeflere ulaşmak için çabalamaktadır. Ancak bu hedefleri gerçekleştirme sürecinde en ufak başarısızlığa tahammül edememekte ve hatta bu hedefleri gerçekleştirdiklerinde ise çok kısa süreli bir tatmin yaşadktan hemen sonra daha da zor bir hedef belirlemektedirler. Böylece, zaman içinde bu hedefleri gerçekleştirmek daha da zor bir hal almaktadır (Deci ve Ryan, 2000; Verstuyf et al., 2012). Bu bağlamda söz konusu tema ele alındığında, katılımcılarımızın, kaslı vücutları ile karşılanmamış psikolojik temel ihtiyaçlarını telafi etmeye çalıştıkları, hedefledikleri kaslı vücuda ulaştıklarında kısa vadede değerli hissettikleri ancak en ufak olumsuz durumda ve uzun vadede öz-değerlerinin düştüğü çıkarımı yapılabilir.

Öz-Belirleme Kuramına ek olarak, Adler'in Bireysel Psikoloji Kuramı (Adler, 1929; Schultz ve Schultz, 2013), Şema Kuramı (Young ve ark., 2003) ve Bilişsel Kuram (Beck ve ark., 2004) da öz-değer ve beden imajı ilişkisine vurgu yapmıştır. Bu kuramlara göre yetersizlik ve aşağılık hisleri olan bireyler beden imajını bir zırh olarak değerlendirmekte ve bunun sonucunda da beden görünümlerine gerektiğinden fazla önem verebilmektedir. Bu mantık çerçevesinde, katılımcılarımızın, yetersizlik ve aşağılık hislerini gizlemek için kaslarını bir zırh olarak kullanıyor olabileceği ve bu zırhı daha kuvvetlendirmek için de daha fazla çaba sarf ediyor olabilecekleri düşünülmüştür.

3. 3. 3. Duyguların Savaşı

Bu tema vücut geliştirme aktivitesinin öz-değerdeki dalgalanmalar ile paralel olarak ya olumlu ya da olumsuz duyguları ortaya çıkardığını ifade etmektedir. Buna göre bireylerin kas odaklı öz-değeri yükselince, bu durum tatmin, mutluluk ve başarı hislerini ortaya çıkarmaktadır. Bu bulgu vücut geliştirme aktivitelerinin pozitif ruh hali üzerindeki etkisini gösteren önceki çalışmalar ile tutarlıdır (Emini ve Bond, 2014; Sawicki, 2016). Ancak bu hislerin kısa süreli olduğu gözlenmiştir. Dışsal hedefleri gerçekleştirmenin sadece kısa süreli pozitif duygulanım ile sonuçlandığını gösteren önceki çalışmalar (Davis ve Scott-Robertson, 2000; Verstuyf ve ark., 2012) göz önünde bulundurulduğunda bu bulgu mantıklıdır. Diğer yandan katılımcıların kasları ile ilgili herhangi bir olumsuz durum ile karşılaşmaları durumunda, öz-değerlerindeki düşüşe bağlı olarak suçluluk, üzüntü ve aşağılık hisleriyle karşılaşma korkusu hissettikleri bulunmuştur.

Bu tema duyguların savaşı olarak adlandırılmıştır çünkü kas odaklı öz-değerdeki dalgalanmalara bağlı olarak olumlu ve olumsuz duygular sürekli olarak yer değiştirmektedir. Bu nedenle bireyler hem olumlu duyguları sürdürmek hem de olumsuz duygulardan kaçınmak için daha fazla vücut geliştirme aktivitesine başvurmanın yanı sıra sağlık için olumsuz olabilecek takviye kullanımı gibi davranışlar içinde de yer alabilmektedir. Bu durum da sonraki süreçte ortaya çıkabilecek olan kas algı bozukluğu gibi psikopatolojik durumlara zemin hazırlamaktadır.

BÖLÜM 4

ÇALIŞMA 3

4. 1. Giriş

Sosyokültürel etmenlerin sürekli dayattığı ideal beden imajları, kişilerin sahip olduğu bedenler ile bu ideal beden imajları arasındaki farkın açılmasına sebep olmakta, bu durum da bireylerin daha fazla beden memnuniyetsizliği ve hatta daha ciddi psikolojik problemler (yeme bozuklukları ve kas algı bozukluğu) deneyimlemesi ile sonuçlanmaktadır (Clay ve ark., 2005; Grogan, 2008; Klimek ve ark., 2018; Mason ve ark., 2016; Tiggemann; 2011). Ancak yeme bozuklukları ve kas algı bozukluğu ile sonuçlanan bu süreci sadece ideal beden imajı ile sahip olunan beden arasındaki fark ile açıklamak çok da mümkün değildir. Bu yüzden birçok araştırma bu bozukların etiyojisine odaklanarak ne tür etmenlerin bu bozuklara zemin hazırladığını keşfetmeye çalışmıştır (örn., Heath ve ark., 2016; Stice, 1994). Bu bağlamda Temel Psikolojik İhtiyaçlar Kuramı (Deci ve Ryan, 2000) çerçevesinde de araştırmalar yapılmış; karşılanmamış temel psikolojik ihtiyaçların yeme bozukluklarıyla ilişkisi bulgulanmıştır (örn., Straus ve Ryan, 1987; Verstuyf ve ark., 2012). Ancak anoreksiya nervoza ile birçok ortak özelliğinin olduğu kabul edilen (Murray ve ark., 2010) kas algı bozukluğunun risk etmenleri henüz hiçbir çalışma tarafından Temel Psikolojik İhtiyaçlar Kuramı çerçevesinde araştırılmamıştır. Alanyazındaki bu eksiklik göz önünde bulundurularak, karşılanmamış temel psikolojik ihtiyaçların kas algı bozukluğu üzerindeki yordayıcı etkisinin test edilmesi bu çalışmanın ana amacı olarak belirlenmiştir. Bu amaca ek olarak,

tatmin edilen ihtiyaların daha ok iyilik hali ile; engellenmiř ihtiyaların ise daha ok hastalık hali ile iliřkili olduėunu belirten savı (Bartholomew ve ark., 2011; Chen ve ark., 2015) sınamak iin, mevcut alıřmaya yařam doyumu deėiřkeni de dahil edilmiř ve temel psikolojik ihtiyaların bu deėiřken zerindeki yordayıcı etkisi de arařtırılmıřtır.

4. 1. 1. Temel Psikoloji İhtiyalar Kuramı

Temel Psikolojik İhtiyalar Kuramına gre zerklik, yeterlik ve iliřkisellik hem kiřilerin iyilik haline hem de hastalık haline katkı saėlayan temel psikolojik ihtiyalardır. Bu ihtiyalar karřılandığında bireylerin iřlevselliėi ve psikolojik saėlıėı iyileřmekte; karřılanmadığında (dřk seviyede karřılandığında veya engellendiėinde) ise uygunsuz telafi mekanizmaları veya psikolojik bozukluklar ortaya ıkmaktadır (Deci ve Ryan, 2000; Vansteenkiste ve Ryan, 2013). Bu baėlamda temel psikolojik ihtiyaların psikolojik saėlık zerindeki hem olumlu hem de olumsuz etkileri birok alıřma tarafından gsterilmiřtir. rneėin, karřılanmıř psikolojik ihtiyaların z-saygı (Deci ve ark., 2001), yařam doyumu, olumlu duygulanım (Chen ve ark., 2015), alıřma performansı (Baard ve ark., 2004) ile iliřkili olduėu; karřılanmamıř ihtiyaların ise olumsuz duygulanım, depresyon (Chen ve ark., 2015), tkenmiřlik (Bartholomew ve ark., 2011), saėlıksız kilo kontrol davranıřları (Ng ve ark., 2013) ve hatta yeme bozuklukları (Pelletier ve ark., 2004; Straus ve Ryan, 1987) gibi olumsuz sonular ile iliřkili olduėu tutarlı bir řekilde gsterilmiřtir.

4. 1. 2. Kas Algı Bozukluėu

İlk kez 1993 yılında tespit edilen kas algı bozukluėu, anoreksiya nervoza ile benzerliėi sebebiyle ters anoreksiya (reverse anorexia) olarak tanımlanmıř (Pope ve ark., 1993), sonraki yıllarda ise kas algı bozukluėu ismini almıřtır (Pope ve ark., 1997). Normal kiřilerden daha kaslı olursa bile yeterince kaslı olmadıėını dřnme, kasları daha da artırmak iin steroid kullanma, srekli olarak kaslarını ayna karřısında kontrol etme ve kas oranına baėlı olarak stres hissetme bu bozukluėun bazı zellikleri olarak bulunmuřtur (Olivardia, 2001; Pope ve ark., 1997).

Kas algı bozukluğunun yaygınlığı tam olarak bilinmese de, erkekler arasında kadınlara oranla çok daha yaygın olduğu bilinmektedir (Pope ve ark., 1997). Ayrıca bu bozukluğun diğer sporları yapanlara nazaran vücut geliştiriciler arasında (Lantz ve ark., 2002) özellikle de yarışmacı vücut geliştiriciler arasında (Mitchell ve ark., 2017) daha yaygın olduğunu gösteren çalışmalar mevcuttur.

Kas algı bozukluğunu etiyoloji hakkında da yeterince bilgi yoktur. Sadece birkaç çalışma sosyokültürel etmenlerin dayattığı kaslı ideal vücut tipinin bu bozukluk üzerindeki etkisini göstermiştir (Klimek ve ark., 2018; Mason ve ark., 2016).

4. 1. 3. Mevcut Çalışma ve Hipotezler

Yukarıda belirtilen alanyazın bilgileri ışığında karşılanmamış psikolojik ihtiyaçların kas algı bozukluğu üzerindeki yordayıcı etkisini test etmek mevcut çalışmanın ana amacı olarak belirlenmiştir. Bu amaca ek olarak, tatmin edilmiş temel psikolojik ihtiyaçların daha çok iyilik hali ile ilişkili olduğunu içeren savı (Bartholomew ve ark., 2011) desteklemek için yaşam doyumu da çalışmaya dahil edilmiş ve temel psikolojik ihtiyaçların bu değişken üzerindeki etkisinin araştırılması da amaçlanmıştır. Bu amaçlar doğrultusunda aşağıdaki hipotezler belirlenmiştir.

H₁: Düşük seviyede tatmin edilmiş (*H_{1a}*) ve engellenmiş ihtiyaçlar (*H_{1b}*) kas algı bozukluğunu yordayacaktır.

H₂: Düşük seviyede tatmin edilmiş ihtiyaçlar ile karşılaştırıldığında engellenmiş ihtiyaçlar kas algı bozukluğunda daha fazla varyans açıklayacaktır.

H₃: Düşük seviyede tatmin edilmiş (*H_{3a}*) ve engellenmiş ihtiyaçlar (*H_{3b}*) yaşam doyumunu yordayacaktır.

H₄: Engellenmiş ihtiyaçlar ile karşılaştırıldığında düşük seviyede tatmin edilmiş ihtiyaçlar yaşam doyumunda daha fazla varyans açıklayacaktır.

4. 2. Yöntem

4. 2. 1. Katılımcılar

Mevcut çalışmanın verileri en az bir yıldır düzenli vücut geliştirme faaliyetleri yürüten 245 gönüllü erkek katılımcıdan elde edilmiştir. Katılımcıların yaşları 18 ile 44 arasında olup, yaşlarının ortalaması 22.73'dür ($S = 3.86$).

4. 2. 2. Ölçüm Araçları

Veriler Demografik Bilgi Formu, Kas Görünümüne İlişkin Memnuniyet Ölçeği, Vücut Kitle İndeksi, Temel Psikolojik İhtiyaçların Tatmini ve Engellenmesi Ölçeği, Rosenberg Öz-Saygı Ölçeği, Beden İmajı Ölçeği, Sosyal Görünüş Kaygısı Ölçeği, Görünüme İlişkin Öz-Saygı Ölçeği, Yaşam Doyumu Ölçeği, Görünüme Yönelik Sosyokültürel Tutumlar Anketi ve Kaslı Olma İsteği Ölçeği vasıtasıyla toplanmıştır. Kas Görünümüne İlişkin Memnuniyet Ölçeğinin Türkçe adaptasyonu mevcut çalışma kapsamında gerçekleştirilmiştir.

4. 2. 3. İşlem

Gerekli etik izinler alındıktan sonra adapte edilecek ölçek çeviri-geri çeviri yöntemi ile Türkçe'ye çevrilmiştir. Çeviri sürecinin tamamlanması ile birlikte ölçüm araçlarının tümü Qualtrics adlı çevrimiçi veri toplama platformuna yüklenmiş ve potansiyel katılımcılara duyurulmuştur. Bu duyuru sürecinde bazı sosyal medya siteleri ile vücut geliştirme forumlarından da faydalanılmıştır.

4. 3. Sonuç ve Tartışma

4. 3. 1. Kas Görünümüne İlişkin Memnuniyet Ölçeğinin Adaptasyonu

Doğrulamalı faktör analizi sonuçları, ilgili ölçeğin beş faktörlü yapısının, uygulanan beş adet iyileştirmeden sonra Türk örnekleme için de geçerli olduğunu göstermiştir, $\chi^2(137) = 195.43, p = .000, CFI = .95, RMSEA = .04, SRMR = .07, CI [.03, .05]$. Ölçeğin güvenilirliği

iç tutarlık katsayısı bağlamında hesaplanmış olup, bu katsayının alt faktörler için .63 ile .73 arasında değiştiği bulunmuştur. Ölçeğin geçerliği ise yakınsama ve ıraksama geçerliği kapsamında incelenmiştir. Yakınsama geçerliği bakımından ölçeğin alt faktörleri kaslılık ile ilişkili diğer yapılar ile ilişkili bulunmuştur. ıraksama geçerliliği kapsamında ise alanyazınla (Cafri ve ark., 2005; McCreary ve Sasse, 2000) tutarlı olarak, ilgili faktörlerin ince/zayıf beden ile ilişkili yapılarla ve vücut kitle indeksi ile herhangi bir ilişki göstermediği gözlenmiştir.

4. 3. 2. Hipotezlerin Test Edilmesi

4. 3. 2. 1. Temel Psikolojik İhtiyaçların Kas Algı Bozukluğu Üzerindeki Yordayıcı Etkisi

Temel Psikolojik İhtiyaçlar Kuramı çerçevesinde kas algı bozukluğunu yordayan etmenleri araştırmak için üç aşamalı hiyerarşik regresyon analizi uygulanmıştır. İlgili analizde öncelikle yaş, vücut kitle indeksi, kaç aydır vücut geliştirme yapıldığı, antrenmanların sıklığı ve uzunluğu gibi değişkenler kontrol edilmiş, son aşamada ise ihtiyaç tatmini ile engellenmiş ihtiyaçlar değişkenleri denkleme eklenmiştir. Sonuçlara göre tüm model kas algı bozukluğundaki varyansın %14'ünü açıklamış; temel psikolojik ihtiyaçlar ise açıklanan bu varyansa anlamlı derecede katkıda bulunmuştur, $\Delta F(2, 237) = 6.14$, $\Delta R^2 = .04$, $p < .01$. Ancak temel psikolojik ihtiyaçlar değişkenlerinden sadece engellenmiş ihtiyaçlar kas algı bozukluğunu anlamlı olarak yordamıştır [$\beta = .23$, $t(237) = 2.77$, $p < .01$, kısmi $\eta^2 = .18$]. Bu bulgu engellenmiş ihtiyaçların, düşük seviyede tatmin edilmiş ihtiyaçlarla karşılaştırıldığında psikopatolojik sonuçlar ile daha güçlü bir ilişki gösterdiğini savunan alanyazın bilgileri (Bartholomew ve ark., 2011) ile tutarlıdır.

Ayrıca Öz-Belirleme Kuramı alanyazınında söz konusu ihtiyaçların engellenmesi durumunda, kişilerin ideal beden imajı gibi dışsal hedefler belirledikleri, bu hedefleri gerçekleştirerek söz konusu ihtiyaçları telafi etmeye çalıştıkları, ancak bu mekanizmanın, dışsal hedeflerin altta yatan ve engellenmiş ihtiyaçlar ile ilişkili olan yetersizlikleri çözümlemede faydasız kalması sebebiyle daha ciddi problemler ile sonuçlandığı

belirtilmiştir. Mevcut bulgular bu mantık çerçevesinde değerlendirildiğinde, katılımcılarımızın, kaslı erkek vücudunu elde ederek engellenmiş ihtiyaçlarını telafi etmek istediği, ancak bu isteğin daha ciddi bir psikolojik problem olan kas algı bozukluğu semptomları ile sonuçlandığı görülmektedir.

4. 3. 2. 2. Temel Psikolojik İhtiyaçların Yaşam Doyumu Üzerindeki Yordayıcı Etkisi

Temel Psikolojik İhtiyaçlar bağlamında yaşam doyumunun yordayıcılarını belirlemek için iki aşamalı hiyerarşik regresyon analizi uygulanmıştır. İlgili analizde öncelikle yaş, vücut kitle indeksi, algılanan ekonomik seviyenin etkisi kontrol edilmiş son aşamada ihtiyaç tatmini ile engellenmiş ihtiyaçlar denkleme eklenmiştir. Sonuçlara göre tüm model yaşam doyumundaki varyansın %26'sını açıklamış; temel psikolojik ihtiyaçlar ise açıklanan bu varyansa anlamlı derecede katkıda bulunmuştur, $\Delta F(2, 239) = 31.89$, $\Delta R^2 = .20$, $p < .001$. Hem ihtiyaç tatminin ($\beta = .32$, $t(239) = 4.21$, $p < .001$, kısmi $\eta^2 = .26$) hem de engellenmiş ihtiyaçların ($\beta = -.18$, $t(239) = -2.36$, $p < .05$, kısmi $\eta^2 = -.15$) yaşam doyumunu yordadığı görülse de, öz-belirleme kuramı çerçevesinde yapılan önceki çalışmalar (örn., Chen ve ark., 2015) ile tutarlı olarak, ihtiyaç tatmini ile iyilik halinin bir göstergesi olan yaşam doyumu arasında daha güçlü bir ilişki olduğu gözlenmiştir.

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YAZARIN / AUTHOR

Soyadı / Surname : Selvi

Adı / Name : Kerim

Bölümü / Department : Psikoloji

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