PREDICTORS OF DISORDERED EATING AMONG TURKISH UNIVERSITY STUDENTS

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ABSTRACT

PREDICTORS OF DISORDERED EATING AMONG TURKISH UNIVERSITY STUDENTS

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The purpose of the present study is twofold: First, to assess to what extent gender, age, body mass index, weight satisfaction, body satisfaction and coping styles predict disordered eating attitudes of Turkish university students. Second, to examine whether there is a significant difference between female and male university students' expert preference in case of a weight problem and importance of significant other's opinion regarding their weight. Three instruments- Eating Attitudes Test, Coping Styles Inventory, and a Demographic Data Form were administered to 525 students from four (3 state, 1 private) universities of Ankara. A stepwise multiple regression analysis was conducted to evaluate how well emotion focused coping, problem focused coping, gender, age, body mass index, weight satisfaction and body satisfaction predicted the disordered eating attitudes of Turkish university students. A two way contingency table

analysis was conducted to evaluate whether there was a significant difference between female and male university students regarding their expert preference in case of a weight problem, and whether there was a significant difference between female and male university students with respect to the importance of significant other's opinion regarding their weight. The variables found to be most predictive of disordered eating attitudes and entered the regression equation were weight satisfaction, gender, emotion focused coping, age, and body mass index. Of the five variables, weight satisfaction was strongly negatively related to disordered eating attitudes. Results indicated that proportions of female students preferring dietitian and fitness expert in case of a weight problem were nearly same, whereas male students prefered fitness expert, medical doctor and dietitian, respectively. Regarding the importance of significant other's opinion in relation to weight, there were no significant differences between two groups. Opposite sex friend's opinion in relation to weight was found to be the most important source for both female and male students.

Key words: Disordered eating, coping styles, demographic variables, university students, expert preference

ÖZ

TÜRK ÜNİVERSİTE ÖĞRENCİLERİNİN YEME TUTUMLARINI YORDAYAN DEĞİŞKENLER

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Bu çalışmanın iki amacı vardır. Birincisi, cinsiyet, yaş, beden kitle endeksi, kilo memnuniyeti, vücut memnuniyeti ve başetme stillerinin Türk üniversite öğrencilerinin yeme tutumlarını ne derece yordadığını araştırmaktır. Çalışmanın ikinci amacı kız ve erkek üniversite öğrencilerinin kiloları ile ilgili yorum yapan kişilerden hangisinin görüşünün daha önemli olduğu ve kilo ile ilgili bir problemleri olduğunda başvurdukları uzman tercihleri konusunda bir fark olup olmadığını araştırmaktır. Ankara ilindeki üç devlet ve bir özel üniversitede okuyan 525 öğrenciye, Yeme Tutumları Testi, Başetme Stilleri Ölçeği ve Demografik Bilgi Formu uygulanmıştır. Cinsiyet, yaş, beden kitle endeksi, kilo memnuniyeti, vücut memnuniyeti ve duygusal odaklı ve problem odaklı başetme stillerinin Türk üniversite öğrencilerinin yeme tutumlarını ne derece yordadığını değerlendirmek için çoklu regresyon analizi uygulanmıştır. Kız ve erkek üniversite öğrencilerinin kilo ile ilgili bir problemleri olduğunda başvurdukları uzman ve kiloları

ile ilgili yorum yapan kişilerden hangisinin görüşünün daha önemli olduğu konusunda bir fark olup olmadığını ölçmek amacı ile ki kare analizi uygulanmıştır. Yeme tutumlarını en fazla yordayan değişkenler kilo memnuniyeti, cinsiyet, duygusal odaklı başetme stili, yaş, ve beden kitle endeksi olarak bulunmuştur. Beş değişken içinde kilo memnuniyeti, yeme tutumları ile olumsuz yönde ilişkili bir değişken olarak bulunmuştur. Bulgular, kız öğrencilerin kilo ile ilgili bir problemleri olduğunda diyetisyen ve spor uzmanına aynı oranda danışmayı tercih ettiğini gösterirken, erkek öğrencilerin sırasıyla spor uzmanı, tıp doktoru ve diyetisyene danışmayı tercih ettiklerine işaret etmiştir. Kilo ile ilgili karşı cins arkadaşın yorumu ise hem kız hem de erkek öğrenciler için en önemli kaynak olarak bulunmuştur.

Anahtar kelimeler: Yeme tutumları, başetme stilleri, demografik değişkenler, üniversite öğrencileri, uzman tercihi

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CHAPTER 1

INTRODUCTION

1.1 Background to the Study

Eating has become one of the most important health topics of our century with the increasing prevalence of eating related disorders among different populations. Disordered eating significantly impairs physical health and/or psychological functioning. Therefore, this disturbance should not be secondary to any recognized general medical disorder or any other psychiatric disorder (Fairburn & Walsh, 1995, as cited in Altuğ, 1999).

An eating disorder is defined as a persistent disturbance of eating related behavior that results in the altered consumption or absorption of food. DSM-IV (APA, 1994) defines three types of eating disorders. The first one is anorexia nervosa, and defined as 'refusal to eat to maintain body weight at or above a minimally normal weight for age and height, and intense fear of gaining weight or becoming fat, even though underweight'. The second type is bulimia, and defined as 'recurrent episodes of uncontrolled, rapid ingestion of excessive amounts of food leading to marked physical discomfort'. The remaining disorders that do not meet the criteria for any specific eating disorder is categorized as third category, and called EDNOS (Eating Disorder Nor Otherwise Specified).

Many members of general population and many clinicians are not aware of the severity of the eating disorders. It was reported that between 15 percent and 62 percent of college women seen to have pathogenic weight control behaviors (Mintz & Betz, 1987)

including harsh methods of weight loss, self induced vomiting, use of laxatives and excessive exercise. Negative outcomes of eating disorders can include long term psychological problems, menstrual dysfunction, and premature osteoporosis. The most significant danger associated with eating disorders is the high mortality rate. It is estimated that 4 percent to 20 percent of women who are diagnosed with anorexia or bulimia will die due to the unresolved symptomology associated with these conditions if full recovery is not achieved (Kaplan & Garfinkel, 1999). Death resulting from eating disorders constitutes one of the highest fatality rates among diagnosable mental illnesses listed in the DSM IV (APA, 1994).

Although the scientific evidence indicates that the incidence of eating disorders has increased markedly during past 50 years, the precise number of incidence and prevalence vary greatly from culture to culture. In one study, Nelson, Huges, Katz, and Searight (1999) examined the disordered eating attitudes of American university students and found that 20 percent of females and 10 percent of males had disordered eating symptoms. Another study comparing disordered eating attitudes between Australian and Swazi university students showed that 22 percent of Australian women, 9 percent of Swazi women and 3 percent of Swazi men were having disordered eating attitudes (Stephens, Schumaker, & Sibiya, 1999). A study from Sweden indicated that the prevalence of eating disorders among Swedish women was around 3 percent. Furthermore, a study done with Turkish sample indicated that 6 percent of female college students and 2 percent of male college students were above the cut off score of Eating Attitudes Test (EAT-40); meaning that they have disordered eating attitudes (Alpargun, 1995).

Many studies have investigated the demographic variables in relation to eating disorders. In the literature, the most influential variable associated with the prevalence of disordered eating attitudes is gender. For example, Cox, Lantz, and Mayhew (1997) found that gender was one of the predictors of disordered eating among university students. Moreover, research has consistently demonstrated a proportionately high incidence of disordered eating behaviors among females. Prevalence studies indicate that disordered eating attitudes are more common among females than in males

(Liebmann, Cameron, Carson, Brown, & Meyer, 2001; Ohseki, Otahara, Horaki, Motozumi, & Shiraki, 1993).

Though most of the research deals with females, eating disorders among males have not been entirely ignored (Cox, Lantz, & Mayhew, 1997; Edman &Yates, 2004; Franco, Tamburrino, Carroll, & Bernal, 1988; Liebmann, Cameron, Carson, Brown, & Meyer, 2001; Stephens, Schumaker, & Sibiya, 1999; Yates, Edman, & Aruguete, 2004). In a recent study, Ray (2004) found that males comprise between 10 to 15 percent of eating disordered population. This finding suggests that eating disorders may also be prevalent among males than previously estimated.

Currently, studies have been indicating an alarming proportion of young university students are at risk of having disordered eating attitudes. These studies have also demonstrated that while the prevalence is increasing, the age for the onset of disordered eating is decreasing. Even adolescents by the age of 15, demonstrate one of the symptoms of disordered eating attitudes as well as their university counterparts (Jones, Bennet, Olmsted, Lawson & Rodin, 2001). Further, results of the studies indicated that younger women (between the age of 18-21) were more likely than older women (22 and older) to have disordered eating attitudes (Prouty, Protinsky & Canady, 2002). Another research result also indicates that having disordered eating attitudes at a younger age predicts the onset of developing eating related disorders (Spurrell, Wilfley , Tanofsky, & Brownell, 1996).

It has been widely accepted that eating disorders are determined by many factors, including psychological, biological, and socio cultural factors. For instance, body dissatisfaction together with body image disturbance is one of the socio cultural factors that have long been interest in understanding of eating disorders. All conceptualizations of eating disorders, including DSM criteria, make reference to body dissatisfaction (Cash, & Deagle III, 1997). In various empirical studies, it was found that high body dissatisfaction related to the development and maintenance of eating disorders (Abood & Mason, 1997; Cash, & Deagle III, 1997; Ghaderi, 2001; Koff and Sangani, 1993;

Koslowsky, Scheinberg, Bleich, & Mark, 1992; Leon, Fulkerson, Perry, & Cudeck, 1993; Staiger & Glowinski, 1999). According to Mintz and Betz (1988) disordered eating patterns among college women population, was related to lower self esteem, more negative body image, greater tendency to endorse socio cultural beliefs regarding the desirability of female thinness, and interference of weight and appearance concerns with other life domains.

Weight dissatisfaction is mostly conceptualized under body dissatisfaction in studies. However, there are few studies investigated the effect of weight dissatisfaction on disordered eating attitudes. Results of these studies have indicated that weight dissatisfaction predicts the onset of eating disorders. Hence, researchers concluded that satisfaction in one's weight might have been seen as a protective factor against developing eating disorders (Ball & Lee, 2001; Chandy, Harris, Blum, & Resnick, 1995).

Opinions of significant others regarding weight is another source of discomfort affecting eating attitudes of youngsters. Empirical evidence revealed that peer appearance criticism made direct contributions to body dissatisfaction for boys and girls (Jones, Vigfusdottir, & Lee, 2004). Furthermore, Smith, Pruitt, Mann, and Thelen (1986) indicated that males were likely to reject individuals who are overweight as a dating partner and this pressure was acknowledged by women. Similarly, research results also indicated that fear of negative appearance evaluation is one of the predictors of disordered eating attitudes among female college students (Lundgren, Anderson, & Thompson, 2004). Parents' opinions appeared to be important for youngsters, especially mothers' opinions, and dieting behaviors were more effective on youngsters' eating attitudes. For example, Wertheim, Martin, Prior, Sanson, and Smart (2002) showed that encouragement to diet on the part of either parent was related to daughter drive for thinness and body dissatisfaction. It was also indicated that mother dieting was related to higher disordered eating among adolescents. Another study indicated that mothers' child-feeding practices and perceptions of their daughters' risk of overweight, may influence daughters' eating and relative weight (Birch &Fisher, 2000).

As a physical factor and the indicator of body fat and obesity, body mass index (BMI) was also found to be related to the disordered eating attitudes. Body Mass Index is a measure of body fat based on height and weight that applies to both men and women. Research on eating disorders has demonstrated that high BMI is one of the predictors of disordered eating among university students (Berry & Howe, 2000; Edman &Yates, 2004; Koff & Sangani, 1997; Yates, Edman, & Aruguete, 2004).

The importance of life events and stresses in the development and maintenance of eating disorders have repeatedly been emphasized and extensively studied by the researchers (Beiler & Terrell, 1990; Freeman & Gil, 2003; Shatford & Evans, 1986; Troop, & Terasure,1997). Nevertheless, the evidence is not adequate for considering stress or life events as specific risk factors for eating disorders. Moreover, there are studies indicating that stress does not always appear to be necessary for the occurrence of eating disorder symptoms (Ball & Lee, 2001), and most people through their life exposed to stress without developing any psychiatric conditions (Ghaderi, 2001).

As stress factor is not unique for developing eating disorders, one of the mediating factors between stress and disordered eating might be the person's ability or the style to cope with stressful events. Specifically, lack of adequate coping abilities or using specific type of coping styles might explain the association between stressful life events and eating disorders. Shatford and Evans (1986), for example, investigated the relationship between causes/mediators and manifestations of stress and bulimia. Results of the study have yielded that coping skills were the mediators of stress. Additional explanation has been provided by Cattanach (1998). According to the researcher, bulimics have problems in mediating their stress either because they do not have adequate coping repertoire or they have enough skills but they do not have resources to make use of their repertoire. Consequently, some researchers tend to develop models including poor coping skills as an important factor for the development of disordered eating (Hawkins & Celement, 1984; Stice, 1994).

Coping refers to cognitive and behavioral responses that individuals use to manage or tolerate stress (Folkman & Lazarus, 1985). Empirical studies on coping and coping styles have indicated that coping is a multidimensional concept (Carver, Scheier, & Weintraub, 1989).

According to Folkman and Lazarus (1985) coping can be organized into two major categories; problem focused coping and emotion focused coping. Emotion-focused coping refers to the regulation of distressing emotions, and includes factors like seeking emotional support, wishful thinking, positive reinterpretation, acceptance, denial, turning to religion, and self blame. Problem focused coping refers to doing something to change for the better of the problem causing the distress and includes factors like active coping, planning coping activities, and seeking of instrumental social support. With respect to gender differences on coping styles, research results suggest that women use significantly more emotion oriented coping than men (Endler & Parker, 1990).

There are also other empirical studies that indicate a third category; avoidance type of coping (Endler & Parker, 1990). Avoidance type of coping is defined as coping activities that disengage the individual from the stressful situation (Tobin, Holroyd, Reynolds & Wigal, 1989).

Regarding the existence of avoidance type of coping, the available literature presents inconclusive results. On the one hand, a group of studies showed that women with eating disturbances use more avoidance and emotional coping style, less behavioral coping, have a tendency to avoid confronting problems, and a perception of having less ability to cope and tolerate stress than women without eating disturbances (Ball & Lee, 2002; Bittinger & Smith, 2003; Blaase & Elklit, 2001; Denisoff & Endler, 2000; Garcia Grav, Fuste, Miro, Saldana & Bodos, 2002;Ghaderi & Scott, 2001; Janzen, Kelly & Saklofske,1992; Koff & Sangani, 1997; Mayhew & Edellman,1988). On the other hand, it was assumed that disordered eating itself could be seen as an avoidant coping strategy (Mayhew & Edelman, 1989; Shatford & Evans, 1986; Ball & Lee, 2000). Moreover,

Paxton and Diggens (1997) argued that avoidance coping did not contribute to the prediction of eating disturbance above depression.

Studies regarding problem focused coping also presented inconsistent results. For instance, Janzen, Kelly and Saklofske (1992) argue that both task oriented coping and emotion oriented coping is positively associated with disordered eating patterns. However, a recent study demonstrates no difference between disordered eating and non disordered eating groups regarding task oriented coping (Bittinger & Smith, 2003).

The conceptualization of eating and weight related problems by university students is a neglected area of research. Few studies investigated the expert preference of university students in case of eating and weight related problems. Prouty, Protinsky and Canady, (2002) showed that college women conceptualized difficulties with weight and eating habits as a medical problem and they would prefer to consult to physicians and dietitians in case of a weight problem. In the same vein, Smith, Pruitt, Mann, and Thelen (1986) investigated the expert preferences of university students in case of eating disorders. Results showed that almost half of the subjects (52 percent for bulimia and 56 percent for anorexia) reported that they would first turn to a physician for treatment of either disorder. Besides, psychologist was the second popular option and 25 percent of subjects said they would first choose a psychologist in case of having an eating disorder.

A close investigation of the available literature suggests that gender, age, body mass index, body and weight satisfaction, and coping styles are the variables that contribute to understand disordered eating patterns of female and male university students. Although limited, results of the studies in Turkey have also highlighted the importance of disordered eating attitudes among university students. Thus with the increasing prevalence of eating disorders among university population (Mintz & Betz, 1987), one could expect that Turkish university students seem to be at risk for this pathology.

In addition, several studies have examined personal factors, socio cultural factors and physical factors in relation to eating disorders (Alpargun, 1995; Altuğ, 1999; Anafarta, 1999; Çam;1994; Hacıevliyagil, 1991; Zabunoğlu, 1999). However, in spite of a

growing interest in understanding the disordered eating, it is still unclear what factors specifically related to developing disordered eating attitudes. Furthermore, although coping styles have been associated with disordered eating abroad, at present no study exists in Turkish literature that investigated the relationship between coping styles and disordered eating attitudes.

1.2 Purpose of the Study

The purpose of the present study is twofold: First, to assess to what extent coping styles, gender, age, body mass index, weight satisfaction, and body satisfaction predict disordered eating attitudes of Turkish university students. Second, to examine whether there is a significant difference between female and male university students with respect to the importance of significant other's opinion regarding their weight and expert preference in case of a weight problem.

1.3 Significance of the Study

The etiology and vulnerability for the eating disorders are seemed to be affected by multiple factors. Since eating disorders are one of the most prevalent psychopathologies affecting young people, especially women, primary prevention and early detection of the disorders are becoming more important everyday. In order to make preventive social and psychological work, we need to understand the risk factors that significantly influence the onset of the disorder.

This study may promote the understanding of researchers about the changes in eating attitudes of university students, as a function of different coping strategies and some demographic factors. Although disordered eating attitudes have been studied many times by Turkish researchers, there exists no study that investigates the relationship between coping styles and disordered eating attitudes.

Some predictors of eating disorders are universal among different cultures. Hence, it may still be important to develop an etiological model that fits to our culture, by identifying the prospective risk factors for developing eating disorders. This study may contribute to further studies aimed at developing etiological models of eating disorders in our culture.

Stice and Ragan (2001) indicate that an intervention would optimally effective if it were based on a model that has been supported by prospective risk factor research. Finding a meaningful relationship between disordered eating attitudes and coping styles, university psychological counseling services may develop preventive intervention programs in order to prevent eating disorders among university students. The components of such a program may focus on the factors which were identified in this study as predictors of disordered eating among university students. Creating awareness and ability to resist the social influences for being thin, potential hazardous results of eating disorders, and developing adoptive coping skills like problem solving might be the topics of a program. The results of the previous studies suggest that preventive interventions may be useful in reducing eating disturbances among college students (Stice & Ragan, 2001; Tilgner, Werheim, & Paxton, 2003).

The understanding of the importance of peers' and parents' behaviors towards adolescents' and young adults' weight and physical appearance will provide significant information to counselors. This information can be used to develop effective prevention strategies that will help young individuals to resist the pressures from this group and to develop healthy eating habits. Additionally, knowing the expert preference of students in case of a weight problem might give an insight about how female and male students conceptualize their weight problems.

1.4 Definition of Terms

Disordered Eating: Disordered eating is a persistent disturbance of eating related behavior that results in the altered consumption or absorption of food that significantly

impairs physical health or psychological functioning (Fairburn & Walsh, 1995, as cited in Altuğ, 1999).

Coping strategies: refers to cognitive and behavioral efforts to master, reduce or tolerate internal and/or external demands that are created by the stressful transaction (Folkman & Lazarus, 1985).

Emotion-focused coping: refers the regulation of distressing emotions and also includes factors like seeking emotional support, wishful thinking, and self blame (Folkman & Lazarus, 1985).

Problem focused coping: refers doing something to change for the better of the problem causing the distress (Folkman & Lazarus, 1985).

CHAPTER II

REVIEW OF THE LITERATURE

This chapter, which consists of three sections, devoted to the presentation of previous studies related to eating attitudes. The first section presents research on disordered eating attitudes. The second section overviews research on coping styles and stress in relation to disordered eating attitudes. Finally, third section presents research on eating attitudes in Turkey.

2.1 Research on Disordered Eating Attitudes

Many studies have investigated the demographic variables, in relation with eating disorders. In these studies gender and age were found to be two related factors to eating disorders. For example, Nelson and Huges (1999) examined the gender differences in eating attitudes and behaviors of college students. Subjects were 323 female and 138 male students who were recruited from undergraduate classes at two colleges. Eating Attitudes Test -26 was used to assess the symptoms of anorexia in subjects. The results of the study revealed that disordered eating attitudes and behaviors were common among college females than males.

Similiarly, Ohseki, Otahara, Horaki, Motozumi and Shiraki (1993) examined eating attitudes of 125 Japanese girls and 130 Japanese boys aged between 6 and 18 using simplified Eating Attitudes Test. They found that the girls had higher EAT scores than boys. It was also demonstrated that the scores of boys declined with increasing age as opposed to girls.

Kirk, Sing, and Getz, (2001) examined the disordered eating attitudes of 403 female athlete and non athlete college students using EAT- 26. Results yielded that athletes were having more disordered eating attitudes than non athlete female students. It was also indicated that younger women were found to have more symptoms of disordered eating than did older women.

A link between disordered eating behaviors and age were hypothesized by some researchers, more specifically they have asserted that as college female students mature, their risk of eating disorders will decrease (Heatherton, Mahamedi, Striepe, Field, & Keel, 1997). A sample of 509 women and 206 men completed a detailed survey while they were in college and after 10 years in order to assess the change in eating behaviors that occurred during the transition to early adulthood. Women in the study had substantial declines in disordered eating behavior as well as increased body satisfaction. The authors concluded that disordered eating generally tended to decline during the transition to early adulthood. However, body dissatisfaction remains a problem for a substantial segment of the adult population.

Cox, Lantz and Mayhew (1997) examined the degree to which factors like gender, family history, athletic status, social physique anxiety and percent of body fat predicted disordered eating among college students (49 males and 131 females). Stepwise regression analysis results indicated that together with social physique anxiety, gender and percent of body fat were the main predictors of disordered eating among university students.

Since the majority of eating disorders have been identified among women, most of the studies tended to include only women subjects. For example, Jones, Bennet, Olmsted, Lawson, and Rodin (2001) examined female students' eating attitudes by using three subscales of the Eating Disorder Inventory (drive for thinness, body dissatisfaction, and bulimia), Eating Attitudes Test 26, and Diagnostic Survey For Eating Disorders. Results

indicated that prevalence of eating disorders among female adolescents has increased to 27% among the population.

Body Mass Index (BMI) is a measure of body fat based on height and weight that applies to both adult men and women. Research on eating disorders has demonstrated that high BMI is one of the predictors of disordered eating among university students For example, Edman and Yates (2004), assessed the eating attitudes of 267 male and female university students in Malaysia. Although the results revealed no differences in female and male students in terms of disordered eating, it has been indicated that BMI was associated with disordered eating of female students.

Similiarly, Yates, Edman, and Aruguete (2004) investigated the ethnic differences in BMI and body dissatisfaction among white and Asian subgroups of American university students. The participants were 923 college students. Results indicated that BMI was highly correlated with body and self satisfaction both for female and male students. It was also revealed that male students were more satisfied with their bodies than female students.

Interpersonal factors like family, social support and interpersonal relationship have also been examined to understand their role on disordered eating behaviors. Familial control was taught to be one of the predictors of eating disorders among college students. A study done by Nelson, Huges, Katz, and Searight (1999) investigated the gender differences in eating attitudes and behaviors of 461 college students in relation with interpersonal factors. The results of the study showed that although family climate was not significantly related with anorexic attitudes of university students, achievement orientation was a distinguishing factor between female and non-female problem eaters. Parental control, especially father control was another significant predictor of anorexic attitudes among male students.

In another study, Ghaderi and Scott (2001) investigated the prevalence, incidence and prospective risk factors for eating disorders among young adult females. Subjects were 1157 females from Swedish population from the age group 18-30. Data were collected

from the sample in 1997 and 1999. Almost seventy three percent of subjects completed the questionnaire after two years. Results showed that prevalence was higher in eating disorders as compared to 1997 results. Low self esteem, low social support, higher body concern and use of escape avoidance coping might have been considered as risk factors for later development of eating disorders in young adult women.

Although there are not much studies regarding the relationship between social support and eating disorders, review of findings reported that people with eating disorders indicate less perceived social support from friends and family (Ghaderi 2001). A study examined interpersonal problem solving, relationship conflict, and social support among 78 women with and without sub clinical eating disorders confirmed that young female adults who have disordered eating patterns have significantly low perceived social support compared with the ones without disordered eating patterns (Holt & Espelage, 2002). Further, disordered eating symptoms were associated with less effective problem solving in eating, weight, and interpersonal relationship situations.

Disordered eating patterns may be more of a problem for some group of professionals compared with the general population. Athletes have been identified as one of those groups that display high levels of disordered eating attitudes. Berry and Howe (2000) examined the contribution of social pressure, self-esteem, body image, competition anxiety, and BMI to disordered eating among 46 female athletes between the age of 17 and 24. Regression analysis showed that social pressure from trainers and peers and BMI were significant predictors for restrained eating patterns in athletes. The researchers concluded that participation in appearance based sports at the collegial level supposed to place an additional pressure on female athletes to be thin, which in turn lead to unhealthy practices to control weight like anorexic or bulimic eating behaviors.

Researchers have investigated many psychological and personality related factors like self esteem, self concept, body dissatisfaction, and body image which might have been related to disordered eating attitudes. Although body image disturbance is among the diagnostic criteria for anorexia nervosa and bulimia nervosa, many researchers have

investigated the association between eating disorders and body image disturbance. A meta-analysis has systematically examined 66 studies (from 1974 to 1993) of perceptual and attitudinal parameters of body image among anorexics and bulimics relative to control groups. Results of the meta-analysis revealed that women with clinical eating disorders had greater body dissatisfaction and perceptual body-size distortion, as compared to women without these disorders. It was also found that attitudinal dissatisfaction yielded significantly larger effects than did body size distortion indices (Cash & Deagle III, 1997).

Body dissatisfaction, sometimes referred to as weight dissatisfaction is another personal factor that helps to predict the emergence of disordered eating attitudes. Research findings indicate that body dissatisfaction and weight concerns reflect the adoption of a socially approved female role and they are significantly associated with the onset of eating disorders (Ghaderi, 2001). Leon, Fulkerson, Perry, and Cudeck, (1993) investigated the development of eating disorders among 937 adolescent females using the measures that include information on personality, self-concept, eating patterns, and attitudes. The strongest predictor variables found to predict the disordered eating were body dissatisfaction, negative emotionality, and lack of interceptive awareness.

The results of studies indicate that there are cultural differences on the effect of body dissatisfaction on disordered eating attitudes. For example, Staiger and Glowinsky (1999) investigated the differences on disordered eating attitudes and body dissatisfaction of Australian and Hong Kong born female university students. Results indicated that Australian women were more dissatisfied of their bodies than Honk Kong born women. However no differences were found in groups in terms of disordered eating attitudes. Similarly Abood, and Mason (1997) investigated 453 female university students in terms of disordered eating attitudes and body dissatisfaction and compared the results among ethnic groups. Results indicated that white women who had more disordered eating attitudes were also more dissatisfied with their bodies.

Self concept, self esteem and negative affect are factors that have been assessed regarding disordered eating attitudes. Nelson, Huges, Katz, and Searight, (1999) investigated the effect of self concept on disordered eating of 323 female and 138 male students with the age of 17-27. It has been found that students without disordered eating symptoms had more positive self concept than those who had eating disturbances Another study investigated the risk factors for bulimia nervosa in a group of 706 female women. Results showed that negative self evaluation was a risk factor for bulimia nervosa. The results also revealed that certain parental problems and dieting were likely to increase risk for bulimia nervosa (Fairburn, Welch, Doll, Davies, & O'Connor, 1997).

A study done by Liebman, Cameron, Carson, Brown, and Meyer (2001) investigated the relationship between dietary fat reduction behavior, BMI, self esteem and pathological eating attitudes of 324 male and female college students. Results demonstrated that more females have attempted to diet to lose weight than males and the women who rely heavily on fat avoidance behaviors, have lower levels of self esteem and high levels of disordered eating attitudes. It was also indicated that higher BMI was related with dieting both in male and female students.

Hewitt, Flett, and Ediger (1995) examined the several dimensions of perfectionism in relation with disordered eating in 81 female university students. Results showed that self oriented perfectionism was related to disordered eating symptoms and socially prescribed perfectionism. Moreover, the perfectionist self presentation dimensions were related to eating disorders symptoms, body image avoidance and self esteem. In a four year longitudinal study Leon, Keel, Klump, and Fulkerson (1997) assessed the risk factors for developing eating disorders among 937 female adolescents. The result yielded that negative affect/esteem measured at the beginning of the study was the significant predictor of later risk score for both girls and boys.

Among psychological factors, anger was also found to be related with disordered eating. Milligan and Waller (2000) investigated the association of different components of anger with bulimic attitudes and behaviors among 83 non clinical group of women.

Results of the study revealed that bulimic attitudes and behaviors were associated specifically with state anger (subjective feelings of tension, irritation, fury) and anger suppression. The results of the study also suggested that binging and vomiting behaviors were related to same anger components.

As a result, there are many factors that affect the maladaptive eating patterns of individuals. Studies that have been cited in this review demonstrate that being young and being female can be viewed as risk factors for disordered eating patterns. Interpersonal factors like family and peer influence, and psychological factors like self concept, body/weight dissatisfaction seem to be related to disordered eating attitudes.

2.2 Research on Coping, Coping Styles, and Stress in Relation to Disordered Eating Attitudes

Many researchers have investigated the relationship between stress and disordered eating attitudes. For instance, Meyer (1997) investigated the relationship between stressful life events and eating disorders. The subjects of the study were 95 female university students between the age of 18 and 35. Some of the participants had also an experience with an alcoholic family member. They completed the Codependency Assessment, Eating Disorder Inventory-2, the Differentiation of Self Scale, and an open ended questionnaire asking about their stressful experiences including relationships with alcoholic family members. Results indicated that women who reported experience with an alcoholic significant other or a chronic stressful situation exhibited higher level of eating disorder behavior than women without stressful experiences. In a prospective study, stressful life events of eating disordered patients were investigated in relation with the course of the disorder within 3 years (Solberg & Norring, 1992). Although researchers found evidence for the influence of life events on improvement of patients' disorders course for the first year, following years' data did not support the fact that life events affect patients' course.

Similiarly, Beiler, and Terrel (1990) explored the stress levels, coping style and problem solving ability of 33 bulimic and 12 anorexic female inpatients and 26 non disordered females. Results indicated that bulimics reported a greater number of negative life events and feelings of being pressured than non disordered eating group. Anorexics reported high levels of anxiety and depression than other groups. Overall, disordered eating group reported higher levels of stress, lower levels of confidence in their ability to solve problems, a tendency to avoid confronting problems, a reluctance to share problems and feelings of being driven than non disordered group. Another study examined the relationship between life events stress and the occurrence of bulimia in young anorexia nervosa patients (Strober, 1984). Life events were recorded in the 18 months preceding symptomatic onset were analyzed in 25 anorexics with bulimia and a matched group of 25 anorexics characterized by strict dietary control. Results of the study indicated that bulimics experienced significantly more stressful life events than strict dieters in time period.

Researchers have also used experimental settings in order to understand the effect of stress and stress appraisal on disordered eating. For example, Hansel and Wittrock (1997) investigated whether individuals who binge eat, appraise and cope with stressful situations in a different manner than individuals who do not binge eat. Twenty eight female undergraduate students completed BES (Binge Eating Scale) were divided into two groups and randomly assigned to high and low stress condition experimental groups. They have also completed Coping Strategies Inventory Revised CSI-R, Perceived Stress Scale and Daily Stress Inventory to determine their coping style and stress levels. Results indicated that binge eaters appraised laboratory and natural environment stressors more stressful than non binge eaters but using more positive coping strategies and more catastrophizing in both settings.

Knowing that the etiology of the eating disorders is multifactoral, researchers have assessed many factors, and tried to develop models that explain the etiology of eating disorders. Fryer, Waller, and Kroese (1996) examined teenage girls in order to test their assumption that stress and maladaptive copings lead to low self esteem which in turn

leads to eating disorders. They found that high level of stressors but not coping was associated with disturbed eating in female adolescents. Self esteem was not found to perfectly mediate the relationship between stress (both stressors and coping) and disordered eating. Researchers argue that the stress is a multi construct concept and the variables should include stressors, daily hassles, stress perception and coping together in related studies.

Blaase and Elklit (2001) compared the psychological characteristics of non-hospitalized Danish women with eating disorders and without eating disorders. Seventy three women between the ages of 19-46 years participated in the study. Twenty participants suffered from a clinical eating disorder, 20 women had previously suffered from a" clinical eating disorder, and 33 women who had never suffered from clinical eating disorder completed the Eating Disorder Inventory, The Rosenberg Self Esteem Scale, the Coping Styles Questionnaire, and the Trauma Symptom Checklist. Results indicated that women previously and currently suffered from eating disorders were exposed to stressful life events more frequently than controls. Results also indicated that women with current eating disorders group had more avoidance and emotional coping style compared with other groups. Those who were in current eating disorder group had also serious doubts about their own ability to cope efficiently.

The recent study done by Bittinger and Smith (2003) examined the effects of stress perception and situation type on coping responses in women with disordered eating in an experimental study. Results indicated that participants scoring high in Eating Attitude Test appraised the scenes as more stressful then did controls. Results also indicated that women with high EAT scores had used more emotion oriented coping then did control group. Researchers did not find any difference in the task oriented coping between two groups.

As seen by the research results, stress seems to play a role in the development of eating disorders. However, coping repertoire or the ability of the person has gained attention from researchers and coping has been ascribed to have a mediator role between stress

and disordered eating symptoms. Review of the research regarding the relationship between coping styles and eating disorders revealed that the coping strategies used by eating disordered and non eating disordered individuals are different (Ball & Lee, 2000). While most of the researchers used trait measures of coping, Troop, Holbrey and Treasure (1998) used semi structured interviews to detect the life events and coping strategies of 56 outpatient but eating disordered women. The results of the study revealed that the women with or without eating disorders were using different coping strategies, and eating disordered women were less effective in their coping efforts in terms of the results they got after their coping efforts.

Another recent study also includes alternative measurement of stress and coping by using daily diaries among binge eater women. Results of the study showed that regardless of the depressed mood, higher stress was related with the increased risk of same-date binge eating. While distraction coping was associated with increased risk of future binge eating, social support was associated with decreased risk of same day binge eating (Freeman & Gil, 2003). As seen by the research results, as a way of coping, seeking and getting social support decreases the risk of binging.

There are many studies in the literature showing a significant relationship between emotion oriented and avoidance type of coping and eating disorders. For example; Janzen, Kelly and Saklofske (1992) examined the relationship between bulimic symptomology and coping orientations in 164 female university women at the average age of 20. Data were collected by using Bulimia Test Revised and Coping Inventory for Stressful Situations. Results indicated that emotion oriented coping scores were positively related to higher scores on bulimic symptomology and task oriented coping scores were negatively associated with higher scores on bulimic symptomology. In a similar study 28 bulimic and 30 non bulimic women were compared in terms of coping strategies used in stressful situations by using Ways of Coping Questionaire. The results indicated that although bulimic women felt a greater sense of threat and used escape-avoidant coping more, they did not appraise the stressful situations different than non-bulimic women (Neckowits & Morrison, 1991).

A positive relationship between avoidance type of coping and eating disorders has been found by many researchers. For example, a study done by Garcia- Grau, Fuste, Miro, Saldana and Bodos (2002investigated the relationship coping styles and predisposition to eating disorders among 186 female adolescents. Results indicated that intraprutive avoidance which indicates an avoidance of the problem and coping none adoptively with the emotions was the best predictor of predisposition to eating disorders. Koff and Sangani (1997) were also interested in the relationships between coping strategies and eating disturbances. Researchers investigated the relationships between coping strategies, negative body image and eating disturbances among 128 college women. Current and ideal weight and heights were collected to measure BMIs and discrepancies between current and ideal weight. Coping style was assessed by using Coping Inventory for Stressful situations which comprises of three subscales; emotion oriented, task oriented and avoidance oriented coping. Eating disturbances were measured by EAT 26. Results of their study indicated that higher use of emotion and avoidance types of coping were related positively with high EAT scores and also high use of emotion oriented coping was found to relate with negative body image.

In the same vein, Mayhew and Edelman (1988) assessed the relationships between disordered eating patterns, self esteem, irrational beliefs, and coping style. Fourty nine female undergraduate students were administered various scales to investigate the behaviors related to disordered eating patterns, to determine their levels of self esteem, level of irrational beliefs and their coping style. Results have shown that disordered eating attitudes were positively related to lower self esteem, increased irrational beliefs, less frequent use of cognitive and behavioral coping strategies and increased use of avoidance coping.

Weight preoccupation as a construct of eating disorders was also investigated in relation with stress and coping styles. Two hundred and six female college students were administered Coping Inventory for Stressful Situations (CISS) to determine their coping style (task, emotion and avoidance), The Life Experiences Survey to determine the negative impact of prior life events and Eating Disorders Inventory (EDI) to determine

their disordered eating attitudes and weight preoccupation. Results indicated that emotion oriented coping predicted weight preoccupation regardless of stress (Denisoff & Endler, 2000).

In a longitudinal study, Ball and Lee (2002) investigated the relationships between stress, coping and disordered eating patterns of women. A thousand women divided into two groups according to their disordered eating attitude scores which was measured by EDI. Additionally body mass indexes, body weight dissatisfaction, Psychological stress (PSS- Perceived Stress Scale) and coping styles of the individuals were assessed. The Ways of Coping Scale was used to determine the coping style of individuals according to 7 styles; problem focused, wishful thinking, detachment, seeking social support, focusing on the positive, self blame, tension reduction and self coping. Measurements were repeated after 6 months. Results indicated a moderate relationship between perceived stress, coping and weight dissatisfaction in both measurements. Moreover women with disordered eating patterns reported to use more inward focused and avoidance type of coping strategies.

Although research is consistent about the relationship between emotion-oriented coping and disordered eating patterns, there are controversial results regarding the effect of escape avoidant and behaviorally (task) oriented coping styles on disordered eating patterns. Paxton and Diggens (1997) investigated the relationship between binge eating and avoidance coping and depression. One hundred and forty-nine female undergraduates were divided into three; restrained eaters, restrained binge eaters and control group. Participants were administered two measures of problem focused coping and two measures of avoidance coping, three subscales of EDI, and Beck Depression Inventory. Results indicated that groups did not differ on use of avoidance coping and depression. Binge eating, avoidance coping and depression were correlated significantly but avoidance coping did not significantly add to the prediction of binge eating above the contribution of depression.

In summary, studies related to coping styles and disordered eating suggest that while problem focused coping has a negative relationship with disordered eating attitudes, emotional and avoidance type of coping have a positive relationship with the disordered eating attitudes.

2.3 Research on Eating Attitudes in Turkey

Disordered eating has gained the attention of Turkish researchers in late 1980's. After the earliest effort of Erol and Savaşır (1989) to adapt the EAT 40 into Turkish, some researchers have investigated the prevalence of disordered eating attitudes in various populations. Moreover, several researchers have investigated the factors that might be linked to the disordered eating attitudes of Turkish adolescents and young adults.

Hacıevliyagil (1991) investigated the relationships between level of body image satisfaction, eating attitudes, and perceived family psychological well being of 290 female and male adolescents between the age of 15 and 18. Family Structure Evaluation Device was used to measure family's psychological well being, The Body Image Questionnaire was used to measure the level of body satisfaction, and Eating Attitudes test was used to measure disordered eating attitudes of adolescents. Results indicated no difference between the scores of male and female students regarding their disordered eating attitudes. A significant but weak correlation was found among body image satisfaction, eating attitudes and family psychological well being. Furthermore, female adolescents were found to have lower body dissatisfaction than male adoloscents.

Demographic variables, interpersonal factors and dieting behaviors were found to affect the disordered eating attitudes of Turkish adolescents. For example, Çam (1994) has investigated 360 female high school students' eating attitudes in relation with some demographic variables. The Eating Attitudes Test and a demographic questionnaire were administered to the sample. Results demonstrated that age, perceived social pressure, mother's education level, fear of being fat, and dieting behavior had a positive relationship with disordered eating attitudes of female high school students.

Psychological characteristic and disordered eating attitudes among university students were also investigated. Alpargun (1995) studied the prevalence of disordered eating attitudes and compared personality and demographic characteristics of students with disordered and non disordered eating. The sample consisted of 918 male and female students from different faculties of Uludağ University. Results of the study indicated that 6 percent of female students and 2 percent of male students were above the cut off score of Eating Attitudes Test. Results also yielded that females in disordered eating group had low self esteem, low self concept, high depression scores, high anxiety, obsession, and introvertness scores than females in non disordered group. Male disordered eating group had more disassociation from reality, deep fantasy world, anxiety and social withdrawal than male non disordered eating group. Results also revealed that females in disordered eating group had the lowest monthly income, and lowest monthly income expectations compared to other groups.

Gündoğdu Kıran (1999) examined the aspects of eating habits, eating attitudes, bulimic symptoms, dissociate experiments (amnesic experiences of the person) and depressive symptoms of 995 university students. Eating Attitudes Test, Edinburg Bulimia Investigating Test, Dissociative Experiment Scale, Beck Depression Inventory, and a demographic questionnaire were used to obtain data. Results revealed that there was a positive correlation between disordered eating and bulimia and a negative correlation between eating attitudes and depression.

In a study that surveyed 270 female university students, Altuğ (1999) investigated the relationship among abnormal eating attitudes, socio demographic variables, environmental variables including (traditionality of parents, family's and peers' interference with subject's eating behavior, family's, an attractive person's/partner's critical attitude towards subject's weight, subject's dieting behavior in response to critical attitude, frequency of following publications on mass media concerning weight loss) and individual risk factors (including general dissatisfaction, perfectionism and need for control). The Setting conditions for Anorexia Nervosa (SCANS), the Positive and Negative Perfectionism Scale (NCS), EAT- 40 and personal data sheet were used to

gather data. Results indicated that traditionality of mother and both parents, critical attitude towards the person's dieting, the following of publications on mass media concerning weight loss predisposed the person to develop eating disorders. Results also indicated that individual risk factors like general dissatisfaction and negative perfectionism of the person contributed to set the stage for eating disorders.

Zabunoğlu (1999) examined the predictors of pathological eating attitudes among 397 Turkish university students (148 females and 249 males). A socio demographic questionnaire was used to gather information about age, sex, parental occupation and education, and family income. EAT 40 was used to assess pathological eating attitudes and Multidimensional Perfectionism Scale was used to assess personal psychopathology in terms of perfectionist tendencies. Results showed higher prevalence of pathological eating attitudes among female students. For female subjects, body mass index was significantly correlated with weight dissatisfaction. Furthermore, weight dissatisfaction, dieting scores and perceived pressure from same sex were significantly related. Perceived pressure from same sex friend was also found to be related to eating pathology in male subjects. No relationship between perfectionism and eating pathology was found.

Special group studies were also carried in Turkey, regarding disordered eating. For instance, Anafarta (1999) compared 193 female professional dancers, non professional dancers, and non dancers to investigate the differences of disordered eating pattern among three groups. Eating Attitudes Test-extended form, The Scale for Perceived Pressure Regarding Weight Status, The Offer Self Image Questionnaire-50, and The Family Structure Evaluation Device were used to collect data. Results showed that dancer females had more pathological eating patterns than non-dancers. Further, it was found that body mass index, perceived pressure regarding weight status from the mother were significant predictors of disordered eating attitudes for non dancers. In addition, familial relations was not found to be a significant predictor for professional dancers, but was found to be a significant predictor of disordered eating for disordered eating of non professional dancers and non dancers.

Şahin (1999) examined the coping style differences of 180 university students by using Coping Styles Inventory. Results demonstrated that students studying Social Science, Science and Arts use different coping styles. It was also indicated that socioeconomic status did not effect on coping style. Besides students who live with their parents use optimistic and self confident coping styles more than students who live alone in Ankara.

Studies cited above provide some evidence that several personality factors, socio cultural factors, and psychological factors are found to be related to disordered eating attitudes of Turkish adolescents and young adults. Studies also reveal that the relationship between coping styles and eating attitudes is a neglected research topic, and needs empirical investigation in Turkish population.

CHAPTER III

METHOD

In this part, methodological procedures of the study are presented in seven sections. Overall design of the study presents the general design of the study. The sample section deals with the selection procedure and the characteristics of the participants. The instruments part presents the scales used in data collection. This section also reports the results of the exploratory factor analysis of the instruments. The procedure section explains how the scales were administered. The analysis of data section describes the statistical techniques used to analyze the data. Finally, the limitations section presents the possible limitations of this study.

3.1 Overall Design of the Study

The purpose of the present study was twofold: First, to assess to what extent gender, age, body mass index, weight satisfaction, body satisfaction and coping styles predict disordered eating attitudes of Turkish university students. Second, to examine whether there is a significant difference between female and male university students with respect to the importance of significant other's opinion regarding their weight, and expert preference in case of a weight problem. Three instruments- Eating Attitudes Test, Coping Styles Inventory and a Demographic Data Form were administered to 525 students from four (3 state, 1 private) universities of Ankara. The student selection was not based on random sampling; rather convenient groups were chosen. Descriptive statistics, two-way contingency table analysis with chi-square, and stepwise multiple regression analysis were carried out to analyze the data.

3.2 Research Questions

The main research problems of this study can be summarized as follows:

1. How well do gender, age, body mass index, weight satisfaction, body satisfaction, emotion focused coping, and problem focused coping styles predict disordered eating attitudes of Turkish university students?

2. Is there any significant difference between female and male university students with respect to expert preference in case of a weight problem?

3. Is there any significant difference between female and male university students with respect to the importance of significant other's opinion regarding their weight?

3.3 Description of Variables

Disordered Eating: refers to the sum of scores as measured by Eating Attitudes Test - 40 (EAT 40).

Gender: is a dichotomous variable with categories of (1) female and (2) male. For stepwise regression analysis, this variable was dummy coded as 1 for females and as 0 for males.

Age: is a continuous variable and refers to the age of the participants.

Body Mass Index: refers to a score calculated by dividing the weight of the participant to the square of the subjects' height.

Weight Satisfaction: refers to the dissatisfaction level of participants with their weights and collected on a five point scale ranging from 1 (very dissatisfied) to 5 (very satisfied).

Body Satisfaction: refers to the dissatisfaction level of participants with their physical appearance and collected on a five point scale ranging from 1 (very dissatisfied) to 5 (very satisfied).

Problem Solving Type Coping Style: is a continuous variable and refers to the sum of the scores as measured by the problem solving coping subscale of the Coping Styles Inventory (CSI).

Emotional Type Coping Style: is a continuous variable and refers to the sum of the scores as measured by the emotional coping subscale of the Coping Styles Inventory (CSI).

Expert Preference: refers to the professional expert choice of the participant in case of a weight problem. Categories of expert preference are dietitian (1), medical doctor (2), psychologist/ counselor (3), fitness expert (4), and alternative medicine expert (5).

Significant Other's Opinion: refers to the importance of the opinion of significant others regarding the participant's weight. Categories of significant others are mother, father, sister, brother, girl friend, and boy friend. The participants were asked to make an order according to the importance of their opinion.

3.4 Population and Sample Selection

The population of this study was Turkish university students. The sample was selected from three states and one private university in Ankara. The sample selection was not based on random sampling, rather, convenient groups were chosen.

Five hundred and twenty five (297 females and 228 males) volunteered students participated in the study. The ages of the participants ranged from 17 to 29 years (M=20.65; SD=1.73). Self reported weight in the sample ranged from 40 kg to 120 kg with a mean weight of 63.51 kg (SD=12.64). Self reported heights in the sample ranged from 108 cm to 198 cm with a mean height of 171.02 (SD=9.15). A body mass index

was calculated for each participant, and was found to range from 16.02 to 39.18 (M=21.53; SD=3.1). The EAT 40 scores of the participants ranged from 0 to 56 (M=6.99; SD=7.17).

3.5 Data Collection Instruments

Three instruments, Demographic Data Form, Eating Attitudes Test -40 (EAT-40), and Coping Styles Inventory (CIS) were used to collect data.

3.5.1 Demographic Data Form

Demographic Data Form, which was developed by the researcher, includes questions about sex, age, height and weight, weight satisfaction, body satisfaction, expert preference in case of a weight problem, and importance of significant other's opinion regarding participant's weight (see appendix A).

3.5.2 Eating Attitudes Test- 40 (EAT-40)

Eating Attitudes Test 40 (EAT-40) was developed by Garner and Garfinkel (1979). Although EAT was originally developed to screen and assess the symptoms of anorexia, now it is generally used in non clinical samples as a general screening measure for disordered eating attitudes (Mintz & O'Holloran , 2000).

EAT-40 consists of 40 items with six point Likert scale (see Appendix B). The scale ranges from 'always' to 'never' with point 6 standing for '*never*' and point 1 standing for *'always'*. Although there are 6 response options, items are scored as follows: each extreme response in the pathological eating direction (*never* in questions 1, 18, 19, 23, 27, 39 and *always* in the remaining questions) is scored 3 points, while the adjacent alternatives are weighted as 2 points and 1 point respectively. The total score for abnormal eating attitudes and behaviors is the sum of values assigned to response categories in each item. The cut off score for the scale is 30+. Scores between 30 and 32

are accepted as sub clinical group scores. In other words, people who differ from general population in terms of eating attitudes but not have the diagnostic symptoms of eating disorders. Scores of 33 and above means that the person has pathological eating symptoms.

The original version of EAT-40 comprises of seven factors, namely; over obsession with food, body image related to being thin, usage of laxatives and vomiting, dieting, patterns of slow eating, eating without being seen, and social pressures regarding gaining weight. EAT 40 has been used widely by many researchers across different cultures (e.g., Carjoba &Ballard, 2002; Heesacker, 2000; Ohseki, Otahara, Horaki, Motozumi & Shiraki, 1993) and results of the studies indicated that cultural differences should be considered while using the instrument (Rutt & Coleman, 2001).

EAT – 40 was adapted to Turkish by Savaşır and Erol (1989). The reported one month interval test re-test reliability coefficient of EAT - 40 was .65. Internal consistency calculated by Cronbach alpha was .70. The factor analysis of EAT - 40 revealed four interpretable factors including anxiety for being fat, dieting behavior, social stress, and obsession for thinness. No cut of score was established for the Turkish population.

3.5.2.1 Reliability and Validity of EAT-40

The psychometric properties of EAT-40 were re-examined with the research sample of the present study. Initially, principal components analysis with extraction method was used to detect low communalities and the presence of the items that were loaded under two or more factors. All items with less than .40 loading on one of the factors were eliminated. Among 40 items, 21 items remained and 19 were eliminated. After this preliminary analysis, a principal components analysis with varimax rotation was conducted. The analysis yielded 14 factors with eigen value criterion 1.00, and explained 61 % of the variance. Scree test was used in order to decide how many components factors to retain.With the examination of the scree test and item content, a three factor solution was agreed upon. This solution accounted for 43.3 % of the total variation with

the eigen values of 5.497, 2.076, and 1.538 respectively . The first factor was labeled as 'Dieting' and included 13 items. The second factor was called 'Over Obsession with Food' and consisted of 5 items. The third factor was named 'Social Pressures Regarding Gaining Fat and consisted of 3 items. The reliability coefficients as estimated by Cronbach's alpha were .85 for Dieting, .48 for Overobsession with Food, and .52 for Social Pressures Regarding Gaining Fat. The reliability coefficient alpha for the total scale was .80.

A list of three factors, their factor loadings, communalities, and the content of the items that were grouped under those dimensions are presented in Table 3.1.

Table 3.1 The Factor Loadings,Communalities and the Items of Eating Attitudes Test-40.

Item no	Items of EAT-40 *	Dieting	Overobsession with Food	Social Pressures Regarding Gaining Fat	Communalities
30	Eat diet foods	**.78**	.06	.09	.623
37	Engage in dieting behavior	**.73**	.05	.07	.545
10	Particularly avoid foods with a high carbohydrate content (i.e. bread, etc)	**.68**	.02	.04	.461
29	Avoid foods with sugar in them	**.64**	-.09	.27	.492
25	Am preoccupied with the thought of having fat on my body	**.61**	.40	-.04	.531
9	Aware of the calorie content of foods that I eat	**.61**	-.01	.07	.374
15	Am preoccupied with a desire to be thinner	**.59**	.38	-.10	.499
22	Think about burning up calories when I exercise	**.54**	.12	-.15	.332
4	Am terrified about being overweight	**.54**	.28	-.17	.394
14	Feel extremely guilty after eating	**.50**	.46	.05	.462
16	Exercise to burn up calories after eating	**.46**	.01	-.02	.413

Table 3.1 continued

Item no	Items of EAT-40 *	Dieting	Over obsession with Food	Social Pressures Regarding Gaining Fat	Communalities
36	Feel uncomfortable after eating sweets	**.46**	.08	.27	.466
38	Like my stomach to be empty	**.45**	.18	-.09	.244
7	Have gone on eating binges where I feel that I may not be able to stop	.04	**.75**	.07	.494
6	Find myself preoccupied with food	.05	**.75**	.04	.429
31	Feel that food controls my life	.20	**.61**	.05	.478
34	Give too much time and thought to food	.27	**.57**	.25	.521
39	Enjoy trying new rich foods	.29	**-.40**	.01	.504
12	Feel that others would prefer if I ate more	-.11	.12	**.67**	.649
33	Feel that others pressure me to eat	.24	.08	**.66**	.662
24	Other people think that I am too thin	-.08	.02	**.65**	.560

* The Turkish version of the scale was used for the present study.

After re-examining the psychometric properties of EAT-40 with the local sample, the minimum and maximum scores that can be obtained from the scale range from 0 to 56.

3.5.3 The Coping Styles Inventory (CSI)

The Coping Styles Inventory, which was originally derived from Folkman and Lazarus's Ways of Coping Questionnaire (1985), was developed by Şahin and Durak (1995). The scale was developed to determine the ways that individuals cope with stress in general and actual life situations.

The original version of the scale (Folkman & Lazarus, 1985) consists of 50 items plus 16 fill items within eight empirically derived scales; confrontive coping, distancing , self controlling, seeking social support, accepting responsibility, escape- avoidance, planful problem solving, positive reappraisal. Reliabilities for the subscales reported by Folkman and Lazarus (1985) were ranging from .65 to .85.

The psychometric properties of the original version of the scale were examined in many studies. These empirical studies suggest that the number of extracted factors has changed from sample to sample or from stressor to stressor. Hence, Folkman and Lazarus have encouraged researchers to adjust the Ways of Coping Questionnaire the specific study context in order to achieve a close match between the stress experiences (Schawarzer & Schawarzer, 1996).

In Turkey, Şahin and Durak (1995) developed a short version of Ways of Coping Questionnaire for university students and decreased the number of items from 50 to 30. They named the scale as Coping Style Inventory (see Appendix C). The items of CSI are based on a 4 point Likert scale. Respondents are asked to indicate the extent to which each item describe themselves on the alternatives provided as "0%=1, 30%=2, 70%=3, and 100%=4". The CSI consists of five subscales including optimistic style, self-confident style, helpless style, submissive style, and seeking social support style. Optimistic subscale includes five items. Self confident scale includes seven items. Helpless style subscale has eight items. Submissive style and seeking social support style subscales include six and four items respectively. The possible scores that can be obtained from the subscales ranges from 5 to 20 for optimistic style, from 7 to 28 for self confident style, from 8 to 32 for helpless style, from 6 to 24 for submissive style and from 4 to 16 for seeking social support style. Higher scores indicate the higher usage of that specific style for that person.

Şahin and Durak (1995) investigated the factor structure of CSI in three different studies with different samples. In the first study the principal axis factor analysis was performed on the 575 student sample, and eight factors emerged that accounted for the 40.4% of the

total variance. In the second study, with the 426 bank employees' sample, 7 factors were emerged, and 5 of them were found to be interpretable by the researchers. The third study with the 232 individuals sample revealed a similar factor structure with the second study with only few misplaced items. The five interpretable factors were; optimistic, self-confident, helpless, submissive, and seeking social support styles, and two dimension structure (problem focused/emotion focused) with the loadings changing between .69 and .30. These results are considered as the evidence for the construct validity of CSI. The internal consistencies of the CSI calculated by Cronbach alpha were ranging from 0.45 to 0.80 for the subscales.

3.5.3.1 Reliability and Validity of CSI

The psychometric properties of Coping Styles Inventory were re-examined with the research sample of the present study. Initially a principal components analysis with extraction method was used to identify the items that were loaded under two or more factors. Among 30 items, 24 items remained and 6 were eliminated. After this preliminary analysis, a principal components analysis with varimax rotation was conducted. The analysis yielded 7 factors with eigen value criterion 1.00, and explained 54.3 % of the variance. With the examination of the scree test and item content, a two factor solution was agreed upon. This solution accounted for 36.1 % of the total variation with the eigen values of 5.894 and 2.788, respectively. The first factor was named as Problem focused coping and included 12 items. The second factor was called Emotion focused coping consisted of 12 items. The reliability coefficients as estimated by Cronbach's alpha were .85 for Problem focused coping, and .76 for Emotion focused coping.

A list of two factors, their factor loadings , communalities, and the content of the items that were grouped under those dimensions are presented in Table 3.2.

Table 3.2 The factor Loadings, Communalities and the Items of Coping Styles Inventory

Item no	Items of CSI*	Problem focused coping	Emotion focused coping	Communalities
10	I find the power to resist whatever happens	**.69**	-.19	.526
14	I believe I will certainly find a way and I try for it	**.68**	.12	.506
16	I find the power to start over in myself	**.67**	-.28	.461
8	I evaluate the cases to find the best solutions	**.64**	-.22	.369
18	I try to derive something positive from each case.	**.62**	-.10	.472
23	I believe I defend my rights	**.59**	.02	.318
20	I try to solve the problem step by step	**.59**	-.16	.298
12	I try to be tolerant to myself	**.57**	-.11	.395
6	I try not to get angry and think calmly	**.54**	-.17	.35
26	I believe I change in a mature way and develop myself	**.54**	-.11	.293
2	I try to be optimist	**.53**	.10	.339
4	I try to not to exaggerate the cases	**.51**	.05	.539
28	I always think it was my fault	.07	**.68**	.431
25	I wish I was more powerful	-.22	**.58**	.392
22	I believe the problem is caused by me	-.32	**.58**	.307
7	I will like I stucked	.06	**.54**	.354
17	I believe I can't do anything	-.13	**.54**	.498
19	I believe nothing will result the way I want	-.36	**.51**	.299
21	I give up to try	.32	**.50**	.385
5	I believe I had to live what is in my destiny	.26	**.48**	.294

Table 3.2 continued

Item no	Items of CSI*	Problem focused coping	Emotion focused coping	Communalities
13	I believe everything will result the way it was meant to	-.38	**.46**	.355
24	I believe it was my destiny	-.08	**.41**	.462
3	I look for a miracle to happen	-.09	**.36**	.141

* The Turkish version of the scale was used for the present study.

After re-examining the psychometric properties of CSI with the local sample, the minimum and maximum scores that can be obtained from the problem focused coping subscale range from 16 (low CSI score) to 48 (high CSI score), and from the emotion focused coping subscale range from 14 (low CSI score) to 48 (high CSI score).

3.6 Data Collection Procedure

With the permission granted from the universities, Eating Attitudes Test 40 (EAT-40), Coping Styles Inventory (CSI) and Demographic Data Form were administered to the participants during the class sessions. Before administering the instruments, the researcher explained the purpose of the study to the students, and then those who volunteered to participate in the study were asked to fill out the instruments. It took nearly 30 minutes to fill out the instruments. The data collection occurred between March and May 2003.

3.7 Data Analysis Procedures

In this study, in order to assess to what extent gender, age, body mass index, weight satisfaction body satisfaction, emotion focused coping, and problem focused coping predict disordered eating attitudes of Turkish university students, a stepwise multiple regression analysis was carried out. In order to compare female and male participants on the importance of significant other's opinion regarding their weight and expert preference in case of a weight problem two separate two-way contingency table with Chi Square were employed. SPSS (Statistical Package for Social Sciences) for Windows (version 10.00) was used to perform all the analyses. The .05 alpha level was accepted as a criterion of statistical significance for all statistical procedures.

3.8 Limitations of the Study

This study has several limitations. First, the sample selection was based on convenient sampling. Hence, generalization of the findings to all Turkish university students is limited.

Second limitation might be that due to the self-report nature of the study, the results might not reflect the participants' actual coping responses and eating attitudes.

CHAPTER IV

RESULTS

This chapter consists of two major sections. In the first section, the result of the stepwise regression analysis which was employed to investigate the predictors of disordered eating attitudes of university students is presented. The second section presents the results regarding two way contingency table with Chi Square which was employed in order to compare female and male participants on their expert preference in case of a weight problem. The third section presents the results of two way contingency table with chi square which was employed to compare female and male participants on the importance of significant other's opinion regarding their weight.

4.1 Results Concerning the Predictors of Disordered Eating Attitudes

Prior to conducting multiple regression analysis, normality, linearity, homoscedasticity, multicollinearity, and singularity assumptions of multiple regressions were tested. It was observed that normality and linearity assumptions were violated. Thus the dependent and independent variables' scores were transformed. Then transformed scores entered into the regression equation. No violation was observed.

A stepwise multiple regression analysis was conducted to evaluate how well emotion focused coping, problem focused coping, gender, age, BMI, weight satisfaction, and body satisfaction predicted disordered eating attitudes of Turkish university students.

The means and standart deviations of the quantitative predictor variables and the criterion variable are presented on Table 4.1.

Table 4.1 Means and Standard Deviations of the Quantitative Predictor Variables and and the Criterion Variable for the Total Sample

Variables	M	SD	n*
Disordered Eating Attitudes	6.99	7.17	525
Problem Focused Coping	35.90	5.56	525
Emotion Focused Coping	25.60	5.34	525
Weight Satisfaction	2.71	1.14	524
Body Satisfaction	2.12	0.73	524
Age	20.65	1.73	518
BMI	21.53	3.13	511

* n varies due to missing cases

The Pearson product-moment correlation coefficients among quantitative predictor variables and the criterion variable are presented in Table 4.2.

Table 4.2 The Pearson Product-Moment Correlation Coefficients among Quantitative Predictor Variables and the Criterion Variable.

Variables	1	2	3	4	5	6	7
1.Disordered Eating Attitudes	_	-0,03	0,217**	-0,111*	0,105**	-0,259**	-0,146**
2.Problem Focused Coping		_	-0,269**	0,1*	0,121**	0,132**	0,263**
3.Emotion Focused Coping			_	-0,034	-0,014	-0,137**	-0,213**
4.BMI				_	0,043*	-0,212**	-0,126**
5.Age					_	-0,05*	-0,004
6.Weight Satisfaction						_	0,44**
7.Body Satisfaction							_

** Correlation is significant at the .01 alpha level

* Correlation is significant at the .05 alpha level

Results indicated low to moderate correlations among criterion and predictor variables. As indicated in Table 4.2, considering the significant correlations among variables, disordered eating score was found to correlate negatively with BMI, weight satisfaction, and body satisfaction scores, and correlate positively with emotion focused coping scores. Furthermore, the highest significant correlation observed was between body satisfaction and weight satisfaction scores.

The variables found to be most predictive of disordered eating attitudes and entered the model were weight satisfaction, gender, emotion focused coping, BMI, and age. The linear combination of five variables was significantly related to the disordered eating attitudes, R^2 = .154, adjusted R^2 = .145 F (5,497) = 18.048 p = .000.

Multiple regression analysis results for weight satisfaction, gender, emotion focused coping, body mass index, and age are presented in Table 4.3.

Table 4.3 Multiple Regression Analysis Results for Weight Satisfaction, Gender, Emotion Focused Coping, Body Mass Index, and Age.

Disordered Eating Attitudes			
Predictors	Beta	F	p
Weight Satisfaction	-.236	35.934	.000
Gender	.153	30.05	.000
Emotion Focused Coping	.166	25.751	.000
Age	.113	21.438	.000
BMI	-.095	18.048	.000

Note. R^2 change = .067 for weight satisfaction, .040 for gender, .027 for emotion focused coping, .013 for age, and .007 for BMI.

As shown in Table 4.3 , results yielded that 6 % of the variance was explained by weight satisfaction F(1,501) = 35.934 , p = .000; gender increased explained variance to 10%, F(1,500) =30.05 p = .000; with the addition of the emotion focused coping score explained variance increased to 13% F(1,499) =25.751, p = .000 ; age increased explained variance to 14%, F(1,498) = 21.438. p = .000; and finally by the inclusion of BMI score explained variance increased to 15% F (1, 497) = 18.048, p = .000.

Bivariate and partial correlations associated with the analyses were listed in Table 4.4.

Table 4.4 The Bivariate Partial Correlations of the Predictors with EAT-40.

	Disordered Eating Attitudes	
Predictors	r	r(p)
Weight Satisfaction	-.236	-.236***
Gender	.153	.145**
Emotion focused coping	.166	.175***
Age	.113	.121**
BMI	-.095	-.089*

*p < .05 ** p < .01 *** p < .001

As shown in the table, of the five variables, weight satisfaction was strongly negatively and significantly related to disordered eating attitudes. Supporting this conclusion is the strength of the bivariate correlation between weight satisfaction and disordered eating attitudes, which was -.23 p =.000 as well as the comparable correlation partialling out of the other four predictors, which was -.23 p = .000.

4.2 Results Concerning the Differences between Female and Male Students Regarding Expert Preference

A two-way contingency table analysis with chi-square was conducted to examine whether there was a significant difference between female and male university students with respect to their expert preference in case of a weight problem. The two variables were gender with two levels (female and male) and expert preference with five levels (dietitian, medical doctor, fitness expert, psychologist/counselor, and alternative medical expert). Gender and expert preference were found to be significantly related with, Pearson $\chi 2$ (2, n=517) = 39.9, p =.000.

The results of the two-way contingency table analysis with chi-square regarding the expert preference in case of a weight problem are presented in Table 4.5

Table 4.5 Two-Way Contingency Table Analysis with Chi square Regarding the Expert Preference related to Weight Problem.

In case of a weight problem, from which expert would you like to get professional help?	Female (n=294)		Male (n=223)			
	f	%	f	%	χ^2	p
Dietitian	123	41.8	37	16.6		
Medical doctor	36	12.2	47	21.1		
Psychologist/ Counselor	2	.7	5	2.2	39.9	.000
Fitness Expert	126	42.9	127	57		
Alternative medicine expert	7	2.4	7	3.1		
Total	294		223			

As demonstrated in the table, both females and males would prefer fitness expert to get professional help in case of a weight problem. Proportions of female students preferring dietitian (41.8 %) and fitness expert (42.9 %) were nearly same, whereas male students would prefer fitness expert (57%), medical doctor (21.1%) and dietitian (16.6%), respectively. Furthermore, both females and males reported that alternative medicine expert and psychologist / counselor would be the least preferred professionals.

4.3 Results Concerning the Differences between Female and Male Students regarding Significant Other's Opinion

A two-way contingency table analysis with chi square was conducted to evaluate whether there was a significant difference between female and male university students for the importance of significant other's opinion regarding their weight. The two variables were gender with two levels (female and male) and the importance of significant other's opinion regarding the weight with six levels (mother, father, brother, sister, girlfriend, and boyfriend). Table 4.6 presents the results of the two-way contingency table analysis with chi square for the importance of significant other's opinion regarding their weight.

Table 4.6 Two-Way Contingency Table Analysis with Chi square for the Importance of Significant Other's Opinion regarding Their Weight

	Female	Male	$\chi 2$	p
	n	n		
Mother	282	204	9.907	.078
Father	272	197	7.613	.179
Brother	241	168	11.045	.051
Sister	236	169	8.138	.149
Boyfriend	277	181	104.64	.000*
Girlfriend	276	200	117.23	.000*

* $p < .001$

As shown in the table, no significant difference was observed between female and male students, except for the opposite sex friend. Results indicated that females care about the opinion of boy friends most, Pearson $\chi 2$ (2, n=458) = 104.64, p= .000, while males weigh the opinion of girl friends, Pearson $\chi 2$ (2, n=476) = 117.23, p=.000.

Females' rankings for the importance of significant other's opinion regarding their weight are presented in Table 4.7.

Table 4.7 Female Students Rankings for the Importance of Significant Others' Opinion regarding Their Weight

	#1	#2	#3	#4	#5	#6	Total	Missing
Mother	20. 9	18.2	20.2	16.8	12.8	6.1	94.9	5.1
Father	7.1	12.5	14.8	18.9	20.9	17.5	91.6	8.4
Brother	6.7	10.4	13.1	18.2	16.2	16.5	81.1	18.9
Sister	6.1	11.4	15.5	18.5	13.5	14.5	79.5	20.5
Boyfriend	45.1	15.8	14.5	5.1	6.1	6.7	93.3	6.7
Girlfriend	10.8	28.6	16.5	15.2	16.2	5.7	92.9	7.1

As shown in the table, the majority of females (45.1%) rated the boy friend's opinion first in their rank order. Boyfriends were followed by mothers and same sex friends, respectively. Fathers', sisters' and brothers' opinions were rated lowest in the rank order.

Males' rankings for the importance of significant other's opinion regarding their weight are presented in Table 4.8.

Table 4.8 Male Students rankings for the Importance of Significant Others' Opinion regarding Their eight

	#1	#2	#3	#4	#5	#6	Total	Missing
Mother	24.2	19.8	20.7	7.9	9.7	7.5	89.9	10.1
Father	4	16.7	18.9	16.7	17.2	13.2	86.8	13.2
Brother	2.6	5.3	16.3	20.3	17.6	11.9	74	26
Sister	4.4	16.7	15	19.4	7.5	11.5	74.4	25.6
Boyfriend	7.5	18.5	7.5	11.9	19.4	15	79.7	20.3
Girlfriend	49.8	11.9	8.4	5.7	5.7	6.6	88.1	11.9

As shown in the table, the majority of males (49.8 %) rated the girl friend's opinion first in their rank order. Girl friends were followed by mothers. Same sex friends', fathers', sisters' and brothers' opinions were rated lowest in the rank order.

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

This final chapter presents conclusions of the study, implications, and recommendations for both counseling practice and future studies.

5.1 Conclusions

The main interest of this study was to investigate the validity of each predictor variable (emotion focused coping, problem focused coping, gender, age, body mass index, weight satisfaction and body satisfaction) in predicting the disordered eating attitudes of Turkish university students. The results of the study demonstrated that weight satisfaction, gender, emotion focused coping, age, and body mass index were significant predictors of disordered eating attitudes among university students. More specifically, older female students who were dissatisfied with their weight, who employed emotion focused coping, and who had lower body mass index were more likely to have disordered eating attitudes. Body satisfaction, and problem focused coping did not significantly predict the disordered eating attitudes of Turkish university students.

Given the fact that weight satisfaction alone accounted for the 6% of the variance of disordered eating attitudes, it appeared to be the most important predictor of disordered eating among Turkish university students. Thus, the negative correlation between weight satisfaction and disordered eating indicated that when participants were dissatisfied with their weight, their disordered eating attitudes increased. This finding is in line with the literature that weight dissatisfaction has been found to play an important role in the

development of disordered eating attitudes. For example, Ball and Lee (2001) indicated that weight dissatisfaction predicted disordered eating overtime.

When examining the relations among predictors, weight satisfaction was found to correlate positively with body satisfaction showing that participants who were dissatisfied with their weight were also dissatisfied with their physical appearance. However, body satisfaction was not found to be a significant predictor of disordered eating attitudes in the present sample. This result did not confirm the existing literature, because most of the studies in the literature showed that body dissatisfaction was one of the important predictors of disordered eating attitudes (Cash & Deagle III, 1997; Ghaderi, 2001; Mintz & Betz, 1988; Koff & Sangani, 1997). Nevertheless, there are also other researchers arguing that body dissatisfaction is not a crucial factor for the onset of disordered eating attitudes, and it is possible that one might be dissatisfied with one's body yet not do anything about it (Polivy & Herman, 2002).

The finding that body satisfaction did not significantly predict disordered eating attitudes of Turkish university students could be partially explained by one of the limitations of this study. In the present study, body satisfaction was assessed through a single item. Rather than using single item measurement, body satisfaction measured by culturally sensitive instrument could have provided more reliable result to understand body satisfaction and disordered eating relationship in Turkish population.

Another possible explanation for this result could be that although students perceived weight satisfaction and body satisfaction as related, weight dissatisfaction might have been perceived as a more severe problem by students. In recent years, low body weight has become the most important component in defining what is attractive in women. Rather than being overweight according to clinical measures, being overweight according to cultural norms might be the result of culturally induced 'the thinner the better' ideal. That is, the internationalization of the thin ideal might be associated with abnormal eating attitudes and restrained eating in youngsters (Hermes & Keel, 2003). Similiarly, Chandy, Harris, Blum, and Resnick (1995) suggest that satisfaction with

one's weight may be seen as a 'protective factor' in youngsters, who are at risk for developing eating disorders.

Gender was found to be the second predictor factor of the disordered eating attitudes among university students. This finding was consistent with the literature. It has been found by many different researchers in different cultures that females were more prone to eating disorders than males. Furthermore, being a female was accepted as a distinct risk factor for developing eating disorders (Cox, Lantz, Mayhew, 1997; Nelson & Huges, 1999; Ohseki, Otahara, Horaki, Motozumi & Shiraki, 1993; Stephens, Schumaker, & Sibiya 1999).

As argued above, the cultural pressures for thinness are directed toward especially at women (Hesse-Biber, 1989). Empirical evidence suggested that females who practice restrained eating were aware of, and internalized concepts about thinness and beauty. It was also suggested that not just exposure to these ideals but the acceptance of them leads to disordered eating in women (Griffiths et.al, 2000). Women who internalize the pressure to be thinner and who equate thinness with happiness and social success may respond to stress by trying to be thinner and possibly developing unhealthy body and eating attitudes (Ball & Lee, 2000). Some research also suggest that femininity in itself is not a pathological construct, rather women who experience stress when faced with threats and challenged to feminine gender role commitments, that is who have high feminine gender role stress are more prone to eating disorders (Martz, Handley, & Eisler, 1995). Consequently, weight concerns might reflect the adoption of socially approved female role, and they are significantly associated with disordered eating attitudes (Altuğ 1999; Ghaderi, 2001).

Findings of the present study also revealed that emotion focused coping was one of the statistically significant predictors of disordered eating attitudes. Literature indicates that individuals with eating disorders demonstrate more emotion oriented coping, less behavioral-focused coping, a tendency to avoid confronting problems, and a perception of themselves as less able to cope, to tolerate stress or to solve problems (Ball & Lee,

2000). The result of the present study supports the relevant literature that emotion focused coping as a risk factor for developing disordered eating attitudes (Ball & Lee, 2002; Bittinger & Smith, 2003; Blaase & Elklit, 2001; Garcia-Grau, Fuste, Miro, Saldana, & Bodos, 2002; Koff & Sangani, 1997; Janzen, Kelly, & Saklofske, 1992). In addition, females tended to use more emotion oriented coping than males (Endler & Parker, 1990), and people tended to use emotion-focused coping when they think they had no control over the situation (Forsythe & Compas, 1987, as cited in Maşraf, 2003).

In the present study, a small amount of variance that emotion focused coping explains eating disorders may be due to cultural differences. Literature suggests that the predictive strength of emotional coping may vary across cultures. Thus, people in one culture may use problem-focused coping more, whereas people in another culture may use emotion-focused coping more to deal with stressful situations. For example, Japanese university students were found to employ more emotion focused coping strategies when faced with stressful encounters compared to British university students (O'Connor & Shimizu, 2002). Similarly, Watson, Willson and Sinha (1998) found that Indians used more positive re appraisal which categorized as an emotion focused coping than Canadians. In the same vein, Thai children were found to use more covert (emotion focused) coping than American children when they encountered with stress (McCarty, Weisz, Wanitromanee, Eastman, Suwanlert and Chaiyasit et al., 1999). Although there is a paucity of research regarding coping styles in Turkish literature, a study carried out with Turkish adolescents revealed similar finding that Turkish adolescents employed more emotion focused coping. In addition, it was also found that emotion focused coping was positively related to the perceived health of Turkish youngsters (Aysan, Thompson, & Hamarat, 2001). Consequently, these results might indicate the role of cultural differences such as social structure, and philosophical and religious beliefs that they play in coping process. Indeed, the use of self blame and wishful thinking which emphasize the emotion focused coping might reflect the fatalistic characteristic of Turkish culture (Kağıtçıbaşı, 1982, as cited in Maşraf, 2003).

Findings of the present study also indicated that Body Mass Index was a significant predictor of disordered eating attitudes, even though the amount of variance it explained was not high. This result was not consistent with the previous research findings. Previous empirical studies suggest that higher body mass index is one of the predictors of disordered eating attitudes (Anafarta, 1999; Ball & Lee, 2002; Prouty, Protinsky, & Canady, 2002; Liebmann, Cameron, Carson, Brown, & Meyer, 2001); especially in relation with weight dissatisfaction (Zabunoğlu, 1999). The results of the present study also indicated that body mass index was correlated negatively with weight satisfaction and disordered eating attitudes. More specifically, university students, who had lower body mass index, were more satisfied with their weights. Thus, as BMI decreases, people become more satisfied with their weights, and become more prone to develop disordered eating attitudes. Since refusing to maintain a normal body weight is one of the symptoms of eating disorders, this result seems to be consistent with the definition of eating disorders.

Although it explained a small amount of variation, age was found to be a significant predictor of disordered eating among university students. A possible explanation of small amount of variation might be rather narrow age range (17-29) of the present study. Studies with wide range age groups of samples, the predictive power of age might have increased.

Contrary to the expectation, all predictors that examined in this study have explained only a small proportion of (15%) the variance in disordered eating attitudes. Considering this result, it seems obvious that there are other predictor variables that contribute to developing disordered eating attitudes of Turkish university students. Indeed, studies to date have suggested several factors that thought to affect developing disordered eating in Turkish college population. Factors like traditional mother and father, family's and peers' interference, critical attitude towards the person's dieting behavior, and perceived social pressure were found to predispose youngsters to develop eating disorders (Altuğ, 1999; Zabunoğlu, 1999; Anafarta, 1999; Hacıevliyagil;1991; Çam, 1994). Hence, the results of the previous studies together with the current one seem to emphasize the role

of cultural factors more in shaping the attitudes toward eating. Thus, this speculation needs to be investigated empirically in further studies.

Another purpose of the present study was to investigate the expert preference of university students in case of a weight problem. Results indicated that almost half of the students would prefer to get help from a fitness expert when faced with a weight related problem. The second choice of students was dietitians, and the third choice was medical doctors. When compared according to gender, it was found that the number of female students prefer fitness experts and dietitians were nearly the same, whereas male students preferred to consult to a fitness expert. Medical doctors and dietitians were male students' second and third choices, respectively. Results indicated that students preferring alternative medical experts rather than psychologists/counselors in case of having a weight problem. Two point four percent of female students and 3.1% of male students preferred to consult to a psychologist/counselor in case of a weight related problem. These results indicate that majority of the university students see weight related problems as rooted by physical inactivity or dieting related rather than psychological. This result was consistent with the findings of the previous studies. Prouty, Protinsky and Canady (2002) showed that college women conceptualized difficulties with weight and eating habits as a medical problem, and they would prefer to consult to physicians and dietitians in case of having a weight problem. In the same vein, Smith, Pruitt, Mann, and Thelen (1986) showed that majority of the students would consult to a physician for the treatment of an eating disorder.

The present study also investigated whether there was a significant difference between female and male university students on the importance of significant other's opinion regarding their weight. The results demonstrated that students care mostly their opposite-sex friend's opinion regarding their weight. While male university students consider their girl friends' opinion, female university students consider their boyfriends' opinion regarding their weights. The results were consistent with the findings of the previous literature. For example Smith, Pruitt, Mann, and Thelen (1986) indicated that males were likely to reject individuals who were overweight as a dating partner and this

pressure was acknowledged by women. Similarly, research results indicated that peer appearance criticism made direct contributions to body dissatisfaction of boys and girls (Jones, Vigfusdottir, & Lee, 2004). Research also indicated that fear of negative appearance evaluation was one of the predictors of disordered eating attitudes among female college students (Lundgren, Anderson, & Thompson, 2004). Taken together, previous research and the results of the present study indicated that peer influences regarding weight should be considered while examining disordered eating among college students.

Mothers were the second important source of opinion for both female and male students. Previous research results suggest that familial factors contribute to the development of eating disorders (Ammerman, Rosen, Keller, Lock, Mammel, O'Toole, Rees, Sanders, Sawyer, Schneider, Sigel, & Silber, 2003). Social learning theory proposes that parents are important agents of socialization, who through modeling, feedback and instruction, influence their children's body image and eating behavior (Perry, Mullis, & Maile, 1985). A study that examined the effects of parent influence- modeling and encouragement to diet to lose weight- on female and male adolescents revealed that mothers were more likely to encourage their children to diet (Wertheim, Martin, Prior, Sanson, & Smart, 2002). Research on Turkish families also indicated that children of both sexes were closer to mothers than to fathers (Gökçe, 1984). Similiarly, it was reported that the relationship between a Turkish girl and her mother is usually very intimate (Kağıtçıbaşı, 1982).

Results of the present study also revealed that both female and male students were caring about their same sex friends' opinions regarding their weight thirdly, but the number of females was greater than males who were considering the opinion of their same sex friends. This result may be due to females' being more sensitive to weight issues. Similarly, Zabunoğlu (1999) found that perceived pressure from same sex friend was significantly related to disordered eating attitudes in university students.

5.2 Implications and Recommendations for Practice and Research

Several implications for practice can be drawn from the findings of the present study. First, results of the present study indicated that weight dissatisfaction was the major significant predictor of disordered eating in university students. This result suggests that university students who are dissatisfied with their weight are more vulnerable for developing eating disorders than students who are not. The results also revealed that being female, using emotion focused coping, being older and having lower BMI's might be considered as risk factors for possible eating disorders in university students. Having known the possible influence of these factors, counselors in university counseling centers or in private practice can play a critical role in assisting students either at risk or who are having eating disorders.

Counselors can also be aware of the widespread nature of eating difficulties on university campuses and remain current in knowledge of eating disorders and referral sources. Counselors may also incorporate information about eating disorders into university guidance programs and develop wellness programs focused on prevention and intervention of eating disorders.

Results of previous and present research indicated that being female is a risk factor for eating disorders. Counselors can direct their attention to females who are dissatisfied with their weight and use emotion focused coping rather then problem focused coping. Given the notion that problem-solving type of coping is an effective coping strategy, one possible intervention may be to train 'at risk' students in problem solving skills. A problem-solving skills training program, which emphasizes setting realistic goals and teaching the individual to generate alternative solutions to the problem may enable students to respond life stress in a problem-oriented manner, rather than employing emotion focused coping. This in turn, will reduce the possibility of the student to develop disordered eating attitudes.

Students who are accepted 'at risk' may also be trained by programs that have several components, including the awareness for risk factors and hazardous effects of eating disorders. Research results indicated that preventive intervention programs are successful in terms of reducing disordered eating attitudes among university students. (Springer, Winzelberg, Perkins ,& Taylor, 1999). For example, Stice and Ragan (2001) developed and applied a preventive intervention program including descriptive models, epidemiology, empirically evidenced risk factors, preventive interventions, and treatments of eating disorders and obesity. Results showed that eating disturbances and BMI of students were reduced significantly after the program. The programs may also include components to teach students to recognize the social influences to be thin and identify and use counter arguments to resist social influence. Counselors can also assist students by offering group counseling opportunities for 'at risk' group of students.

University counselling services could also initiate effective prevention programs through the Internet which offers a cost-effective method for reducing sub clinical eating problems before they progress to full syndrome eating disorders. Results of previous research indicated that internet based prevention programs are acceptable for college-aged women at-risk of developing an eating disorder and may be effective for reducing concerns related to shape and weight (Celio, Jacobs, Manwaring, & Wilfley, 2003).

Given the notion that parents, especially mothers' opinion were considered important by their children regarding their weight, parents can be effective source for providing healthy feedback to university students. By using mass media or relevant sources, parents can be educated about healthy eating habits, healthy weight control and the role of regular exercise to promote health in young individuals.

The results of this study also showed that students who have weight related problems, perceive their problem as related to physical inactivity or diet related and they do not consider any psychological problems regarding their eating related problems. These results indicate that university students are quite unaware that a weight related problem may be indicative of an eating disorder, and they would better consult to university

counseling services. In the light of this information, university counseling services may develop and implement programs to develop an awareness regarding eating disorders in university campuses. In addition, while developing the programs, mental health professionals experienced in the area of eating disorders should be consulted.

Given the majority of the subjects indicated that they would first seek a fitness trainer and dietitian treatment in case of a weight related problem, these professionals must become familiar with eating disorders in order for the proper treatment or referral to be initiated. The counseling skills are as important to a fitness trainer or a dietitian as they help students with maintaining their healthy weight or gaining exercise habits. Both losing weight and regular exercising can not be achieved without effective behavioral change practices. Counselors can guide other health care professionals acquiring counseling skills in order to implement successful behavioral change in diet and exercise practices of university students.

Results of this study might have several implications for future research. First, in this study, only six factors, namely coping styles, gender, age, body mass index, weight satisfaction, and body satisfaction were investigated in relation to disordered eating attitudes. However, other factors which are not identified in this study may contribute to disordered eating attitudes. For example, perceived stress and the relation of stressful life events could be studied in conjunction with coping styles in order to examine their multiple effects on disordered eating attitudes. Perceived ability to cope may be another factor that would have effect on disordered eating attitudes of university students. Future studies need to be designed to examine the predictive power of mentioned variables on eating attitudes. Second, only university students from Ankara participated in this study, and data were collected through self report inventories. Therefore, future research that includes sample from different regions of Turkey is needed.

Having known that age is an important factor for the development of disordered eating attitudes, studies with young adolescents may be another area for future research. Researchers can study the effects of stress and coping styles on disordered eating

attitudes in young adolescent population. In addition, carrying out longitudinal studies with larger samples is also needed to understand the development of disordered eating attitude especially in particular developmental periods, such as preadolescence and adolescence.

Future research may also focus on comparative studies using both clinical samples and clinically normal samples, in order to identify potential differences in terms of coping and disordered eating attitudes.

Further experimental efforts could be devoted to develop new and culturally relevant instruments to measure eating attitudes, coping styles, and body/weight satisfaction of Turkish university students.

Finally, research is needed to determine the ways of preventive studies in university campuses regarding eating disorders.

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APPENDICES

APPENDIX A

(In Turkish)

DEMOGRAFİK VERİ FORMU

Sayın Katılımcı,

Katılmakta olduğunuz bu çalışmada vereceğiniz bilgiler, üniversite öğrencilerinin yeme davranışı ve stresle başa çıkma tarzları ile ilgili bir bilimsel çalışmada kullanılacaktır. İsminizi ya da kimliğinizi belirtecek herhangi bir bilgiyi vermeniz gerekmemektedir. Cevaplarınız sadece araştırma amaçlı kullanılacak ve kesinlikle gizli tutulacaktır. Katılımınız için teşekkür ederim.

Ümit Pembecioğlu Oktamış
ODTÜ Eğitim Bilimleri Bölümü
Yüksek Lisans Öğrencisi

Cinsiyetiniz: Kadın ☐ Erkek ☐

Yaşınız: .....

Boyunuz: .....cm

Kilonuz: .....kg

Kilonuzdan ne derece memnunsunuz?

☐Çok memnunum

☐ Memnunum

☐ Ne memnunum, ne değilim

☐Memnun değilim

☐Hiç memnun değilim

Genel olarak dış görünüşünüzden ne derece memnunsunuz?

☐Çok memnunum

☐ Memnunum

☐ Ne memnunum, ne değilim

☐Memnun değilim

☐Hiç memnun değilim

Kilonuz ile ilgili bir sorununuz olsa, aşağıdaki uzmanlardan öncelikle hangisinden yardım almak istersiniz?

☐ Diyetisyen

☐Doktor

☐ Psikolog/ Psikolojik Danışman

☐ Egzersiz/ Spor Uzmanı

☐ Alternatif Tıp Uzmanı

Kilonuz ilgili yorum yapan ya da yapabilecek kişilerden hangisinin görüşleri sizin için daha önemlidir? Lütfen görüşüne en fazla önem verdiğiniz kişiyi 1. sıraya yerleştirerek 1'den 6' ya kadar bir sıralama yapınız.

Annem	Erkek kardeşim	Erkek arkadaşım .....
Babam	Kız kardeşim	Kız arkadaşım .....

APPENDIX B

(In Turkish)

YEME TUTUMLARI TESTİ

Bu ölçek sizin yeme alışkanlıklarınızla ilgilidir. Maddelerin çoğu yeme alışkanlıklarınızla ilgili olmakla birlikte, farklı konularda maddeler de yer almaktadır. Bunların arasında doğru yada yanlış söz konusu değildir. Lütfen kendinizi olduğunuz gibi görmeye çalışarak, sizin için en doğru olan, altı seçenekten birini seçerek işaretleyin.

1= Daima 2= Çok sık 3= Sık sık 4= Bazen 5= Nadiren 6= Asla

	1	2	3	4	5	6
1 Başkaları ile birlikte yemek yemekten hoşlanırım	1	2	3	4	5	6
2 Başkaları için yemek pişiririm, fakat pişirdiğim yemeği yemem	1	2	3	4	5	6
3 Yemekten önce sıkıntılı olurum	1	2	3	4	5	6
4 Şişmanlamaktan ödüm kopar	1	2	3	4	5	6
5 Acıktığımda yemek yememeğe çalışırım	1	2	3	4	5	6
6 Aklım fikrim yemektedir	1	2	3	4	5	6
7 Yemek yemeği durduramadığım zamanlar olur	1	2	3	4	5	6
8 Yiyeceğimi küçük küçük parçalara bölerim	1	2	3	4	5	6
9 Yediğim yemeğin kalorisini bilirim	1	2	3	4	5	6
10 Ekmek,patates, pirinç gibi yüksek kalorili yiyeceklerden kaçınırım	1	2	3	4	5	6
11 Yemeklerden sonra şişkinlik hissederim	1	2	3	4	5	6
12 Ailem fazla yememi bekler	1	2	3	4	5	6
13 Yemek yedikten sonra kusarım	1	2	3	4	5	6
14 Yemek yedikten sonra aşırı suçluluk duyarım	1	2	3	4	5	6
15 Tek düşüncem daha zayıf olmaktır	1	2	3	4	5	6
16 Aldığım kalorileri yakmak için yorulana kadar egzersiz yaparım	1	2	3	4	5	6
17 Günde birkaç kere tartılırım	1	2	3	4	5	6
18 Vücudumu saran dar elbiselerden hoşlanırım	1	2	3	4	5	6
19 Et yemekten hoşlanırım	1	2	3	4	5	6
20 Sabahları erken uyanırım	1	2	3	4	5	6
21 Günlerce aynı yemeği yerim	1	2	3	4	5	6
22 Egzersiz yaptığımda harcadığım kalorileri hesaplarım	1	2	3	4	5	6
23 Adetlerim düzenlidir **(***yalnızca kadın katılımcılar cevaplayacak***)**	1	2	3	4	5	6
24 Başkaları çok zayıf olduğumu düşünür	1	2	3	4	5	6
25 Şişmanlayacağım düşüncesi zihnimi meşgul eder	1	2	3	4	5	6
26 Yemeklerimi yemek başlarınkinden daha uzun sürer	1	2	3	4	5	6
27 Lokantada yemek yemeği severim	1	2	3	4	5	6
28 Müshil kullanırım	1	2	3	4	5	6
29 Şekerli yiyeceklerden kaçınırım	1	2	3	4	5	6
30 Diyet (perhiz) yemekleri yerim	1	2	3	4	5	6
31 Yaşamımı yiyeceğin kontrol ettiğini düşünürüm	1	2	3	4	5	6
32 Yiyecek konusunda kendimi denetleyebilirim	1	2	3	4	5	6
33 Yemek konusunda başkalarının bana baskı yaptığını hissederim	1	2	3	4	5	6
34 Yiyecek ile ilgili düşünceler çok zamanımı alır	1	2	3	4	5	6
35 Kabızlıktan yakınırım	1	2	3	4	5	6
36 Tatlı yedikten sonra rahatsız olurum	1	2	3	4	5	6
37 Perhiz yaparım	1	2	3	4	5	6
38 Midemin boş olmasından hoşlanırım	1	2	3	4	5	6
39 Şekerli, yağlı yiyecekleri denemekten hoşlanırım	1	2	3	4	5	6
40 Yemekten sonra içimden kusmak gelir	1	2	3	4	5	6

APPENDIX C

(In Turkish)

STRESLE BAŞAÇIKMA TARZLARI ÖLÇEĞİ

Bu ölçek kişilerin yaşamlarındaki sıkıntılar ve stresle başa çıkmak için neler yaptıklarını belirlemek amacıyla geliştirilmiştir. Lütfen sizin için sıkıntı ya da stres oluşturan olayları düşünerek bu sıkıntılarınızla başa çıkmak için genellikle neler yaptığınızı hatırlayın ve aşağıdaki davranışların sizi tanımlama ya da uygunluk derecesini işaretleyin. Herhangi bir davranış size uygun değilse % 0'ın altına, çok uygun ise % 100'ün altına işaret koyun.

Bir sıkıntım olduğunda	% 0	% 30	% 70	% 100
1. Kimsenin bilmesini istemem	( )	( )	( )	( )
2. İyimser olmaya çalışırım	( )	( )	( )	( )
3. Bir mucize olmasını beklerim	( )	( )	( )	( )
4. Olayları büyütmeyip,üzerinde durmamaya çalışırım	( )	( )	( )	( )
5. Başa gelen çekilir diye düşünürüm	( )	( )	( )	( )
6. Sakin kafayla düşünmeye, öfkelenmemeye çalışırım	( )	( )	( )	( )
7. Kendimi kapana sıkışmış gibi hissederim	( )	( )	( )	( )
8. Olayları/olayların değerlendirmesini yaparak en iyi kararı vermeye çalışırım	( )	( )	( )	( )
9. İçinde bulunduğum kötü durumu kimsenin bilmesini istemem	( )	( )	( )	( )
10. Ne olursa olsun direnme ve mücadele etme gücünü kendimde bulurum	( )	( )	( )	( )
11. Olayları kafama takıp, sürekli düşünmekten kendimi alamam	( )	( )	( )	( )
12. Kendime karşı hoş görüşlü olmaya çalışırım	( )	( )	( )	( )
13. İş olacağına varır diye düşünürüm	( )	( )	( )	( )

14. Mutlaka bir yol bulabileceğime inanır, bunun için uğraşırım	( )	( )	( )	( )
15. Problemin çözümü için adak adarım	( )	( )	( )	( )
16. Her şeye yeniden başlayacak gücü kendimde bulurum	( )	( )	( )	( )
17. Elimden hiçbir şeyin gelmeyeceğine inanırım	( )	( )	( )	( )
18. Olaydan/olaylardan olumlu birşey çıkarmaya çalışırım	( )	( )	( )	( )
19. Herşeyin istediğim gibi olamayacağına inanırım	( )	( )	( )	( )
20. Problemi/problemleri adım adım çözmeye çalışırım	( )	( )	( )	( )
21. Mücadeleden vazgeçerim	( )	( )	( )	( )
22. Sorunun benden kaynaklandığını düşünürüm	( )	( )	( )	( )
23. Hakkımı savunabileceğime inanırım	( )	( )	( )	( )
24. Olanlar karşısında “kaderim buymuş” derim	( )	( )	( )	( )
25. “Keşke daha güçlü olsaydım” diye düşünürüm	( )	( )	( )	( )
26. Bir kişi olarak iyi yönde değiştiğimi ve olgunlaştığımı hissederim	( )	( )	( )	( )
27. “Benim suçum ne” diye düşünürüm	( )	( )	( )	( )
28. Hep benim yüzümden oldu” diye düşünürüm	( )	( )	( )	( )
29. Sorunun gerçek nedenini anlayabilmek için başkalarına danışırım.	( )	( )	( )	( )
30. Bana destek olabilecek kişilerin varlığını bilmek beni rahatlatır.	( )	( )	( )	( )