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Research Article

Gender Based Self-Compassion, Body Weight and Risk of Eating Disorders: How they are Linked?

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Abstract

This study was conducted to determine the relationship between self-compassion and body weight and eating disorders in adults. The study was carried out with 434 participants in Istanbul. Self-Compassion Scale Short Form, which determines the level of self-compassion, Eating Disorder Examination Questionnaire and Eating Attiude Test, which measures the risk of eating disorders were applied. Self-Compassion was higher in males than females ($p < 0.001$). While there was no significant relationship between body mass index and self-compassion in females ($p > 0.05$), a significant positive correlation was found between body weight and eating disorder risk. There was a significant negative correlation between self-compassion and the risk of restriction eating disorder ($r = -0,133$) in females. BMI increase seemed to be a risk for eating disorders in females ($p < 0.001$) but in males BMI had no correlations with EAT-26 and sub-scales scores ($p > 0.05$). In addition, eating disorders risk was significantly higher in women than men. Self-compassion level was evaluated according to the education level, as a result the self-compassion level whose education level was secondary school was higher than university level. In addition, a positive significant relationship was observed between age and dieting behavior ($p = 0.102$). In our study, according to gender, self-compassion, eating disorders was related and the risk of developing eating disorders increased as self-compassion decreased. Self-compassion can be a protective factor against the risk of obesity and eating disorders. Dietitians and mental health professionals can adopt a multidisciplinary approach to work in order to facilitate individuals' well-being.

Keywords: Self-Compassion; Body Weight; Eating Disorders; Eating Behavior; Eating Attitude

Abbreviations

BMI: Body Mass Index; SC: Self-Compassion; EDE-Q-TR: Eating Disorder Examination Questionnaire; R: Restraint; EC: Eating Concern; WC: Weight Concern; SC: Shape Concern; EAT-26: Eating Attitude Test

Introduction

Self-esteem, which can be defined as the individual's self-acceptance, is low in individuals whose parents exhibit negligent attitudes [1]. In addition, the ability of individuals to be self-compassionate is related to positive family relationships in early childhood, children of neglectful parents cannot develop self-compassion because they show low self-esteem [1,2]. Self-compassion is becoming a feature at the forefront of current research on health and health-related behavior change [3]. It is seen that obese individuals tend to eat when they cannot cope with their emotions, then they regret it and they enter into a vicious circle by turning to eat again with the negative emotion of this regret [4]. A self-compassionate attitude can reduce maladaptive eating behaviors by enabling individuals to view their bodies in a way that minimizes body and behavioral shame [4,5].

Early negative life events and early shame experiences affect eating psychopathology [6]. An individual's behavior in adulthood is affected by early life events. Early life events is directly related to eating and self-compassion issues. Relationships between eating disorders, especially binge eating disorder and self-compassion, are frequently observed in the literature. Low self-compassion appears to play a role in the development of binge eating [7]. The literature suggests that it may be beneficial to include compassion-focused interventions to improve mental health [8]. Individuals with eating disorders have lower levels of self-compassion. Low self-esteem can cause the development of eating disorder [9]. On the other hand, low self-esteem may be a result of an eating disorder. Increasing self-compassion provides preliminary support that it can protect against eating pathology by directly reducing the risk of eating disorder and the damage it may cause and disrupting the mediation chain in which risk factors operate [10]. Self-compassion has the potential to protect against the mental health harms of self-stigma in the treatment of eating behavior-related weight gain and obesity. Therefore, it is thought that it may be a tool for interventions to reduce self-stigma and prevent these eating disorders [11]. According to the literature and this study, low self-compassion is observed in most patients with probable eating disorder. Self-compassion helps reduce unhealthy eating styles, including restrictive and overeating, which are risk factors for the later development of an eating disorder [9-11].

Our aim was to find relationships between self-compassion, body weight and eating disorders of the participants and test our hypothesis.

Materials and Methods

The aim of the study is to determine the relationship between self-compassion, body weight and eating disorders in adults. This cross-sectional research was carried out in Istanbul, within 6 months after obtaining approval from the Istanbul Okan University Ethics Committee (Decision Date/No: 05.05.2021/8). The sample of the study consisted of 434 adult individuals who agreed to participate in the study, reached by the snowball sampling method.

In order to reveal the relationship between self-compassion, body weight and eating disorders of the participants in the research, a questionnaire form was used. This form consisted of three main parts, firstly the written consent form; second part as sociodemographic and health information of the participants (including gender, age, height and body weight, educational status and occupation information, daily physical activity amount and type, dieting and weight loss status in the last 6 months and recently, health-related information measuring the state of feeling worthless); lastly we used three scales.

Self-compassion scale

The Self-compassion scale was developed by Neff [2] as a five-point Likert-type scale consisted with 26 items. The 11-item short form of the scale was found to be valid and reliable and the Self-Compassion Scale Short Form was applied in the current study [12]. The highest score of 55 can be obtained from the scale, and a high score indicates a high level of self-compassion. The scale has reverse coded items and these are the item 1, 4, 8, 9 and 10.

Eating disorder examination questionnaire (EDE-Q-TR)

Fairburn and Cooper [13] developed the Eating Disorder Examination Questionnaire and Turkish validity and reliability study was performed by Yücel., *et al*. in 2011 [14]. This scale indicates eating pathology and consists of 33 items for the assessment of eating disorders. EDE-Q-TR has five sub-scales as restraint, eating concern, shape concern and weight concern. Restraint items are 1, 2, 3, 4, and 5; eating concern items are 7, 9, 19, 20, and 21; weight concern items are 8, 12, 22, 24, and 25; shape concern items are 6, 8, 10, 11, 23, 26, 27 and 28. A minimum of 0 and a maximum of 168 points can be obtained from the scale.

Eating attitude test (EAT-26)

The Eating Attitude Test (EAT-26) scale, which was developed by Erol and Savaşır [15] for validity and reliability in Turkish, and later developed into a short form of 26 items from 40 items, was applied to evaluate the eating habits and disorders that may occur in the eating behaviors of the participants. The cut-off value of this scale is 20 points, and a score of 20 and above indicates the disorder in eating behaviors. In a later study EAT-26 had another validation as it has sub-scales including bulimic behavior, oral control behavior and dieting behavior. Bulimic behavior items are 3, 4, 9, 18, 21 and 25; dieting behavior items are 1, 6, 7, 10, 11, 12, 14, 16, 17, 22, 23, 24, 26 and oral control items are 2, 5, 8, 13, 15, 19, and 20.

Statistical analyzes

IBM SPSS (Statistical Package for the Social Sciences) Statistics 25 program was used to analyze the data. The data showed normal distribution according to the skewness and kurtosis values. In order to evaluate the significance of self-compassion and general mean scores of eating disorders and eating attitudes according to the gender, the difference between the groups as a result of the t-

test in order to determine the results of the post-Hoc tests, Games-Howell test results and BMI and scale scores according to gender, scale scores, and correlations between BMI and scale scores were examined. Self-compassion, eating disorder and eating attitudes of individuals were compared over these variables. In the study, the relationship between participants' self-compassion and body weight and eating disorders was examined. Analyzes were evaluated at a significance level of $p < 0.05$ at a 95% confidence interval.

In this study, the basic hypothesis that "there is a relationship between self-compassion and body weight and eating disorders" was tested. The sub-hypotheses of the study are as follows

- **H1:** The risk of developing eating disorders increases as self-compassion decreases.
- **H2:** Based on gender, there is a relationship between self-compassion, body weight and eating disorders.
- **H3:** There is a relationship between self-compassion, body weight and eating disorders.

Results and Discussion

In this section, the results about the relationship between self-compassion, body weight and eating disorders in adults and the literature results were discussed in terms of similarities and differences. The study was carried out with 434 participants. The mean age of the participants was 31.13 ± 11.49 years, and the mean BMI was 24.08 ± 4.85 kg/m^2. The mean daily physical activity was 45.07 ± 33.19 minutes and the mean body weight lost in the last 6 months was 5.14 ± 4.15.

	$\bar{X}$ ± SS	Min-Max
Age (year)	31.13 ± 11.49	20-45
Body Mass Index (kg/m^2)	24.08 ± 4.85	15.70-49.38
Weight lost in the last 6 months (kg)	5.14 ± 4.15	1-28
Daily physical activity (min)	45.07 ± 33.19	10-180

Table 1: Some characteristics of participants (n = 434).

The socio-demographic characteristics of the participants showing their gender, education level and occupation was given in table 2. In this study, it was seen that female participants (68.7%) were more than male participants (31.3%). Educational status of the participants was examined and they were mostly at university education level. In addition, it was seen that participants were mostly working in the private sector. In general information, dieting and physical activity in last 6 months results were shown in table 2. More than half of the participants (66.6%) did not go on a diet in the last 6 months. Despite this, the rate of weight loss in the last 6 months was high (41.9%). When the type of daily physical activity was questioned, most of the participants do aerobic physical activity. Feeling worthless and disordered eating results were shown in the same table. Considering the frequency of feeling worthless recently, it was seen that 12.4% (54) of the participants mostly feel worthless and 56.0% (243) sometimes feel worthless; it was observed that 31.6% (137) did not feel worthless at all. Most of our participants (73.30%) had less than 20 points, which is the cut-off point of the EAT-26 scale. According to this result, the eating behavior of the majority of the participants was not disordered.

	n	%
Gender		
Female	298	68.70
Male	136	31.30
Education		
Elementary school	30	6.90
High school	62	14.30
University	342	78.80
Occupation		
Housewife	31	7.10
Not working	51	11.80
Officer	46	10.60
Student	127	29.30
Working	179	41.20
Dieting in last 6 months	145	33.40
Dieting in last 6 months	289	66.60
Not having any diet in the last 6 months		
Losing weight in last 6 months	252	58.10
Losing weight in last 6 months	182	41.90
Not losing any weight in the last 6 months		
Physical activity	293	67.50
Aerobic physical activity	12	2.78
Anaerobic physical activity	129	29.72
No physical activity	145	33.40
Feeling worthless		
Mostly feeling worthless	54	12.40
Sometimes feeling worthless	243	56.00
Never feeling worthless	137	31.6
EAT-26 score groups		
EAT-26 < 20	318	73.3
EAT-26 ≥ 20	116	26.7

Table 2: Sociodemographic and general information of participants (n = 434).

The scale evaluations of the participants by gender were presented in Table 3. The mean score of the Self-Compassion Scale was higher in males (37.46 ± 6.23) than females (34.81 ± 7.29) ($p < 0.05$). When the distribution of EDE-Q-TR scores by gender was analyzed, it was found that females (1.64 ± 1.35) were higher eating disorder risk than males (1.20 ± 1.04) ($p < 0.05$). Females had higher scores in restraint, eating concern, weight and body concern sub-scales than males ($p < 0.05$). It was observed that the EAT-26 score was lower in females (16.78 ± 14.10) than in males (17.24 ± 18.21). When the mean scores of bulimic behavior, dieting, and oral control behavior, which are subtests of EAT-26 were evaluated, the mean scores of all three tests were found higher in males but it was not statistically significant ($p > 0.05$).

Scales	Female (n = 298) $\bar{X} \pm SS$	Male (n = 136) $\bar{X} \pm SS$	Total (n = 434) $\bar{X} \pm SS$	*p value*
Self-compassion	34.81 ± 7.29	37.46 ± 6.23	35.64 ± 7.07	0.000**
EDE-Q-TR	1.64 ± 1.35	1.20 ± 1.04	1.50 ± 1.27	0.000**
R	1.47 ± 1.59	1.08 ± 1.48	1.34 ± 1.56	0.016*
EC	1.08 ± 1.23	0.76 ± 0.94	0.98 ± 1.15	0.003*
WC	1.86 ± 1.51	1.41 ± 1.14	1.72 ± 1.42	0.001*
BC	2.16 ± 1.63	1.53 ± 1.29	1.96 ± 1.56	0.000**
EAT-26	16.78 ± 14.10	17.24 ± 18.21	16.92 ± 15.49	0.793
Dieting behavior	9.13 ± 7.94	9.30 ± 9.07	9.19 ± 8.30	0.846
Bulimic behavior	3.89 ± 4.75	3.82 ± 5.57	3.87 ± 5.01	0.883
Oral Control	4.63 ± 4.37	4.81 ± 5.53	4.68 ± 4.76	0.736

Table 3: Scale scores according to gender.

EDE-Q-TR: Eating Disorder Examination Questionnaire; R: Restraint; EC: Eating Concern; WC: Weight Concern, SC: Shape Concern; EAT-26: Eating Attitude Test. T-test: *p < 0.05; **p < 0.001.

Self-compassion is related to eating and dieting behaviors [3,16]. As a result of the correlation analysis performed in the current study, a negative and significant relationship was observed between self-compassion and the mean score of the EAT-26 scale, so this result is similar to the literature [8,10]. In the current study, a negative and significant relationship was found between self-compassion and eating disorder risk and dieting behavior, which is compatible with the literature. Accordingly, one of the hypotheses of the study, H1: 'The risk of developing eating disorders increases as self-compassion decreases' was accepted. Since self-compassion involves the individuals accepting themselves as, it can play a role in eliminating social and physical anxiety [17]. According to Table 4, self-compassion was more prominent in females than males. Self-compassion only significant with body mass index (BMI) in males. However, females every concern about their body and eating, also dieting and bulimic behaviors was negatively related with their self-compassion. In the evaluation of eating disorders and BMI, we encounter similar results with the literature. BMI had negative correlations with self-compassion in males ($p < 0.001$) but did not have any correlations in females ($p > 0.05$). It was an expected result for females because an increase in BMI can cause self-compassion issues. However, in males, having muscles and being bigger can provide an increase self-love. Because of these results, H3 'There is a relationship between self-compassion, body weight and eating disorders.' was rejected. In a study, the relationship between body weight and self-compassion was observed as Palmeira., *et al.* (2019) emphasized that the increase in self-compassion skills is associated with a decrease in BMI [19]. In the study of Moffitt., *et al.* (2018), it was observed that after the self-compassion intervention that applied to the participants with body dissatisfaction, the participants' body dissatisfaction was significantly lower than before. Individuals who develop self-compassion skills were more likely to control their body weight more easily [20]. Self-compassionate individuals feel less guilty of eating [17]. In a study that tried to awaken self-compassion by using food diaries that recorded how and why they were eaten, it was concluded that diaries increase self-compassion, reduce avoidance and negative thoughts, and significantly support weight loss [21].

EDE-Q-TR and EAT-26 scales showed high correlations within their sub-scales in both gender. In terms of the consistency of the given answers, the result reliability of our study has increased. BMI increase seemed to be a risk for eating disorders in females ($p < 0.001$) but in males BMI had no correlations with EAT-26 and sub-scales scores ($p > 0.05$). Although there were no results related to EAT-26 scores in men in our study, EDE-Q-TR results describe the risk. In the recent literature, there are strong associations with BMI according to the type of eating disorders [22,23]. In a study conducted especially on males, although females are more prone to eating disorders, males are also at a risk and the functionality of the self-compassion approach is shown [24]. Since there was a pos-

itive and significant relationship between BMI and the mean score of the dieting bulimic behavior sub-scale of the EAT-26 in females, bulimic behavior can be observed as BMI increases in females ($p < 0.05$) more than males. Dieting behavior can be seen as an eating disorder risk and also strongly correlated with concerns about eating, weight and shape in both gender ($p < 0.001$). In a long-term (18 years) study, it was shown how closely bulimic behaviors are intertwined with BMI and dieting behavior [25]. In addition, in other studies in the literature, gender differences come to the fore, and it has been observed that body perception changes and the risk of eating disorders increases, especially in adolescence [23,26]. In the present study, some results were consisted with the literature, as it was concluded that as BMI decreases, the risk of eating disorders decreases and at the same time. That is why, H2: 'Based on gender, there is a relationship between self-compassion, body weight and eating disorders' was accepted.

Eating disorders and self-compassion are frequently observed in the literature [7,8,27]. In a study, a decrease in binge eating symptoms and an increase in engaging in compassionate actions were observed in individuals who received compassion intervention [27]. Also, self-compassion intervention provide having less calories, and less desire to continue eating [7]. In the current study, a negative and significant relationship was mentioned between the restraint subscale of the EDE-Q-TR and self-compassion, and the studies overlap. In a study, it was observed that individuals with lower self-compassion levels overvalue body shape and weight, while individuals with higher self-compassion value place less value on body shape and weight [8]. Another study shows that high self-compassion can reduce the likelihood of undergraduate students with weight/body shape concerns to engage in disordered eating behavior in their first year of university [4].

Male/Female	1	2	3	4	5	6	7	8	9	10	11
BMI	1	-.014	.364**	.227**	.335**	.375**	.384**	.064	.183**	.135*	-.252**
SC	.278**	1	-.292**	-.133*	-.313**	-.294**	-.328**	-.143*	-.146*	-.213**	-.021
EDE-Q-TR	.295**	-.131	1	.844**	.900**	.938**	.936**	.367**	.501**	.309**	-.017
R	.211*	-.030	.809**	1	.678**	.686**	.671**	.331**	.459**	.232**	.012
EC	.230**	-.160	.845**	.554**	1	.810**	.810**	.368**	.461**	.346**	.018
WC	.251**	-.131	.891**	.569**	.717**	1	.894**	.303**	.433**	.269**	-.057
SC	.320**	-.157	.895**	.556**	.727**	.814**	1	.332**	.461**	.286**	-.028
EAT-26	.065	-.160	.159	.072	.192*	.139	.168	1	.931**	.827**	.749**
Dieting behavior	.097	-.164	.224**	.153	.246**	.185*	.204*	.969**	1	.694**	.508**
Bulimic behavior	.146	-134	.143	.052	.178*	.101	.182*	.883**	.803**	1	.522**
Oral control	-.066	-.134	.028	-.064	.069	.060	.060	.911**	.818**	.731**	1

Table 4: BMI and scale score correlations according to gender.

BMI: Body Mass Index; SC: Self-compassion; EDE-Q-TR: Eating Disorder Examination Questionnaire; R: Restraint; EC: Eating Concern; WC: Weight Concern; SC: Shape Concern; EAT-26: Eating Attitude Test Pearson correlation: *$p < 0.05$, **$p < 0.001$.

Conclusion

Self-compassion can help in body weight management and improvement of eating disorders. That is why self-compassion may be encouraged and by directing individuals to both dietitians and mental health professionals, and by providing awareness in long term, it can contribute an increase with the number of physically and mentally healthy individuals in the society.

Conflict of Interest

Authors declare that there is no conflict of interest exists.

Bibliography

1. Esteban R., *et al.* "Photoprotective implications of leaf variegation in *E.dens-canis* L. and *P. officinalis* L". *Journal of Plant Physiology* 165.12 (2008): 1255-1263.

2. Neff KD. "Self-compassion: An Alternative Conceptualization of a Healthy Attitude toward Oneself". *Self and Identity* 2.2 (2003): 85-101.

3. Neff KD. "Self-Compassion: The Proven Power of Being Kind to Yourself". Harper Collins, New York, USA. (2011).

4. Neff KD., *et al.* "Self-Compassion and Psychological Resilience among Adolescents and Young Adults". *Self and Identity* 9.3 (2010): 225-240.

5. Stutts LA., *et al.* "The Moderating Role of Self-Compassion on Weight and Shape Concerns and Eating Pathology: A Longitudinal Study". *International Journal of Eating Disorders* 51.8 (2018): 879-889.

6. Shaw R., *et al.* "Self-Compassion, Mindful Eating, Eating Attitudes and Wellbeing Among Emerging Adults". *The Journal of Psychology* 156.1 (2022): 33-47.

7. Ferreira C., *et al.* "Shame Memories and Eating Psychopathology: The Buffering Effect of Self-Compassion". *European Eating Disorders Review* 22.6 (2014): 487-494.

8. Serpell L., *et al.* "The Role of Self-Compassion and Self-Criticism in Binge Eating Behaviour". *Appetite* 144.104470 (2020): 1-11.

9. Linardon J., *et al.* "Self-Compassion as a Moderator of the Relationships between Shape and Weight Overvaluation and Eating Disorder Psychopathology, Psychosocial Impairment, and Psychological Distress". *Body Image* 33 (2020): 183-189.

10. Schnepper R. "Being My Own Companion in Times of Social Isolation-A 14-Day Mobile Self-Compassion Intervention Improves Stress Levels and Eating Behavior". *Frontiers in Psychology* 11 (2020): 1-11.

11. Braun TD., *et al.* "Self-Compassion, Body Image, and Disordered Eating: A Review of the Literature". *Body Image* 17 (2016): 17-131.

12. Forbes YN., *et al.* "Unburdening the Weight of Stigma: Findings from A Compassion-Focused Group Program for Women with Overweight And Obesity". *Journal of Cognitive Psychotherapy* 34.4. (2020): 336-357.

13. Yıldırım M., *et al.* "Öz-Şefkat Ölçeği Kısa Formu'nun Türkçe Uyarlaması: Geçerlik Ve Güvenirlik Çalışması". *Abant* İzzet *Baysal* Üniversitesi *Eğitim Fakültesi Dergisi* 18.4 (2018): 2502-2517.

14. Fairburn CG., *et al.* "The eating disorder examination". *International Journal of Eating* Disorders 6 (1993): 1-8.

15. Yucel B., *et al*. "The Turkish version of the eating disorder examination questionnaire: reliability and validity in adolescents". *European Eating Disorders Review* 19.6 (2011): 509-511.

16. Savaşır I., *et al.* "Anoreksiya Nevroza Belirtileri Indeksi". *Psikoloji Dergisi* 7 (1989): 19-25.

17. Forbes YN., *et al.* "Unburdening the Weight of Stigma: Findings from a Compassion-Focused Group Program for Women With Overweight and Obesity". *Journal of Cognitive Psychotherapy* 34.4 (2020): 336-357.

18. Braehler C., *et al.* "Emotion in Posttraumatic Stress Disorder Etiology, Assessment, Neurobiology, and Treatment". Chapter 20 - Self-compassion in PTSD., *Cambridge: Academic Press* (2020).

19. Braun TD., *et al.* "Weight Bias, Shame, And Self-Compassion: Risk/Protective Mechanisms of Depression and Anxiety in Prebariatic Surgery Patients". *Obesity* 28.10 (2020): 1974-1983.

20. Palmeira L., *et al.* "Processes of Change in Quality of Life, Weight Self-Stigma, Body Mass Index and Emotional Eating After an Acceptance-, Mindfulness-and Compassion-Based Group Intervention (Kg-Free) For Women with Overweight and Obesity". *Journal of Health Psychology* 24.8 (2019): 1056-1069.

21. Moffitt RL., *et al.* "Comparing the Efficacy of a Brief Self-Esteem and Self-Compassion Intervention for State Body Dissatisfaction and Self-Improvement Motivation". *Body Image* 27 (2018): 67-76.

22. Mantzios M., *et al.* "Making Concrete Construals Mindful: A Novel Approach for Developing Mindfulness and Self-Compassion to Assist Weight Loss". *Psychology and Health* 29.4 (2014): 422-441.

23. Raevuori A., *et al.* "A review of eating disorders in males". *Current opinion in psychiatry* 27.6 (2014): 426-430.

24. Kutz AM., *et al.* "Eating disorder screening: a systematic review and meta-analysis of diagnostic test characteristics of the SCOFF". *Journal of general internal medicine* 35.3 (2020): 885-893.

25. Marques C., *et al.* "Self-disgust and urge to be thin in eating disorders: how can self-compassion help?" *Eating and Weight Disorders-Studies on Anorexia, Bulimia and Obesity* 26.7 (2021): 2317-2324.

26. Lowe MR., *et al.* "Body concerns and BMI as predictors of disordered eating and body mass in girls: An 18-year longitudinal investigation". *Journal of abnormal psychology* 128.1 (2019): 32-43.

27. Butryn ML., *et al.* "The relation of weight suppression and BMI to bulimic symptoms". *International Journal of Eating Disorders* 44.7 (2011): 612-617.

28. Duarte, C., *et al.* "Compassionate Attention and Regulation of Eating Behaviour: A Pilot Study of a Brief Low-Intensity İntervention For Binge Eating". *Clinical Psychology and Psychotherapy* 24.6 (2017): 1437-1447.