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The Relationship between Eating Behaviors and Learned Helplessness Among Overweight and Obese People: A Cross-Sectional Study

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ABSTRACT

Aim: Obesity is a significant public health problem that increasingly concerns the world. Overweight and obese people often cannot control their eating behaviors. Although these people use diet, exercise and weight loss programs, their inability to prevent these behaviors also affects their psychological state. This may lead to learned helplessness. This cross-sectional study was designed to determine the relationship between eating behaviors and learned helplessness in overweight and obese people.

Material and Methods: One hundred and fifty-eight overweight and obese people were included in the study. In the data collection process, a Personal Information Form, the Dutch Eating Behavior Questionnaire and the Rosenbaum Learned Resourcefulness Scale were utilized. Descriptive statistics and correlation analysis were used to analyze the data.

Results: A statistically significant relationship was determined between the eating behaviors of the participants and their angry mood and learned helplessness levels. There was no statistically significant relationship between eating behavior dimensions and learned helplessness.

Conclusion: As a result, the relationship between appetite and angry mood affects the eating behaviors of overweight and obese people and increases their learned helplessness. Cognitive and behavioral interventions could be recommended as a solution to this problem in preventing learned helplessness in overweight and obese people.

Keywords: *Overweight, Obesity, Eating behavior, Learned helplessness*

Fazla Kilolu ve Obeziteli Bireylerde Yeme Davranışı ile Öğrenilmiş Çaresizlik Arasındaki İlişki

ÖZ

Amaç: Obezite, dünyayı giderek daha fazla ilgilendiren önemli bir halk sağlığı sorunudur. Fazla kilolu ve obeziteli bireyler çoğu zaman yeme davranışlarını engelleyememektedirler. Bu kişilerin diyet, egzersiz ve zayıflama programları kullanmasına rağmen bu davranışları engelleyememesi psikolojik durumlarını da etkilemektedir. Bu durum, öğrenilmiş çaresizlik yaşamalarına neden olabilmektedir. Bu kesitsel çalışma, aşırı kilolu ve obeziteli kişilerde yeme davranışı ile öğrenilmiş çaresizlik arasındaki ilişkiyi belirlemek amacıyla tasarlandı.

Gereç ve Yöntemler: 158 fazla kilolu ve obeziteli birey çalışmaya katıldı. Veri toplamada; Kişisel Tanımlayıcı Form, Hollanda Yeme Davranışı Anketi, Rosenbaum Öğrenilmiş Güçlülük Ölçeği kullanıldı. İstatistiklerde tanımlayıcı istatistikler ve korelasyon analizi kullanıldı.

Bulgular: Öfkeli ruh halindeki katılımcıların yeme davranışı ile öğrenilmiş çaresizlik arasında istatistiksel olarak anlamlı bir ilişki olduğu saptandı. Yeme davranışı alt boyutları ile öğrenilmiş çaresizlik arasında istatistiksel olarak anlamlı bir ilişki saptanmadı.

Sonuç: Sonuç olarak, iştah ve öfke duygu durumu arasındaki ilişki fazla kilolu ve obeziteli bireylerin yeme davranışlarını etkileyerek öğrenilmiş çaresizliği artırmaktadır. Bireylerin öğrenilmiş çaresizliğini önlemek için bilişsel ve davranışsal müdahaleler sorunun çözümü olarak önerilebilir.

Anahtar Sözcükler: *Fazla Kilolu, Obezite yeme davranışı, Öğrenilmiş çaresizlik*

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INTRODUCTION

Many people can eat despite not feeling hungry or continue eating despite being full, and they may consume unhealthy foods with high sugar content and calories (1,2). These problematic eating behaviors may cause people to become overweight or obese quickly (3,4).

Obesity is a significant public health issue that is increasingly concerning Turkey and other countries of the world (5). According to the 2016 data of the World Health Organization (WHO), 39% of adult people were overweight, and 13% had obesity in the world (6). The data of the Turkish Statistical Institute indicate that 21.1% of the population in Turkey over the age of 15 consists of obese people (7). The increase in the prevalence of overweight and obesity in society is directly related to people's dietary habits, eating behaviors, social statuses, lifestyles and economic statuses (1,4). People's failure to control their eating behaviors despite using diet, exercise and weight loss programs may also affect their psychological state (3,4,8,9).

In their learning processes people learn within both positive and negative states, the latter of which may adversely affect them (10). One of these negative states is learned helplessness (10,11). This concept was introduced by Seligman (1975) and explained as follows: "People are prevented from their actions owing to their behaviors, and they even receive negative reinforcers." Consequently, people fail in their actions and show no reaction with the idea that they will see the same result in a similar case, and learned helplessness is experienced then (12). Ebrahim et al. reported that the high prevalence of eating disorders among the participants of their study was related to the increase in their dissatisfaction with their body image in relation to their body fat and muscle ratios (13). Another relevant study indicated that the use of a weight loss program by people with obesity was not a selection criterion for the program, and the use of this program would increase with a decrease in the Body Mass Index (BMI) (9). Another study from the relevant literature demonstrated that body weight was important in terms of perceptions toward health and well-being (8). Accordingly, studies have reported that overweight and obese people might be inclined towards suffering from learned helplessness.

The etiology of obesity includes many factors such as biological, psychological, social and environmental variables (14). Thus, a multidisciplinary approach is needed for the management of the weight-related problems of overweight and obese people (9,15). Regarding this multidisciplinary approach, the important aspects of the profession of nursing include assessing people holistically and taking care of overweight and obese people (16,17). For example, nurses' initiatives to control the eating behaviors of individuals may mean psychological support for these people and helping them lose weight and achieve their desired BMI; thus, this care process may prevent learned helplessness in these individuals' lives.

The literature review in this study did not reveal any previous study that specifically examined the relationship between the eating behaviors of overweight and obese people and their learned helplessness levels. Therefore, this study is the first to examine this relationship. This study seeks to test the following hypotheses.

H_0: There is no significant relationship between the eating behaviors of overweight and obese people and their learned helplessness.

H_1: There is a significant relationship between the eating behaviors of overweight and obese people and their learned helplessness.

This study was conducted to determine the relationship between the eating behaviors of overweight and obese people and their learned helplessness.

MATERIALS and METHODS

Design and Sample

The sample of this cross-sectional study consisted of 158 people who presented to a Family Health Center (numbered 3 in the location where the study was performed) in June-August 2020, who had no diagnosed psychiatric disorders, had BMI values over 25, were aged over 18 years, literate, overweight or obese, and agreed to participate. Potential participants with any auditory, visual or physical disabilities and those with a BMI value below 25 were not included in the study. In this study, we did not use any sampling method and aimed to reach the entire population. Consequently, we reached 98.75% of the population.

Data Collection

A Personal Information Form, the Eating Behaviors Scale and the Rosenbaum's Learned Resourcefulness Scale were used to collect data at the family health center where the study was conducted. Filling out each scale lasted approximately 25 minutes for each participant.

Personal Information Form

The form prepared by the researcher consisted of 27 items (4,8,18). The first 13 items examined the participants' sociodemographic characteristics such as age, gender, height, weight, BMI, marital status, employment status, educational status and income level, while the remaining 14 items included those questioning the emotional aspect of eating.

Dutch Eating Behavior Questionnaire (DEBQ)

This questionnaire that evaluates emotional, restrictive and external eating styles includes 33 items. Of these items, the first 10, the second 13 and the last 10 measure external, emotional and restrictive eating styles, respectively. Each item of this 5-point Likert-type scale is scored between 1 (Never) and 5 (Very Often) (19). Factor analyses indicated that two dimensions of emotional eating (eating as a reaction to disorganized emotions or eating as a reaction to tagged emotions) were evaluated by the questionnaire (19). Item 31 is inversely scored. A study conducted with a Dutch sample found the Cronbach's alpha reliability coefficients for the restrictive eating style, emotional eating style and external eating style dimensions as 0.95, 0.94 and 0.80, respectively (19). Bozan et al. conducted the Turkish validity and reliability study of DEBQ (20). They reported the Cronbach's alpha reliability coefficients for the restrictive, emotional and external eating style dimensions as 0.90, 0.94 and 0.97, respectively. In our study, the Cronbach's alpha reliability coefficients for the restrictive, emotional and external eating style dimensions were found to be 0.87, 0.94 and 0.85, respectively.

Rosenbaum's Learned Resourcefulness Scale (RLRS)

This scale was originally developed by Rosenbaum (1980), and its Turkish adaptation, reliability and validity studies were conducted by Dag (21). The scale aims to assess the degree of effectively coping with life events causing stress. The characteristics measured with RLRS are individuals' perspectives regarding their ability to manage emotional reactions with ideas, problem-solving strategies, ability to delay instant gratifications and ability to regulate inner events. The reliability coefficients of the scale were calculated using the internal consistency and test-retest methods. The Cronbach's alpha internal consistency coefficient of the scale was reported as 0.78, which was found to be 0.86 in our study. The minimum and maximum possible scores on this 36-item scale are 36 and 180. Higher scores indicate higher self-regulation skills, or in other words, higher scores indicate that coping strategies represented in the scale are frequently implemented (21).

Statistical Analysis

The SPSS 25.0 statistics program was used to analyze the data of the study. The sociodemographic characteristics of the participants are presented with frequencies, percentages, means and standard deviations. In the case that the data were normally distributed, student's t-test was used to compare two groups, and ANOVA was used to compare more than two groups regarding the participants' scale scores. In the case that the data were not normally distributed, Mann Whitney U test was used for two groups, and Kruskal Wallis test was used for more than two groups. The results were accepted to be statistically significant in a 95% confidence interval and on a significance level of $p < 0.05$.

Ethical Approval

The ethics committee approval coded 2018-E.1408 was received from the Ethics Committee of the University, and necessary permissions were obtained from the Family Health Center where the study was carried out. The participants were informed that they could leave the study at any time if they wished so, and their data would not be shared or used anywhere else. Then, their verbal consent was received.

RESULTS

The participants' sociodemographic characteristics are presented in Table 1. and 2. Of the participants, 59.5% were female, 81% were married, 59.5% were unemployed, 31% were primary school graduates, and 67.1% had income equal to their expenses. Moreover, 82.3% followed a personal diet to lose weight, 79.7% exercised, and 82.9% did not use medication to lose weight. Among the participants, 60.8% stated that they wanted to lose weight to be healthier. The mean age of the participants was 41.77±13.11 years (min-max, 19-72 years), while their mean height was 166.68±8.41 cm (min-max 149-197 cm), their mean weight was 93.91±16.03 kg (min-max 61-185 kg), and their mean BMI value was 33.85±5.32.

The results of the comparisons between the participants' DEBQ and RLRS scores based on their sociodemographic characteristics are presented in Table 2.

There was no statistically significant relationship between the sociodemographic characteristic of the participants and their eating behaviors ($p>0.05$). However, there was a statistically significant relationship between their learned helplessness and the practices they were utilizing to lose weight ($p<0.05$).

The results of the comparisons between the participants' DEBQ and RLRS scores based on the changes in their appetite according to their moods are presented in Table 3. There was a statistically significant difference regarding DEBQ scores between the group whose appetite increased when they were in a concerned/distressed mood and the other groups ($p<0.05$). Regarding RLRS scores, there was no statistically significant difference between the group whose appetite increased when they were in a concerned/distressed mood and the others ($p>0.05$). In terms of DEBQ scores, there was a statistically significant difference between the group whose appetite increased when they were in a furious mood and the others ($p<0.05$). There was also statistically

Table 1: Participants' sociodemographic characteristics

	n (158)	%
Gender		
Female	94	59.5
Male	64	40.5
Marital status		
Single	128	81.0
Married	30	19.0
Employment status		
Employed	64	40.5
Unemployed	94	59.5
Education level		
Literate	33	20.9
Primary School graduate	49	31.0
High School graduate	43	27.2
University graduate	33	20.9
Income		
Expenditures exceed income	18	11.4
Income equals expenditures	106	67.1
Income exceeds expenditures	34	21.5
Practices to lose weight		
Personal diet		
Yes	130	82.3
No	28	17.7
Consulting a physician		
Yes	123	77.8
No	35	22.2
Consulting a dietician		
Yes	129	81.6
No	29	18.4
Exercise		
Yes	126	79.7
No	32	20.3
Using medication		
Yes	27	17.1
No	131	82.9
Weight loss purpose		
Being healthier	96	60.8
To look better	29	18.4
Having children	9	5.7
Being able to move more comfortably	24	15.2
	X±SD	
Age (year)	41.77±13.11	
Height (cm)	166.68±8.41	
Weight (kg)	93.91±16.03	
BMI (kg/m²)	33.85±5.32	

significant difference in the RLRS scores between the group whose appetite increased in a furious mood and the others ($p<0.05$). Furthermore, there was a statistically significant difference between the group whose appetite increased when they were in an angry mood and the others regarding their DEBQ scores ($p<0.05$). There was also a statistically significant difference in terms of RLRS between the group whose appetite increased in an angry mood and the group whose appetite decreased in an angry mood ($p<0.05$). Moreover, there was a significant difference between the DEBQ scores of the group whose appetite increased when they were in a pessimistic mood and the scores of the group whose appetite remained unchanged in this mood ($p<0.05$). Likewise, regarding DEBQ, the difference between the group whose appetite increased when they were in an exited, happy or joyful mood and the others was significant ($p<0.05$).

The results on the analysis of the participants' DEBQ and RLRS scores based on the changes in their excessive eating behavior according to their moods are presented in Table 4. There was statistically significant relationship between the participants' psychological states such as being concerned, furious angry, pessimistic, excited, happy or joyful and their excessive eating behaviors in relation to their DEBQ scores ($p<0.05$). Moreover, the relationship between the participants' RLRS scores and their excessive eating behaviors related to being angry or pessimistic was statistically significant ($p<0.05$). There was no statistically significant relationship between the participants' excessive eating behaviors in relation to their psychological states such as being concerned, excited, happy or joyful and their RLRS scores ($p>0.05$).

The results of the correlation analysis between the DEBQ subscales and RLRS are shown in Table 5. There was no significant correlation between the total or subscale DEBQ scores and the RLRS scores ($p>0.05$).

DISCUSSION

Overweight and obese people may want to change their eating behaviors to be healthy and aim to lose weight (13,18,22). Gaining weight again despite all efforts influences people's psychological states and leads them to experience learned helplessness (9,14).

The literature review in our study did not reveal any study that specifically examined the relationship between the eating behaviors of overweight and obese people and their learned helplessness.

Of the participants, 50% were aged between 43 and 72 years, and 55.1% weighed between 91 and 185 kg. Moreover, 59.5% of the participants were female, while 81% were married,

Table 2: The relationships between the participants' sociodemographic characteristics and their DEBQ and RLRS scores (n:158).

	n	%	DEBQ	RLRS
			X±SD	X±SD
Gender				
Female	94	59.5	91.76±17.29	116.25±17.26
Male	64	40.5	91.12±14.57	114.60±13.08
p			.808	.519
Marital status				
Single	128	81.0	91.17±15.39	155.35±14.73
Married	30	19.0	92.90±19.50	116.56±19.47
p			.602	.706
Employment status				
Employed	64	40.5	89.03±13.46	115.73±14.25
Unemployed	94	59.5	93.19±17.70	115.48±16.65
p			.113	.924
Education level				
Literate	33	20.9	95.96±17.65	111.33±16.57
Primary School graduate	49	31.0	89.12±16.70	117.30±13.59
High School graduate	43	27.2	90.65±17.65	117.32±12.16
University graduate	33	20.9	91.69±17.44	115.58±15.68
p			.299	.312
Income				
Expenditures exceed income	18	11.4	19.27±4.54	117.22±18.93
Income equals expenditures	106	67.1	16.34±1.58	114.67±15.03
Income exceeds expenditures	34	21.5	87.47±13.58	117.55±16.05
p			.083	.667
Practices to lose weight				
Personal diet				
Yes	130	82.3	90.76±16.07	116.82±16.13
No	28	17.7	94.92±16.66	109.85±12.03
p			.112	.001
Consulting a doctor				
Yes	123	77.8	90.77±16.01	117.01±.16.44
No	35	22.2	94.08±16.84	110.57±11.51
p			.287	.032
Consulting a dietician				
Yes	129	81.6	91.40±15.96	116.44±16.28
No	29	18.4	91.96±17.52	111.75±12.16
p			.935	.013
Exercise				
Yes	126	79.7	90.83±15.98	117.00±16.22
No	32	20.3	9415±17.04	110.00±11.98
p			.302	.024
Using medication				
Yes	27	17.1	88.74±8.39	120.33±7.81
No	131	82.9	92.07±17.35	114.61±16.70
p			.159	.022
Weight loss purpose				
Being healthier	96	60.8	90.61±16.72	116.75±17.09
To look better	29	18.4	93.93±14.78	112.31±11.52
Having children	9	5.7	94.22±20.74	110.88±13.76
Being able to move more comfortably	24	15.2	91.12±14.39	116.66±14.69
p			.641	.311

Table 3: Comparison of the Changes in the Participants' Appetite Based on Their Moods in Relation to Their DEBQ and RLRS Scores

	n (158)	%	DEBQ	RLRS
Mood and Appetite			**X±SD**	**X±SD**
Concerned/distressed				
Increased	88	55.7	95.67±15.15[a]	115.35±14.01
Decreased	49	310	87.06±17.25	115.08±18.04
Unchanged	21	13.3	84.42±13.06	117.76±16.99
p			.001	.653
Furious				
Increased	73	46.2	95.26±15.41[a]	117.27±13.54[a]
Decreased	63	39.9	88.33±16.41	111.19±16.21
Unchanged	22	13.9	88.13±16.19	122.59±17.72
p			.031	.016
Angry				
Increased	77	48.7	95.75±15.37[a]	119.24±16.00[b]
Decreased	63	39.9	88.31±16.51	110.80±15.11
Unchanged	18	11.4	84.50±14.19	116.66±12.13
p			.003	.004
Pessimist				
Increased	68	43.0	94.47±14.99[C]	117.17±15.53
Decreased	65	41.1	90.66±17.59	111.95±16.07[b]
Unchanged	25	15.8	85.64±14.20	120.72±13.27
p			.043	.016
Excited				
Increased	81	51.3	95.66±14.69[a]	114.69±14.66
Decreased	39	24.7	88.66±17.41	114.76±18.31
Unchanged	38	24.1	85.55±15.90	118.34±14.97
p			.003	.465
Happy				
Increased	92	58.2	93.68±15.98[a]	113.48±14.94
Decreased	22	13.9	90.86±17.20	116.63±17.87
Unchanged	44	27.8	87.27±15.64	119.45±15.62
p			.014	.281
Joyful				
Increased	89	56.3	94.40±15.99[a]	114.77±14.90
Decreased	23	14.6	92.13±16.37	116.89±17.69
Unchanged	46	29.1	85.58±15.22	115.58±15.68
p			.002	.908

a: Statistically significant difference between groups of increased and others.
b: Statistically significant difference between groups of increased and decreased.
c: Statistically significant difference between groups of increased and unchanged.
Kruskal Wallis and Mann Whitney-U tests were used in statistical analysis.

Table 4: Comparison of the Changes in the Participants' Excessive Eating Behavior Based on Their Moods in Relation to Their DEBQ and RLRS Scores

	n (158)	%	DEBQ	p*	RLRS	p*
Excessive Eating Behavior Based on Mood			**X±SD**		**X±SD**	
Concerned / distressed						
Yes	88	55.7	95.45±14.90	.000	116.00±14.05	.713
No	70	44.3	86.54±16.50		115.07±17.60	
Furious						
Yes	73	46.2	95.34±15.39	.005	118.69±14.04	.020
No	85	53.8	88.21±16.24		112.91±16.58	
Angry						
Yes	75	47.5	95.40±14.76	.004	119.30±15.22	.004
No	83	52.5	87.98±16.71		112.22±15.41	
Pessimist						
Yes	71	44.9	94.45±14.31	.039	119.16±14.73	.009
No	87	55.1	89.10±17.30		112.66±15.90	
Excited						
Yes	84	53.2	96.11±14.53	.000	116.14±14.48	.638
No	74	46.8	86.27±16.50		114.95±17.01	
Happy						
Yes	97	61.4	93.79±15.55	.025	114.77±14.67	.412
No	61	38.6	87.86±16.66		116.88±17.21	
Joyful						
Yes	94	59.5	94.09±15.69	.014	115.11±14.68	0.64
No	64	40.5	87.70±16.30		116.28±17.13	

*Student t test

Table 5: Correlation Analysis between Variables

		Correlation Matrix						
	Variables	**Mean**	**SD**	**1**	**2**	**3**	**4**	**5**
1.	External eating	26.25	6.30	1				
2.	Emotional eating	34.45	11.28	-.195	1			
3.	Restrained eating	30.79	7.42	-.158*	.494**	1		
4.	DEBQ	91.50	16.20	.181*	.847**	.741**	1	
5.	RLRS	115.58	15.68	.138	.053	.001	.091	1

*p<0.05, **p<0.01

59.5% were unemployed, 31% were primary school graduates, and 67.1% had income equal to their expenses. Among the participants of this study, 82.3% followed a personal diet to lose weight, 79.7% performed exercise, and 82.9% did not use medications to lose weight. Additionally, 60.8% aimed to lose weight to be healthier.

This study revealed that practices performed to lose weight, such as following a personal diet, performing exercise and using weight loss medications, significantly affected the participants' perceptions regarding and states of learned helplessness. Overweight and obese people display attitudes such as following an individual diet, doing exercise or using

weight loss medications to be healthy, lose weight and look slim (2,3,14). Studies have shown that people's failure in these initiatives might cause them to experience learned helplessness (14,23). The results of this study supported those reported in the literature.

This study assessed the level of appetite and eating behaviors during the psychological state of anger and found a significant relationship between eating behaviors and learned helplessness. A previous study found that the eating behaviors of participants showing anger were significantly affected (24). Another relevant study reported that negative moods such as anger and boredom affected the emotional eating behaviors of the participants (25). One of the target groups of nurses who provide care and counseling to the public while in direct contact with the public is overweight and obese people (26). Overweight or obese people often have eating disorders (27). The psychological state of anger affects people's eating behaviors and leads them to gain weight (24). This change in people's eating behaviors may cause them to experience learned helplessness.

This study identified a statistically significant relationship between the psychological states of anger and pessimism and the participants' eating behaviors. Özgen et al. reported that the participants of their study ate more after they felt quite angry at somebody and became pessimistic (28). They also noted that the participants felt guilty after eating, but they still could not stop themselves (28). As a result of failure in stopping eating, an undesired body image may lead people to feel angry (13), which causes them to be more pessimistic (28). It is thought that the participants of our study may have experienced learned helplessness associated with pessimism.

Petroni et al. found a significant relationship between dietary background, psychological/psychiatric problems and poor quality of life (23). Another relevant study revealed that variables such as will, anger, BMI and weight explained emotional eating behaviors (25). Moreover, another study in the relevant literature reported that people's perceptions toward body weight were directly related to their health and well-being (8) Ebrahim et al. found that the high prevalence of eating disorders among the participants of their study was related to the increase in the participants' dissatisfaction with their body image in relation to their body fat and muscle ratios, and this high prevalence yielded more symptoms of eating disorders and more obesity (13). These studies have demonstrated that overweight and obese people may experience learned helplessness due to changes in their eating behaviors. The results of the aforementioned studies differed from the findings of our study. This study found no statistically significant correlation between the subscales of eating behaviors and learned helplessness. This result may have occurred due to the fact that this was the first study to explain the relationship between eating behaviors and learned helplessness among overweight and obese people.

This study identified a statistically significant relationship between the activities performed by the participants to lose weight, such as following a certain diet, doing exercise or using weight loss medicines, and their learned helplessness levels. The assessment of the participants' levels of appetite and eating during the psychological state of anger indicated that there was statistically significant relationship between the eating behaviors and learned helplessness levels of the participants. There was a statistically significant relationship between eating behaviors and the psychological states of anger and pessimism. Moreover, learned helplessness had no significant relationship to the external eating, emotional eating or restrictive eating dimensions of DEBQ.

Based on the results of this study, it is recommended that overweight and obese people organize their diets under the supervision of a dietitian to display healthy life behaviors, correct their eating behaviors and avoid eating when they are angry. Additionally, this study may be repeated to monitor the process at certain intervals. Cognitive-behavioral interventions may be planned by psychiatric nurses to prevent overweight and obese people from experiencing the relevant state of learned helplessness.

The results of this study are limited to the data obtained from the participants who were overweight and obese. Therefore, the results cannot be generalized to all overweight and obese people. However, the findings may be used to in comparison to the results of other studies. Similar studies should be conducted in larger patient groups. Other limitations of this study were the limited duration of the study and the limited access to a larger number of participants.

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Author Contributions

Concept, Design, Supervision: **Emine Kaplan Serin, Ahmet Özdemir,** Materials, Data Collection**: Türkan Şahin,** Analysis or Interpretation, Literature Search, Writing Manuscript: **Ahmet Özdemir, Emine Kaplan Serin, Türkan Şahin.**

Conflict of Interest

The authors declare that they have no conflict of interest.

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Ethical Approval

Ethics committee approval was obtained with the code 2018-E.1408.

REFERENCES

1. Rasmusson G, Lydecker JA, Coffino JA, White MA, Grilo CM. Household food insecurity is associated with binge-eating disorder and obesity. Int J Eat Disord. 2019;52:28-35.
2. Requero B, Briñol P, Moreno L, Paredes B, Gandarillas B. Promoting healthy eating by enhancing the correspondence between attitudes and behavioral intentions. Psicothema. 2020;32(1):60-66.
3. Morillo Sarto H, Barcelo-Soler A, Herrera-Mercadal P, Pantilie B, Navarro-Gil M, Garcia-Campayo J, Montero-Marin J. Efficacy of a mindful-eating programme to reduce emotional eating in patients suffering from overweight or obesity in primary care settings: A cluster-randomised trial protocol. BMJ Open. 2019;9(11):e031327.
4. Vallis M. Sustained behaviour change in healthy eating to improve obesity outcomes: It is time to abandon willpower to appreciate wanting. Clin Obes. 2019;9(2):1-10.
5. Gurkas E, Kiraz M, Temizer M. Gaziantep ili istasyon aile sağlığı merkezi'ne başvuran erişkinlerde obezite sıklığı. Konuralp Tıp Derg. 2014;6(2):5-8.
6. WHO | World Health Organization/Health topics/Obesity [Internet]. [cited 2021 Jan 30]. Available from: https://www.who.int/health-topics/obesity#tab=tab_1.
7. TÜİK Türkiye Sağlık Araştırması, 2019. [cited 2021 Aug 20]. Available from: https://data.tuik.gov.tr/Bulten/Index?p=Turkey-Health-Survey-2019-33661.
8. Neto DD, Ferreira AS, Baptista TM, Marques C. The role of weight perceptions and their impact on health and well-being : A multiple mediation model. Clin Obes. 2020;(September 2019):1-9.
9. Bak-Sosnowska M, Pawlak A, Skrzypulec-plinta V. Do psychological factors help to reduce body mass in obesity or is it vice versa? Selected psychological aspects and effectiveness of the weight-loss program in the obese patients. Heal Psychol Res. 2013;1(10):33-37.
10. Beasley DA. Students perceptions of high school physical education. J Kinesiol Wellness. 2019;8(1):1-12.
11. Nussbaum AM, Wynia MK. "When they restrain you they ignore you"-What we should learn from the people we restrain in emergency departments. JAMA Netw open. 2020;3(1):1-3.
12. Miller William R. Seligman Martin E.P. Depression and learned helplessness in man. J Abnorm Psychol. 1975;84(3):228-238.
13. Ebrahim M, Alkazemi D, Zafar TA, Kubow S. Disordered eating attitudes correlate with body dissatisfaction among Kuwaiti male college students. J Eat Disord. 2019;7(1):1-13.
14. Meadows A, Bombak AE. Yes, we can (no, you can't): Weight stigma, exercise self-efficacy, and active fat identity development. Fat Stud. 2019;8(2):135-153.
15. Elçi Boğaz M, Kutlu R, Cihan FG. The relationship between obesity and eating behavior, body perception and self-esteem. Cukurova Med J. 2019;44(3):1064-1073.
16. Goad E, Gleeson K, Jackson S. Personal factors associated with the attitudes of nurses towards patients with obesity: a literature review. Clin Obes. 2018;8(6):444-451.
17. Lazarou C, Kouta C. The role of nurses in the prevention and management of obesity. Br J Nurs. 2010;19(10):641-647.
18. Tayfur SN, Evrensel A. Investigation of the relationships between eating attitudes, body image and depression among Turkish university students. Riv Psichiatr. 2020;55(2):90-97.
19. Van Strien T, Frijters JE, Bergers GP, Defares PB. The Dutch Eating Behavior Questionnaire (DEBQ) for assessment of restrained, emotional, and external eating behavior. Int J Eat Disord. 1986;5(2):295-315.
20. Bozan N, Baş M, Aşçı H. Hollanda yeme davranışı anketinin (DEBQ) Türk üniversite öğrencilerinde geçerlik ve güvenirliğinin sınanması.Yüksek Lisans Tezi Başkent Üniversitesi Sağlık Bilimleri Enstitüsü Beslenme ve Diyetetik Programı; 2009. 1-97. Ankara.
21. Dag İ. Rosenbaum'un öğrenilmiş güçlülük ölçeği'nin üniversite öğrencileri için güvenirliği ve geçerliliği. Türk Psikiyatr Derg. 1991;2(4):269-274.
22. Peters HJ, Peterson TR; Dakota Wicohan Community. Developing an indigenous measure of overall health and well-being: The Wicozani instrument. Am Indian Alsk Native Ment Health Res. 2019;26(2):96-122.
23. Petroni ML, Villanova N, Avagnina S, Fusco MA, Fatati G, Compare A, Marchesini G; QUOVADIS Study Group. Psychological distress in morbid obesity in relation to weight history. Obes Surg. 2007;17(3):391-399.
24. Güngör BB, Akgül Aİ, Taymur İ, Demirci H, İnel A. Evaluation of eating attitudes, anger and impulsivity in atypical and non-atypical depression and assessment of comorbidity of binge eating. Psychiatr Danub. 2020;32(1):105-114.
25. Işik K, Cengiz Z. The effect of sociodemographic characteristics of university students on emotional eating behavior. Perspect Psychiatr Care. 2021;57(1):214-218.
26. Huang LS, Cheng H, Duffield C, Denney-Wilson E. The relationship between patient obesity and nursing workload: An integrative review. J Clin Nurs. 2021;30: 1810-1825.
27. Graham MR, Tierney S, Chisholm A, Fox JRE. The lived experience of working with people with eating disorders: A meta-ethnography. Int J Eat Disord. 2020;53(3):422-441.
28. Özgen L, Kınacı B, Arlı M. Ergenlerin yeme tutum ve davranışları. Ankara Univ J Fac Educ Sci. 2015;45(1):229-247.