

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

**DETERMINATION OF THE ORTHOREXIA  
NERVOSA (ON) TENDENCY AMONG  
UNIVERSITY STUDENTS AND EFFECTIVE  
FACTORS ON ON TENDENCY: A CROSS-  
SECTIONAL STUDY**

MASTER OF SCIENCE THESIS

PINAR USTA

SUPERVISOR

Assoc. Prof. Binnur OKAN BAKIR

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	Unvanı, Adı-Soyadı (Kurumu)
Jüri Başkanı:	Prof. Dr. Murat Baş, Acıbadem Üniversitesi
Tez danışmanı:	Doç. Dr. Binnur Okan Bakır, Yeditepe Üniversitesi
Üye:	Dr. Öğr. Üyesi İrem Kaya Cebioğlu, Yeditepe Üniversitesi
Üye:	
Üye:	

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Pınar USTA

## DECLARATION

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



15/6/2022

Pmar USTA

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## ABBREVIATIONS

AN	Anorexia Nervosa
BMI	Body Mass Index
BN	Bulimia Nervosa
DSM	Diagnostic and Statistical Manual of Mental Disorders
ED	Eating Disorder
MNT	Medical Nutritional Therapy
ND	Nutrition and Dietetics
NEDA	National Eating Disorder Association
OCD	Obsessive Compulsive Disorders
ON	Orthorexia Nervosa
OTS	Orto-11 Total Score
PA	Physical Activity
SM	Social Media
SMIU	Social Media Integration Use
WHO	World Health Organization

## ABSTRACT

**Usta, P. (2022). Determination of the Orthorexia Nervosa (ON) Tendency among University Students and Effective Factors on ON Tendency: A Cross-sectional Study. Yeditepe University Institute of Health Sciences, Nutrition and Dietetics ABD. Master Thesis. Istanbul**

In the Post-modern world, people increased their awareness for healthy eating with the emergence of healthy eating concerns, various diseases and periodic eating trends, and the importance of appearance. It is suggested that this may also lead to an increase in the Orthorexia Nervosa (ON) tendency. Health professionals, dietitians, students who have health education, individuals who do sports, adolescents and performance artists are in the risk group for ON. In this study, we aimed to determine the effect of the factors claimed to be effective on ON tendency, reach more homogeneous gender distribution with a larger sample number and compare different risk groups. The prevalence of ON found as 23%, while being single, having  $\geq 30$  kg/m<sup>2</sup> body mass index, being Nutrition and Dietetics student, having medical nutrition therapy, have been on a diet within the last 6 months, being physically active, buying foods with the influence of social media (SM) correlated with ON tendency ( $p < 0.05$ ). In addition, individuals who use Instagram, Pinterest and TikTok, people who follow at least one person to get nutritional information on SM had higher ON tendency ( $p < 0.05$ ). Moreover, ON tendency was higher in those who follow coaches/lifecoaches/athletes, dieticians, phenomena/artists, newspapers/magazines/news accounts and chefs to get nutritional information. Since the diagnostic criteria have not been definitively determined, the findings about the effective factors are contradictory, and the prevalence is increasing day by day, ON and its consequences are important. In order to get clear results about the findings, it is suggested to compare the Orto-15 and Orto-11 scales and determine the cut-off score.

**Key words:** Orthorexia Nervosa, Orto-11, Disordered Eating, Social Media, Instagram

## ÖZET

**Usta, P. (2022). Üniversite Öğrencilerinde Ortoreksiya Nervoza (ON) Eğiliminin ve ON Eğiliminde Etkili Faktörlerin Saptanması: Kesitsel Bir Çalışma. Yeditepe Üniversitesi Sağlık Bilimleri Enstitüsü, Beslenme ve Diyetetik Anabilim Dalı. Master Tezi. İstanbul**

Post modern dünyada sağlıklı beslenme kaygılarının, çeşitli hastalıkların ve dönemsel yeme akımlarının ortaya çıkışı ve dış görünüşün önem kazanmasıyla insanlar sağlıklı beslenmeye yönelmiştir. Bunun da ortoreksiya nervoza (ON) eğilimi prevalansının artmasına neden olabileceği öne sürülmektedir. Sağlık personelleri, diyetisyenler, sağlık eğitimi alan öğrenciler, spor yapan bireyler, adolesanlar ve performans sanatçıları, ON için risk grubunda yer almaktadır. Bu çalışmada ON eğilimi üzerinde etkili olduğu iddia edilen faktörlerin saptanması, daha geniş örneklem sayısı ile daha homojen bir cinsiyet dağılımına ulaşarak farklı risk gruplarının kıyaslanabilmesi amaçlanmıştır. ON eğilimi prevalansı öğrencilerde %23 olarak bulunurken, bekar olmak,  $\geq 30$  kg/m<sup>2</sup> beden kütle indeksine sahip olmak, Beslenme ve Diyetetik öğrencisi olmak, tıbbi beslenme tedavisi alıyor olmak, son 6 ay içerisinde diyet yapıyor olmak, yoğun fiziksel aktivite yapıyor olmak ve sosyal medyanın etkisiyle gıda alış verişini yapmak ON eğilimine neden olmaktadır (p<0.05). Buna ek olarak, Instagram, Pinterest ve TikTok kullanan bireylerin diğer sosyal medya platformlarını kullanan bireylere kıyasla daha fazla ON eğilimi gösterdikleri bulunmuştur (p<0.05). Sosyal medyada beslenme alanında bilgi almak için en az birini takip eden kişilerde kimseyi takip etmeyenlere oranla ON eğiliminin daha fazla olduğu bulunmuştur (p<0.05). Ek olarak, beslenme alanında bilgi almak için antrenör/yaşam koçu/sporcucu, diyetisyen, fenomen/sanatçı, gazete/dergi/haber hesapları ve şef takip edenlerde ON eğiliminin daha fazla olduğu bulunmuştur. Tanı kriterlerinin kesin olarak belirlenmemiş, etkili faktörlerle ilgili bulguların çelişkili olması ve prevalansın gün geçtikçe artması nedeniyle ON ve bunun doğurabileceği sonuçlar önem arz etmektedir. Bulgularla ilgili daha net sonuçlar elde edebilmek için Orto-15 ve Orto-11 ölçeklerinin karşılaştırılması ve kesim noktası belirlenmesi önerilmektedir.

**Anahtar kelimeler:** Ortoreksiya Nervoza, Orto-11, Yeme Bozukluğu, Sosyal Medya, Instagram

## 1. INTRODUCTION & AIM

In the last 50 years, the prevalence of eating disorders (EDs) are increased. EDs are cognitive disorders that disrupt psychosocial functioning, significantly damaging physical health and being fatal <sup>1</sup>. EDs are described as “deviations in eating habits that can cause illness or nutritional deficiency” in 1994 by Lucas and Huse <sup>2</sup>. EDs are exhibited as negative thoughts about people's eating habits, body weight, physical appearance, and disorders in eating behavior <sup>3</sup>.

According to the Diagnostic and Statistical Manual of Mental Disorders - V (DSM - V) anorexia nervosa (AN), bulimia nervosa (BN), binge eating disorder, avoidant/restrictive eating disorder, pica, rumination disorder, other specified eating disorders, and unspecified eating disorders are classified. Today, orthorexia nervosa (ON) has not included any diagnostic category yet <sup>4</sup>.

While ON is described as an obsession with healthy eating, individuals with ON spend most of their time paying attention to whether their food is healthy or pure and make great efforts to do so <sup>5-7</sup>. For these individuals, the quality of food rather than the amount of nutrients is at the forefront. That's why, they are obsessed with trying to consume foods that do not contain herbicides, pesticide residues, and artificial substances through healthy methods of preparation, cooking, and storage <sup>8,9</sup>.

In the Post-modern world, people increased their awareness of healthy eating with the emergence of healthy eating concerns, the presence of various diseases and periodic eating trends, and the importance of appearance. It is suggested that this, in turn, may lead to an increased tendency to ON <sup>4</sup>.

Health professionals, dietitians, students who have health education, sportspersons, adolescents, and performance artists are in the risk group for ON <sup>3,6-8,10-13</sup>. The prevalence of ON is determined as 60.1% in health professionals, 41.9% in dieticians, 56.4% in performance artists, and 43.6% in medical school students according to some studies conducted in Turkey <sup>7,10-12</sup>.

On the other hand, the use of the internet became widespread and part of daily life as technology evolved. As a result the use of social media (SM) also increased <sup>14</sup>. According to the study conducted by Villanti et al. while 89.42% of young adults use at least one SM regularly in 2014, this rate increased to 97.5% in 2016 <sup>15</sup>. A study aimed to

investigate the time spent on SM found that university students spend more than 4 hours a day on SM <sup>16</sup>.

In addition to communication and socializing part of SM, users share information on various topics, especially diet and health, without relying on a scientific basis. A study conducted by Koven et al. showed that awareness of diet, nutrients, and healthy eating increases with the use of SM and the internet <sup>17</sup>. In addition to this, a study conducted by Kingir and Kardeş also found that university students follow health-related issues on the media and eating habits influenced by media <sup>18</sup>.

On the other hand, studies examining the effect of SM on body image and eating attitude among various sample groups are present in the literature. However, there are limited studies that examine the effect of SM use on ON. In these studies, it is found that SM affects eating habits and increases the risk of ON <sup>19-21</sup>.

Additionally, it is suggested that factors that can contribute to ON tendency include such as diet restriction, body mass index (BMI), sex, age, marital status, educational and work status of parents, health education, educational level, and living environment <sup>6-8,10,11,20,22-27</sup>.

It has also shown that studies that examined the ON in the literature did not conduct with a large number of samples, conducted only with a specific risk group, and the results of the study may have been affected because the sex distribution is not homogeneous <sup>6-8,24,25</sup>. Another limitation in the present studies is that as a sample group for ON studies, students having health education, performance artists, and so on., such risk groups are examined separately and do not have comparisons with each other.

Moreover, the fact that the independent variables examined has given contradictory results in the literature studies, makes it difficult to determine risk factors. For this reason, contribution to the literature in the identification of risk factors for ON is aimed. Throughout the study, it is also aimed to reach participants from different departments and homogenous of both sexes with a wider sample number and to compare different risk groups.

This study aimed to investigate the ON tendency among students who have and do not have health education at Yeditepe University, and aimed to determine the factors that are suggested as effective on ON tendency such as diet restriction, BMI, sex, age,

marital status, educational and work status of parents, having health education, educational level, living environment and use of SM.

The hypothesis of the study was established as ‘dietary restriction, BMI, sex, age, marital status, educational and work status of parents, having health education, educational level, living environment, and SM use are effective on ON tendency of university students.



## **2. GENERAL INFORMATION**

### **2.1. Orthorexia Nervosa**

The term orthorexia was coined by Bratman and Knight in 1977 by combining the words “ortho”, which means right, and “orexis”, which means hunger <sup>26</sup>.

While ON is described as an obsession with healthy eating, individuals with ON spend most of their time paying attention on to whether their food is healthy or pure, and make great efforts to do so <sup>5-7</sup>.

Different from healthy eating, characteristics of ON are concerns and obsessed efforts for healthy eating which take too many hours for planning and also effect negatively social life of the individuals <sup>26</sup>. For these individuals, the quality of food is more important than the amount. In addition to this, they are obsessed with shopping and consuming foods that do not contain herbicides, pesticide residues, and artificial substances through healthy methods of preparation, cooking methods that preserve the nutritional value of foods, and storage ways that minimize loss of nutritional value of foods <sup>8,9,23</sup>.

Similar to individuals with AN, individuals with ON have strict beliefs and are fixed-minded about foods. They also have limited choices of foods to eat. However, unlike individuals with AN or BN, physical appearance is not at the forefront for individuals with ON. Their efforts are just for maintaining or improving their physical health. For the majority of their daily lives, individuals with ON struggle on being healthy with the food that they consume. They also do not engage in negative emotions and behaviors such as regretting what they eat or vomiting themselves <sup>26,27</sup>.

#### **2.1.1. Prevalence and Risk Groups of ON**

As ON becomes a new term and the interest about the subject increases with the passing of the day, prevalence studies are being carried out.

The prevalence of ON is determined as 60.1% in health professionals, 41.9% in dieticians, 56.4% in performance artists, and 43.6% in medical school students according to some studies conducted in Turkey <sup>7,10-12</sup>.

Health professionals, dietitians, students who have health education, sportspersons, adolescents, and performance artists are in the risk group for ON <sup>3,6-8,10-13</sup>.

### 2.1.2. Symptoms and Diagnostic Criteria of ON

The term ON that is coined by Bratman and Knight, describes these individuals as those who have a restricted diet, focus on cooking with healthy and true way, ritualized eating patterns obsessively <sup>26</sup>.

Individuals with ON care about healthy eating because of maintaining or improving their physical health, rather than religious beliefs, thoughts, or concerns on sustainable agriculture, animal welfare, or protecting the environment <sup>26</sup>. They carry out their diet with these strict rules and refuse to eat foods that are not healthy <sup>9</sup>. This excessive selectivity in food consumption can cause malnutrition, and these behaviors can also negatively affect their social lives <sup>6-8</sup>.

According to the DSM – V, AN, BN, binge eating disorder, avoidant/restrictive eating disorder, pica, rumination disorder, other specified eating disorders, and unspecified eating disorders are classified. Today, ON has not included any diagnostic category yet <sup>4</sup>. There are still arguments on whether ON is a behavioral or life-style problem, or it is a mental disorder <sup>28</sup>.

While Donini et al. suggested pre-criteria for diagnosis of ON in 2004, additional diagnostic criteria were offered for specific situations later <sup>23,29</sup>. The study conducted by Strahler et al., showed that ON has importance epidemiologically and clinically, and there are some overlap points with the other mental disorders conceptually. As a result of it, they resist the idea of ON is a different mental disorder <sup>30</sup>.

While the diagnostic criteria of ON is not clear, there are different suggested criteria by some scholars.

The diagnostic criteria set by Setnick in 2013 are listed below <sup>31</sup>.

“ **Criterion A:** pathological preoccupation with nutrition and diet far beyond that which is necessary for health, and undue influence of diet on self-evaluation, evidenced by characteristics such as

1. Phobic avoidance of or response to foods perceived to be unhealthy, such as refusal to be in proximity to such food or experiencing panic while watching others eat the food

2. Severe emotional distress or self-harm after eating food considered unhealthy
3. Persistent failure to meet appropriate nutritional needs leads to the nutritional deficit and/or psychological dependence on individual nutrient supplements in place of food intake due to the belief that synthetic nutrients are superior to those found in food or that food is contaminated (except in cases where food is known to be contaminated)
4. Following a restrictive diet prescribed for a medical condition that the individual does not have, or to prevent illness not known to be influenced by diet
5. Insisting on the health benefits of the diet in the face of evidence to the contrary
6. Marked interference with social functioning or activities of daily living, such as isolation when eating, avoidance of social functions where food is served, or neglect of work, school, or family responsibilities due to food-related activities

**Criterion B:** not the result of a lack of available food or a culturally sanctioned practice

**Criterion C:** the individual endorses a drive for health or life extension rather than a drive for thinness

**Criterion D:** the eating disturbance is not attributable to a medical condition or another mental disorder such as anorexia nervosa, bulimia nervosa or obsessive-compulsive disorder. ”

Another diagnostic criteria suggested by Moroze et al., in 2015 <sup>27</sup>.

“ **Criterion A:** Obsessional preoccupation with eating “healthy foods,” focusing on concerns regarding the quality and composition of meals. (Two or more of the following.)

- Consuming a nutritionally unbalanced diet owing to preoccupying beliefs about food “purity.”

- Preoccupation and worries about eating impure or unhealthy foods and of the effect of food quality and composition on physical or emotional health or both.
- Rigid avoidance of foods believed by the patient to be “unhealthy,” which may include foods containing any fat, preservatives, food additives, animal products, or other ingredients considered by the subject to be unhealthy.
- For individuals who are not food professionals, excessive amounts of time (e.g., 3 or more hours per day) are spent reading about, acquiring, and preparing specific types of foods based on their perceived quality and composition.
- Guilty feelings and worries after transgressions in which “unhealthy” or “impure” foods are consumed.
- Intolerance of other’s food beliefs.
- Spending excessive amounts of money relative to one’s income on foods because of their perceived quality and composition.

**Criterion B:** The obsessional preoccupation becomes impairing by either of the following:

- Impairment of physical health owing to nutritional imbalances (e.g., developing malnutrition because of an unbalanced diet).
- Severe distress or impairment of social, academic, or vocational functioning owing to obsessional thoughts and behaviors focusing on the patient’s beliefs about “healthy” eating.

**Criterion C:** The disturbance is not merely an exacerbation of the symptoms of another disorder such as obsessive-compulsive disorder or schizophrenia or another psychotic disorder.

**Criterion D:** The behavior is not better accounted for by the exclusive observation of organized orthodox religious food observance or when concerns with specialized food requirements are in relation to professionally diagnosed food allergies or medical conditions requiring a special diet <sup>30</sup>”

Other criteria suggested by Barthels et al. in 2015 <sup>32</sup>;

“ **Criterion A:** enduring and intensive preoccupation with healthy nutrition, healthy foods, and healthy eating

**Criterion B:** pronounced anxieties for as well as extensive avoidance of foods considered unhealthy according to subjective beliefs

**Criterion C:**

1. At least two overvalued ideas concerning the effectiveness and potential health benefits of foods and/or
2. Ritualized preoccupation with buying, preparing, and consuming foods, which is not due to culinary reasons but stems from overvalued ideas. Deviation or impossibility to adhere to nutrition rules causes intensive fears, which can be avoided by a rigid adherence to the rules

**Criterion D:**

1. The fixation on healthy eating causes suffering or impairments of clinical relevance in social, occupational or other important areas of life and/or negatively affects children (e.g. feeding children in an age-inappropriate way) and/ or
2. Deficiency syndrome due to disordered eating behavior. Insight into the illness is not necessary, in some cases the lack of insight might be an indicator of the severity of the disorder

**Criterion E:** Intended weight loss and underweight may be present, but worries about weight and shape should not dominate the syndrome. ”

Last criteria suggestion made by Dunn and Bratman in 2016 <sup>29</sup> ;

“ **Criterion A:** obsessive focus on “healthy” eating, as defined by a dietary theory or set of beliefs whose specific details may vary; marked by exaggerated emotional distress in relation to food choices perceived as unhealthy; weight loss may ensue as a result of dietary choices, but this is not the primary goal. As evidenced by the following:

1. Compulsive behavior and/or mental preoccupation regarding affirmative and restrictive dietary practices believed by the individual to promote optimum health
2. Violation of self-imposed dietary rules causing exaggerated fear of disease, sense of personal impurity and/or negative physical sensations, accompanied by anxiety and shame
3. Dietary restrictions escalate over time, up till removing entire food groups, and involve progressively more frequent and/or severe “cleanses” (partial fasts) regarded as purifying or detoxifying. This escalation commonly leads to weight loss, but the desire to lose weight is absent, hidden or subordinated to ideation about healthy eating

**Criterion B:** the compulsive behavior and mental preoccupation becomes clinically impairing by any of the following:

1. Malnutrition, severe weight loss or other medical complications from restricted diet
2. Intrapersonal distress or impairment of social, academic or vocational functioning secondary to beliefs or behaviors about healthy diet
3. Positive body image, self-worth, identity and/or satisfaction excessively dependent on compliance with selfdefined “healthy” eating behavior. ”

In all these diagnostic criteria;

- to provide information about obsessive or pathological agreements related to healthy eating,
- emotional consequences caused by the failure of self-imposed rules on nutrition (such as anxiety, and guilt),
- and finally, beyond body weight loss and malnutrition, psychosocial disorders are common.

On the other hand, they differ from each other in terms of suggesting additional criteria or implicating some of them.

For instance, in addition to the failure, compliance with self-defined healthy eating behavior was indicated as a criterion, and increase in dietary restriction over time was suggested by Dunn et al. They highlighted compulsive behavior also <sup>29</sup>.

While insight is not a criterion by Barthels et al., Setnick et al. mentioned the presence of overvalued ideas as criteria <sup>31,32</sup>.

According to Moroze et al., an excessive amount of time and money spending was set as a criterion <sup>27</sup>. Moreover, the absence of obsessive-compulsive disorders (OCD) and psychotic disorders was mentioned only by Moroze et al. and Setnick <sup>27,31</sup>.

Lastly, only Setnick added an exclusion criterion as eating behavior should not be raised from available food or culturally sanctioned practice <sup>31</sup>.

### **2.1.3. Treatment of ON**

It is suggested that different from other EDs, treatment must be considered in a broader way. Individuals with ON should be aware that consuming healthy foods is not the only way to be healthy. Besides that, obsessive behaviors must be treated also. That's why, it is suggested that treatment of ON should be carried out by a multidisciplinary team that has a dietician, physician, and psychotherapist <sup>34</sup>.

Additionally, it is said that it could be treated by dieticians who treat EDs and/or OCD, by National Eating Disorder Association (NEDA) <sup>34</sup>.

For some cases, a combination of cognitive behavioral therapy and selective serotonin reuptake inhibitors which are also used for the treatment of OCD are thought to be useful <sup>35</sup>.

It is observed that their health concerns make individuals with ON treated easily when compared to others. To end this problem, working in partnership with the family and/or friends of the patient and promoting nutrition education are considered as effective <sup>34,35</sup>.

Lastly, it has also been reported that if necessary for the treatment of acute conditions that develop due to the ON, a person can treat by hospitalized to eliminate metabolic problems <sup>17</sup>.

### **2.1.4. Effective Factors on ON Tendency**

#### **2.1.4.1. Diet Restriction**

People may follow a diet for medical nutritional therapy (MNT) and/or count/restrict calories for weight gain/loss. According to the study of Ulaş et al., it was

revealed that being woman and following a diet increase the risk of EDs <sup>36</sup>. Moreover, constantly following a diet among pregnant women was correlated with EDs <sup>37</sup>. Similar findings were also observed in the studies conducted by O’dea et al. and Duran, individuals who have efforts on weight gain/loss have an increased risk of EDs <sup>22,38</sup>.

In addition to these findings, Arslantaş et al., found that the frequency of ED is high among nursing students who have fear of getting fat and controlling their calorie intake <sup>8</sup>. Similar findings were observed in the study conducted by Gezer and Kabaran <sup>8</sup>. Moreover, a study conducted with adolescents found that being on a diet is positively correlated with a disordered eating attitude, which also leads to an increase in ON tendency <sup>13</sup>.

In the study conducted with the medical students, Orto-15 scores were lower in participants who control their body weight compared with those who do not control <sup>39</sup>. It was observed that women were controlling their body weight and prefer to consume low calorie foods more than men <sup>39</sup>. In addition to this, there was no relationship between BMI and body weight control. Similar findings were also detected by Duran, participants who have any effort on weight gain/loss have decreased Orto-11 total score (OTS) , and Varga and Mate found that specific dietary habits are related with ON tendency <sup>22,40</sup>.

However, Mc-Inerney-Ernst found that the relationship between orthorexic symptoms and body weight loss attempts was non-significant <sup>22,41</sup>. Although diet history affected ON tendency among Trakya medical students, the difference was non-significant <sup>42</sup>. Additionally, Turner and Lefevre found that following a diet that is vegan, omnivore, vegetarian or other, was not correlated with the Orto-15 score <sup>43</sup>.

Moreover, Arusoğlu found that participants who have MNT, and impaired eating attitude, have ON tendency <sup>6</sup>. Similar findings were obtained from Asil and Sürücüoğlu’s study <sup>7</sup>. Additionally, it is revealed that Orto-15 scores were higher in the individuals who do yoga, athletes and ballets. As physical appearance is at the forefront for these individuals, they are under the pressure of being thin and they follow a diet and exercise intensively <sup>10,44,45</sup>. Lastly, it is found that those who adhere to the recommendations for macronutrient intake had higher OTS <sup>8</sup>.

Lastly, in the Post-modern world, people increased their awareness of healthy eating with the emergence of healthy eating concerns, the presence of various diseases

and eating trends, and the importance of appearance. It is suggested that this, in turn, may lead to an increased tendency to ON<sup>4</sup>.

#### **2.1.4.2. BMI**

There are conflicting results about the effect of BMI on ON tendency. There are some studies that found that BMI was not effective on ON tendency in the literature<sup>6,39,42-44,46-48</sup>. While it was found as non-significant in some studies, Fidan et al. found it statistically significant among medical students<sup>6,11,19,23,24,42,46,47</sup>. According to the study of Fidan et al., the increase in BMI leads to a decrease in OTS, which means an increase in ON tendency<sup>11</sup>.

However, Gezer and Kabaran found that OTS significantly increases with a decrease in BMI<sup>8</sup>. In addition to this, Asil and Sürücüoğlu also found a negative correlation between BMI and ON tendency<sup>7</sup>. Moreover, Acar Tek and Karaçil Ermumcu found a negative correlation between Orto-15 score and BMI, and body weight also<sup>49</sup>. It was found that orthorexic individuals' body weight was higher than others, and their desire to be on ideal body weight has a negative correlation with an Orto-15 score<sup>49</sup>.

In contrast to these findings, Gezer and Kabaran found that participants with <18.5 kg/m<sup>2</sup> BMI had the lowest OTS, which means the highest ON tendency<sup>8</sup>.

Although Bosi et al. found that the increase in BMI leads to an increase in Orto-15 score in medical students, this finding was non-significant<sup>39</sup>. The same findings were also found in the study conducted by Özkan et al.<sup>42</sup>.

According to the study conducted by Arusoğlu et al., BMI was effective only when it was together with the sex (being woman), increased OCD symptoms, and pathological eating attitude<sup>6</sup>.

Lastly, Asil and Sürücüoğlu also revealed that participants with higher than 25 kg/m<sup>2</sup> BMI had disordered eating behavior and the lowest score from Orto-15<sup>7</sup>. Similarly, Bratman and Knight, Donini et al., and Aksoydan and Camcı found that the prevalence of ON was higher in overweight individuals<sup>10,23,26</sup>.

#### **2.1.4.3. Sex**

The effect of sex examined by various studies. While some studies found that sex difference is significant on ON tendency, some others did not <sup>6,11,17,19,23,25,39,40,46,50</sup>.

According to the studies conducted by Arusoğlu et al., Ramacciotti et al., Koven, Şanher et al., and Lanitis and Raspin the rate of ON tendency was higher in women <sup>6,17,46,50,51</sup>. Additionally, a study aimed to investigate the effect of sex on ON tendency found that women show ON tendency more than men <sup>24</sup>. However, the reverse results were also found in studies conducted by Donini et al., Fidan et al., and Özkan et al. <sup>11,23,42,52</sup>.

Although Bosi et al. found that among medical students, men tend to have ON tendency more than women, this difference was non-significant <sup>39</sup>. Moreover, the prevalence of ON in adolescents was similar between sexes <sup>13</sup>.

Lastly, Aksoydan and Camcı found that overweight and obese men participants with high educational levels had the lowest Orto-15 score compared to other men but this difference was non-significant <sup>10</sup>.

#### **2.1.4.4. Age**

It is known that university students have a high tendency to develop EDs and are also risk group for ON <sup>35</sup>. While age is one of the most important factors affecting ON, there are conflicting results in the literature.

Some studies found that there were statistically non-significant changes between ON tendency and age <sup>6,10,24,39,43,47,48,53</sup>. Aksoydan and Camcı found that the mean Orto-15 score decreases with the increase in age but this difference was non-significant <sup>10</sup>.

However, a study conducted with women health professionals showed a negative correlation between age and Orto-15 score<sup>49</sup>. In addition to this, Lanitis and Raspin found that younger participants, specifically those in Generation Z and Millennials, were more likely to display ON tendency than older participants from Generation X and Boomers <sup>51</sup>.

When the age of 21 was considered as a cut-off by Fidan et al., they found that the mean score was statistically significant. Participants under 21 years old have a higher ON tendency than older ones <sup>11</sup>.

On the other hand, Donini et al., found that orthorexic groups' mean age was higher than the others <sup>23</sup>. Moreover, some studies revealed that an increase in age leads to an increase in ON tendency <sup>6,7,39,49</sup>. Although Aksoydan and Camcı found the same findings in opera singers, this difference was non-significant <sup>10</sup>. In addition to this, it is found that participants' age was positively correlated with appearance control belief and ON tendency <sup>10</sup>.

#### **2.1.4.5. Marital Status**

The study conducted to determine signs of ON found that married individuals tend to develop ON more than single ones. Moreover, having children and an increase in the number of children lead to an increase risk of ON <sup>6</sup>.

However, there are studies in the literature that reveal marital status is not effective on ON <sup>7,19,23,24,52</sup>.

#### **2.1.4.6. Educational and Work Status of Mother and Father**

Educational and work status can affect both mother's and father's attitude of being parent. Moreover, it was revealed by studies that the attitude of mothers and fathers affect their children's eating attitudes/habits <sup>1,11,54</sup>. On the other hand, it is revealed that as parents' educational level increases young individuals' knowledge about nutrition increases <sup>25,56,57</sup>.

According to the study of Fidan et al., there was no correlation between educational and work status of mother and father on OTS in medical school students <sup>11</sup>.

However, Gezer and Kabaran found that participants whose mother's educational status was at least primary school graduate, have a risk of EDs <sup>8</sup>. Similar to these results, Kadioğlu and Ergün found that participants whose parents' educational level is lower, have the risk for EDs <sup>55</sup>. In addition to this, Arslantaş et al., found that disordered eating prevalence was high in the students whose father's educational status was at least primary school graduate <sup>25</sup>.

#### **2.1.4.7. Having Health Education**

Although university students have a risk for ON tendency, students who study at any health department are more conscious than other students. Moreover, health concerns

are at the forefront for them <sup>58-61</sup>. That's why, they are one of the risk groups for ON, especially Nutrition and Dietetics (ND) students <sup>7,62</sup>.

Among university students, the prevalence of ON tendency was found as 83% by Mc Inerney-Ernst, and 56.9% by Varga and Mate <sup>40,41</sup>.

The prevalence of ON tendency was found in doctors 5%, in dieticians 16% , in nurses 35% , in midwife %30 , in physiotherapist 11% , and in health officer 3% with the study conducted with the women health professionals <sup>49</sup>. In addition to this, Ergin found the prevalence among health professionals as 60.1% <sup>12</sup>.

The prevalence of ON was detected as 43.6% by Fidan et al., and 45.5% by Bosi et al. among medical students <sup>11,39</sup>. On the other hand, it was detected as 45.3% of the nursing students were at risk of ON <sup>25</sup>.

Lastly, it was found that dieticians are at high risk for ON <sup>7,62,63</sup>. The ON symptoms were detected about 81.9% by Alvarenga et al. among Brazilian dieticians <sup>63</sup>. Moreover, it was found that 34.9% of participants show orthorexic behavior and 12.8% were orthorexic in a study conducted with women dieticians <sup>62</sup>.

Gezer and Kabaran's study showed that studying department is effective on developing obsessional healthy eating attitudes <sup>8</sup>. While Aksoydan and Camcı found that ON is affected by the studying department, Acar Tek and Karaçil Ernumcu, found that there was not any difference among health professionals <sup>10,49</sup>. Additionally, it was revealed by studies that there is a positive correlation between an individual's nutritional knowledge level and his/her eating habits/attitudes <sup>64,65</sup>.

With the increase in knowledge, the eating behavior of the students can be affected and changed. This change sometimes appears as an increase in the awareness of healthy choices; sometimes appears as obsessive eating habits <sup>8,64-66</sup>. Some studies showed that individuals who have nutrition knowledge are also failed to reflect their knowledge into a habit <sup>56,57</sup>. On the other hand, Ünalın et al. found that an increase in responsibility for health leads to a decrease in restriction of their lifestyle and nutritional habits <sup>3</sup>. Additionally, they expected to see that participants who have low responsibility about health may have some health problems which cause efforts to fix their health status by diet restriction <sup>3</sup>.

Özkan et al., revealed that the level of medical educational level was not correlated with the ON tendency <sup>42</sup>. On the other hand, Şanlıer et al. found that students who study at social sciences tend to have EDs compared to students who study health science and science but the difference of Orto-15 scores among departments was not significant <sup>46</sup>.

Moreover, the class of ND students made a significant difference also. The older classes (above 7<sup>th</sup> semester) are making healthier choices than compared with 1<sup>st</sup> class students of ND and students from other departments <sup>66</sup>. However, there was a statistically non-significant difference in OTS between post-graduated dieticians and ND students <sup>7</sup>.

#### **2.1.4.8. Educational Level**

Even though the increase in educational level lead to a decrease in Orto-15 mean score among Turkish performance artists, this difference was statistically non-significant <sup>10</sup>. In addition to this study, Bosi et al., found that as educational level increases Orto-15 score increases but this difference was non-significant <sup>39</sup>. Similarly, although the educational time of the orthorexic ones was lower than others, this change was also non-significant among the women health professionals <sup>49</sup>.

Arusoglu et al., and Donini et al., found that lower educational level increases ON tendency <sup>6,23</sup>. In addition to this, participants with postgraduate education had lower scores than others in the study <sup>6</sup>. Same results were observed in Ramacciotti et al.'s study <sup>50</sup>.

However, another study conducted by Donini et al., found that the orthorexic group consisted of participants with high educational levels <sup>23</sup>. Another study conducted with university students found that increase in the class of students leads to a decrease in ON tendency <sup>66</sup>.

Lastly, Varga and Mate found that educational level was not effective alone on ON tendency <sup>40</sup>.

#### **2.1.4.9. Living Place**

Ünalın et al. found that participants who live in the dormitory have an increased risk of developing EDs <sup>3</sup>.

#### **2.1.4.10. Other Factors**

Although Brytek found that chronic diseases have a correlation with ON tendency, Özkan et al. and Tepe did not <sup>19,34,42</sup>.

According to the study of Bosi et al., doing supermarket shopping themselves, and examining the content of products lower Orto-15 score but the difference was non-significant <sup>39</sup>. The ON tendency is observed in those who shop themselves, care about the content of the purchased product/food, care about the nutritional value of the foods, and substitute their meals with salad/fruit <sup>39</sup>.

In addition to this, a positive correlation between preparing their own foods and ON was detected <sup>42</sup>. Moreover, it has been found that the risk of EDs increase in the participants who plan and prepare their food. Same findings were also observed in ON tendency but the difference was non-significant <sup>8</sup>.

Özkan et al., and Varga and Mate found that smoking, use of alcohol, and drug have a negative correlation with the ON tendency <sup>40,42</sup>. Although Fidan et al., found that the mean OTS of the non-smoking group was lower than the smoking group, the difference was non-significant <sup>11</sup>.

In the study conducted with Trakya medical students, participants were classified according to the standard deviation of OTS into three groups high, medium, and low ON tendency. According to this classification, participants who do physical activity (PA) have moderate ON tendency <sup>42</sup>. Similar to this, Varga and Mate, and Tepe found that ON is positively correlated with sports activity <sup>19,40</sup>. Lastly, Ünalın et al. found that individuals who do sports have a risk of EDs <sup>3</sup>.

#### **2.1.4.11. Social Media (SM)**

With the availability of the Internet in the 1970s, information technologies have started to change. Different fields of daily life have been affected by the use of the Internet from health to education, entertainment to science. However, the main change has occurred in the communication between individuals <sup>67</sup>.

Becoming widespread Internet use, SM tools and networks have been developed that carry interpersonal communication into a different level. The fact that people are not

content with the people around them and also start making friends by communicating with people they don't know has lead to changes in the way they communicate <sup>68</sup>.

However, it was seen that there is no certain definition of the term SM in the literature. That's why there are lots of definitions for it. This situation is explaining with the suggestion of this is due to the fact that the way of SM use, purpose, and new SM platforms have been changing over time <sup>69</sup>.

SM can be defined as a set of tools, services and applications that allow users to interact using network technologies <sup>70</sup>. Boyd and Ellison define SM as a virtual community where users create their own profile, share something with people they are in contact with, and follow other people's profiles <sup>71</sup>. On the other hand, Mayfield defines SM as a new type of media where the highest degree of sharing is done without time and space limitations <sup>72</sup>.

Although it is difficult to define due to the changes, the main features of the classification of SM have been revealed by some researchers.

According to Mayfield <sup>72</sup>,

1. Users are at the heart of SM. These platforms encourage users and have feedback from each of them.
2. SM allows people to be a group and use support systems for an effective creation. Thus, these groups share content about their interest.
3. Clarity is one of the most important properties of SM. SM services are the most accessible way in internet services and are open to feedback and users. These services allow making surveys, voting, controversy, and information sharing. Obstacles against these services rarely occur.
4. Mutual communication is the cornerstone of the SM. While traditional media focused only to transfer information in one way, to the audience; SM focused on two way communication. Especially, for this property, it is preferable to traditional media.
5. Apart from two individuals, communication can occur with anything that has a connection. In these SM platforms, it is widespread to share links or give advice on the topics in which the users are interested.

On the other hand, Lerman describes these features as below <sup>72</sup>;

1. Users can create and contribute content to different types of media (image, audio, video, etc.) in different ways.
2. Users can tag content.
3. Users can evaluate the content by different methods such as active voting (like rate, retweet and so on.), passive use (number of views and so on.), and give feedback to other participants.
4. Within the SM tools, people can define common interests and establish social networks with other users.

As each SM platform is different from each other and new ones are being developed, it is difficult to categorize them. However, a categorization which is done by Mayfield is the most suitable and valid one. According to this categorization, there are 7 different areas which are social network, blog, wiki, podcast, forum, content communities and microblog <sup>72</sup>.

On the other hand, Hootsuite institution conducted research about Internet use all around the world named as “We are Social”. According to this research, 59.5% of individuals in the whole world use the Internet. Individuals spend an average of 6 hours and 54 minutes a day on the Internet. Moreover, 92.6% of Internet access is provided by cell phones. In addition to this, it was found that individuals watch TV for 3 hours and 24 minutes, spend time on SM for 2 hours and 25 minutes, read books for 2 hours, listen to music for 1 hour 31 minutes, listen to radio/podcast 1 hour and play a video game for 54 minutes per day as an average <sup>73</sup>.

There are 4.2 billion active SM users which have increased 2 times compared to the last 5 years. Facebook, YouTube, WhatsApp, Facebook Messenger, and Instagram are the most popular SM platform all around the world. In addition to this, time spent on SM has increased 1.5 times in the last 5 years. Individuals between the age of 25-34 are the ones who use SM most. Surprisingly, it is found that men are using SM more than women <sup>73</sup>.

However, the data of Turkey is different from the global one. Total time spent on the Internet is 7 hours 57 minutes and 70.8% of the individuals use SM actively. According to the data from Instagram, Facebook, Twitter, and so on., the average time spent on SM is 2 hours and 57 minutes in Turkey. Moreover, 54.5% of the individuals

search about brands on SM and the rate of SM use for business is 47% in addition to sales activities. This finding shows how important SM is for promotion and advertising <sup>73</sup>.

According to the Household Information Technologies Usage Survey in Turkey, it was observed that 92% of households have access to the Internet from home in 2021. The use of the Internet rate was 82.6% among the individuals at 16-74 age group. When viewed by sex, this ratio was 87.7% for men and 77.5 % for women. However, in 2011 45 % of households could have access to the Internet from home and 42.9% of individuals were using the Internet <sup>74</sup>.

Additionally, it was found that 76.5% of the individuals from 16-74 age group used the Internet every day and 4% of them use it at least once time in a week throughout the first 3 months of 2021. Moreover, 81.6% of men and 71.4% of women use the Internet every day <sup>74</sup>.

When shopping on the Internet is examined, 44.3 % of the individuals whose age was 16-74, do their shopping throughout the Internet. In 2011, doing shopping throughout the Internet rate was 8.4%. Similar to the other findings, the rate of doing shopping throughout the Internet among men (48.3%) is more preferred than women (40.3%) <sup>74</sup>.

Moreover, the highest shopping rate was on clothing, footwear and accessories as 70.7% and it is followed by restaurants, fast food chains and catering firms 40.8%, food products 33.4%, cosmetics 28.7%, published book, magazine and newspaper 27.7%, and cleaning and personal hygiene products 27.6%. For both women and men, clothing, footwear and accessories shopping is the most popular one <sup>74</sup>.

Lastly, according to the study conducted by Villanti et al. while 89.42% of young adults use at least one SM as regularly in 2014, this rate increased to 97.5% in 2016 <sup>15</sup>. A study aimed to investigate the time spent on SM found that university students spend more than 4 hours a day on SM <sup>16</sup>.

#### **2.1.3.11.A. SM Platforms**

The use of the SM platform is shaped by the sociodemographic characteristics of individuals, personality characteristics of those, and the kind of SM tools <sup>75</sup>. These platforms are unreal places where content like images, videos, audios are shared, and users share their views and comments on various topics based on creating a profile also.

Social networks help individuals to design their private lives as they want and share them with other people. In addition to this, they are included in different groups according to their interests<sup>76</sup>.

Some of the popular SM platforms are detailed below.

### *Clubhouse*

The Clubhouse social networking application appeared in the middle of COVID-19 in March 2020. Clubhouse, which has more than 10 million users in about a year, was founded on real-time audio streaming and was created as an application that allows its users to discuss and listen to the topic they want by voice. This structure has led it to be positioned a “special” and “alternative” structure among social networks <sup>77</sup>.

### *Facebook*

Facebook was established by Mark Zuckerberg in 2004. In Turkey, it has been widely used since 2007 <sup>75</sup>. It allows users to organize events, share videos and photos, be in contact with their friends, join groups of friends, and write notifications on the Facebook walls of other users who are in contact with <sup>75</sup>.

### *Instagram*

Instagram was developed by Kevin Systrom and Mike Krieger. The number of people using Instagram, which was established in October 2010, is increasing day by day. The principal idea of it was capturing an image or videos and sharing them with the followers <sup>78</sup>.

Users are able to edit their images and videos and apply a filter to them also. Additionally, to interact with other users the term following is used. The shared images can be seen, liked, and commented on by followers. It also allows users to send direct messages. With the updates in time, users can create a business account, and start to make product ads <sup>78</sup>.

### *LinkedIn*

The main purpose of the emergence of LinkedIn which has been used since 2003 was to facilitate the interaction of professional collaborators. Users create a professional

profile which involves educational information, and work experiences to expand their business network <sup>79</sup>.

Today, lots of people from different income status and working areas are using it. However, it is known that middle-aged professionals in the high-income group employed in large firms were the first users of it. Different from other SM platforms, job ads are being shared and recruitment is carried out <sup>79</sup>.

### *Pinterest*

Pinterest can be described as a digital collection. The visual contents (images or videos) are shared by users on board (mainstream) and can be pinned on the board. When a content shared on Pinterest, comments can be left under the image. All users (even not contact with) can see that content, pin it or leave a comment <sup>80</sup>.

### *Snapchat*

Users can share story and send messages which can be text, video or image to their friends. It also allows users to send direct message to the story. Unlike other applications, chat history is not stored. It allows instant sharing which is also illustrated as logo (a ghost) of the application <sup>81</sup>.

### *Spotify*

Spotify, which has re-established individual music listening habits, made its first broadcast in Sweden in 2008. It offers the user such facilities as listening to music online and offline, and creating playlists with paid/free subscription options <sup>82</sup>.

The brand name is a combination of the English words “spot” and “identify”. This online music service works quite differently from a traditional music service, regularly collecting data to analyze and improve possible playlists, and analyze and provide users with special content. The application also has a *podcast* creation feature. Users can create podcast different topics ranging from healthy eating, music, and psychology to storytelling and share it with their followers <sup>82</sup>.

### *TikTok*

TikTok, firstly developed in China as “Douyin” in 2016. With the global use of application, a year after, its name was changed. After getting merged with a video application, its popularity has increased by <sup>83</sup>.

Today most of the TikTok users consisted of young people. The content of this SM platform is short-time videos. Users are able to share videos, like, share, and comment on others’ videos. In addition to this, the number of views of videos comes to the fore <sup>83</sup>.

### *Tumblr*

Tumblr is the micro blog which is developed by David Karp in 2007. It is called as micro blog because short texts are being shared. It allows users to share text, audios, video, link and quotation <sup>84</sup>.

Same with the other SM platforms a profile is created, users can follow someone and being followed by someone else, and can comment on others posts. However, different from other SM platforms, it allows users to select a personal theme on their profiles <sup>84</sup>.

### *Twitter*

The main characteristic of Twitter is sharing ideas and comments as micro blog. It allows users to follow someone else and like, comment, and retweet their tweets. Hashtag which guides the agenda are used in Twitter <sup>78</sup>.

### *WhatsApp*

WhatsApp was developed by Jan Joum and Brian Acton in 2010. The application which allows users to send message with the use of Internet, is available on the smartphones. The content of the message can be a text, an image, a video, an audio, a document or a gif. It is the most commonly used social media platform due to its instant messaging application feature <sup>78</sup>.

### *YouTube*

It is a video sharing platform which is available on both as web site and application in the smart phones. YouTube allow users to share video, comment on the shared ones, and make a live broadcast <sup>85</sup>.

### **2.1.3.11.B. Effect of SM on Eating Behavior**

In the Post-modern world, people increased their awareness of healthy eating with the emergence of healthy eating concerns, the presence of various diseases and eating trends, and the importance of appearance. It is suggested that this, in turn, may lead to an increased tendency to ON<sup>4</sup>.

In 2021, it was found that 63% of the individuals use the internet to get information<sup>73</sup>. As a result of it, the use of SM has a great impact on spreading information rapidly. For instance, any information about health or someone's experiences on health are shared on SM and individuals who are searching on it have that information. This situation leads to create an effect on decisions about health directly or indirectly<sup>86</sup>.

As the media is a source of information and the most effective advertising tool, it has an effect on purchasing behavior of individuals. Additionally, it is reported that nutritional and health information on the media creates positive behavioral changes in individuals<sup>87</sup>. However, these changes can be positive up to a point. At the same time, there is also difficult-to-notice information pollution on the media. This incorrect information also affects the purchasing and food consumption habits of individuals, especially children, teenagers and women<sup>3,87</sup>.

The study conducted to examine SM use about health issue, found that approximately half of the participants have advices about their diseases from SM and almost one third of the participants giving advices about their diseases throughout SM<sup>86</sup>.

Another study conducted to determine the effect of SM on healthy eating behavior found that participants trust contents on SM and SM use is preferred than watching TV and using computer. While 31.3% of the participants prefer to use SM in order to get nutritional information, 26.7% of them do not prefer. The topics that participants interested in SM are healthy eating, recipes and weight loss. It was also found that media affect 64.7% of the participants' nutritional habits. This effect led to positive changes on water intake, fruit consumption and packaged food consumption. Additionally, it was observed that they shop and try green tea, whole wheat products and chia seeds with the influence of SM<sup>18</sup>.

In addition to this, it is found that increase in use of SM related with the EDs<sup>88</sup>. McLean et al. found that an intervention which is having SM lessons decreases the risk

of disordered eating and dietary restraint, improvement in body esteem and realism skepticism among adolescent girls <sup>89</sup>.

In a study conducted to determine the effect of media on women's eating habits, food choices and consumption, it is found that women follow the subjects of "healthy eating" and "body weight control" on media. When education status and purchasing behavior examined, high educational status related with the behaviors with high purchase awareness. In the same study, it is also found that their eating habits and food choices are affected positively after giving birth <sup>87</sup>.

A systematic review conducted about the effect of SM on EDs, by Klassen et al. found that individuals' eating habits affected by SM and most of them use it to get health advices as frequently <sup>90</sup>. Moreover, it was found that maladaptive Facebook use leads to great eating pathology and disordered eating <sup>91,92</sup>.

Lastly, a study conducted by Koven et al. showed that awareness of diet, nutrients, and healthy eating increases with the use of SM and the Internet <sup>17</sup>. In addition to this, a study conducted by Kingr and Kardeş also found that university students follow health-related issues from SM and eating habits influenced by it <sup>18</sup>.

#### **2.1.3.11.C. Effect of SM on ON**

While the effect of SM on eating behavior is examined by various studies, its effect on ON tendency is not known well. There are limited studies in the literature that examine the effect of SM on ON <sup>19-21</sup>.

According to the study conducted by Arusoğlu et al. found that information about the contents of diet and diet products that are constantly on the agenda in the media, advertisements, and news about the fact that the contents of some products contain substances such as hormones, additives, dyes and carcinogens, today the concepts of health and beauty are associated with physical weakness <sup>93</sup>.

In addition to this, Bosi et al., found that 20% of men participants, and 38.9% of women participants' food choices have been influenced by TV programs about healthy eating <sup>39</sup>.

According to the study by Turner and Lefevre, higher Instagram use is correlated with the ON. However, Twitter use has seemed as protective association <sup>43</sup>. Similar results

observed in the studies of Cinquegrani and Atik <sup>21,94</sup>. Moreover, Lanitis and Raspin found that Instagram users have ON tendency more than non-Instagram users <sup>51</sup>. Şanlıer et al. also claiming that the media has an effect on high prevalence of ON tendency among university students in their study <sup>46</sup>. Additionally, in a study conducted with the individuals who are following a diet on Instagram, found that increased Instagram use correlated with the rise in ON tendency <sup>19</sup>.

According to the study conducted during the COVID-19 Pandemic, women with higher total ON scores reported eating a lot more than usual, feeling greater pressure to diet and lose weight, thinking about food more often than usual, experiencing greater weight gain, and perceiving more pressure from SM specifically to lose weight and to exercise, compared to the healthy participants. It is found that women with symptoms of ON are experiencing an exacerbation of disordered eating thoughts and behaviors during COVID-19 and that SM may be a contributing factor <sup>95</sup>.

### **3. MATERIAL & METHODS**

This study was conducted on a voluntary basis with students studying at Yeditepe University between the dates 20<sup>th</sup> May and 20<sup>th</sup> December 2021 and the necessary permissions have been obtained (Appendix 1).

After ethical approval from the Non-interventional Ethics Committee of Yeditepe University with the 202105053 applying number, data was collected from participants who meet the inclusion criteria after their voluntary consent (Appendix 2).

#### **3.1. Dependent and Independent Variables of The Study**

In this study that cross-sectional, descriptive characteristics, the dependent variable is considered as the ON tendency. Independent variables are the suggested factors that may be effective on ON tendency such as having health education, SM use, dietary restriction, BMI, sex, age, marital status, mother's and father's educational and work status, level of education, living environment.

#### **3.2. Participants and Data Collection**

Criteria for inclusion include being an undergraduate student at Yeditepe University, between the ages of 18-65, and the absence of any psychiatric illness.

To reach at least 377 participants with an acceptable error of  $\pm 5\%$  at a 95% confidence level of 18 064 universe sizes was aimed.

After ethical approval, the data was collected through the survey as online and face-to-face ways. The study was conducted with 955 participants who met the inclusion criteria. However, 643 of the participants completed the study face-to-face and 249 of the participants completed the study online. In total, 892 participants participated in the study.

A sociodemographic data collection form created with results from related literature was used, in addition to Social Media Integration Use Scale (SMIU) and Orto - 11 Scale. The necessary permissions for the survey forms were obtained (Appendix 3, Appendix 4).

### **3.2.1. Sociodemographic Data Collection Form**

In the sociodemographic data form, participants' use of SM, diet status, BMI, sex, age, marital status, education and work status of parents, the department they studied, the class they studied, and the environment in which they lived were questioned.

### **3.2.2. The Social Media Integration Use (SMIU) Scale**

The SMIU Scale, developed by Jenkins-Guarnieri, Wright and Johnson in 2013, that is consisted of 10 items <sup>96</sup>. Akin et al. conducted a study of the reliability of the scale in Turkish <sup>97</sup>.

The 6-type Likert scale consists of two sub-dimensions. The first 6 questions are about to sub-dimension of social integration and emotional connection, and the last 4 questions are about to sub-dimension of integration with social routines.

On the scale, the 8<sup>th</sup> phrase is evaluated in reverse. The lowest score is 10 and 60 is the highest score, which can be taken from the scale. High scores indicate high use of SM.

### **3.2.3. Orto-11 Scale**

The scale for ON was created with 10 phrases by Bratman at first. The Orto-15 scale, consisting of 15 substances, was developed by Donini and colleagues. The scale aims to reveal ON tendency, it is not used for diagnose. The Turkish validity and reliability study of the scale was conducted by Arusoğlu and colleagues <sup>5,6,23</sup>.

The scale was named Orto-11 because it reached the best level of operability with 11 substances. The substances contained in the scale answered by a 4-Likert-type rating consist of judgments that evaluate the individual's ability to select, purchase, prepare and consume foods that they consider healthy.

Individuals are required to choose one of the phrases “always”, “often”, “sometimes” and “never” in order for the stated judgments to express their own frequency.

Score of “1” is given for distinctive expressions for ON, and “4” for expressions of normal eating behavior. As a result of the assessment, the low score shows an orthorectic tendency.

On the other hand, there is not a certain cut-off score of the scale. The score, corresponding to the 25% quartile was taken as the cut-off score <sup>6</sup>.

### 3.3. Analysis of the Data

BMI was calculated with the formula, weight (kg) / (height (m) )<sup>2</sup>, and categorized according to the classification of the World Health Organization (WHO). For the statistical analysis, BMI was categorized into 4 groups “<18.5”, “18.5-24.9”, “25.0-29.9” and “≥30”, because of the low number of samples at the BMI group of “35.0-39.9” and “≥40”. Despite to the low sample size of “5<sup>th</sup>” and “6<sup>th</sup>” class groups, they merged as “4<sup>th</sup> and above” .

As participants who have ND double major or minor program were having lectures, they were thought of as ND students. The categorization was redone according to this.

While conducting the statistical analysis, participants of the “illiterate” group (n=1) and “other” group of the working status of mothers (n=4) were excluded. “Literate” and “primary school graduate” groups of education status of father were merged.

For the statistical analysis, the choice of “other” of living place was excluded and supermarket shopping status grouped as only shopping “his/her-self” and “others”. Moreover, the status of cooking groups was redone as “his/her-self”, “Eating outside/ Ordering” and “others”.

Participants’ diseases were categorized as needing MNT or not according to the literature <sup>98</sup>. Lastly, PA is categorized into three groups “any activity”, “under activity recommendation” and “exceed activity recommendation”, according to the WHO recommendations for healthy life <sup>99</sup>.

Analysis of the study data was done using the SPSS program in the Windows environment. Quantitative data from the study was presented with mean, standard deviation, and minimum and maximum values. Qualitative data were presented with frequency and percentage values.

Test of normality done with the Kolmogorov Smirnov test. As the data of the study had non-normal distribution, non-parametric tests were applied. The Mann-Whitney U test was used to compare the data of two groups, and the Kruskal Wallis test was used to

compare the 3 and more groups. For the post-hoc analysis one-way ANOVA tests were used. Quantitative independent variables were compared with Spearman's correlation test. Statistically, the significant value was considered  $p < 0.05$ .



#### 4. RESULTS

Sex distribution of the participants was 82.2% (n=733) women and 17.8% (n=159) men. In addition to this, 98.9% (n=879) of them were single as shown in Table 4.1.

**Table 4.1. The Distribution of Sex and Marital Status of Participants**

		n	%
<b>Sex</b>	Woman	733	82.2
	Man	159	17.8
<b>Marital Status</b>	Married	10	1.1
	Single	882	98.9
<b>Total</b>		<b>892</b>	<b>100</b>

The mean age of the participants was  $20.97 \pm 2.26$  years (maximum 38 years, minimum 18 years). While the mean body weight was  $62.13 \pm 13.86$  kg, the mean BMI was  $21.59 \pm 3.55$  kg/m<sup>2</sup> (Table 4.2). Table 4.3 shows the BMI classification of the participants.

**Table 4.2. Distribution of Age, Body Weight, and BMI of the Participants**

	Age (year)	Weight (kg)	BMI (kg/m <sup>2</sup> )
Mean	20.9709	62.1370	21.5947
Median	21.0000	58.0000	20.8250
Std. Deviation	2.26852	13.86236	3.55695
Minimum	18.00	40.00	15.19
Maximum	38.00	150.00	45.79

BMI: Body Mass Index; kg: kilogram; m: meter

**Table 4.3. BMI Classification of the Participants**

	<b>n</b>	<b>%</b>
<b>&lt;18.5</b>	143	16
<b>18.5-24.9</b>	609	68.3
<b>25.0-29.9</b>	113	12.7
<b>30.0-34.9</b>	23	2.6
<b>35.0-39.9</b>	3	0.3
<b>≥40</b>	1	0.1
<b>Total</b>	<b>892</b>	<b>100</b>

There were 892 participants from 58 different departments. Table 4.4 shows the departments of the participants.

**Table 4.4. Departments of the Participants**

	<b>n</b>	<b>%</b>
Nutrition and Dietetics	300	33.6
Information Security Technology	1	0.1
Computer Engineering	7	0.8
Biomedical Engineering	9	1
Translation and Interpreting	7	0.8
Dentistry	104	11.7
Pharmacy	26	2.9
Economics	3	0.3
Electrical & Electronics Engineering	10	1.1
Electronics Technology	1	0.1
Industrial Engineering	7	0.8
Industrial Design	6	0.7
E-Commerce Management	1	0.1
Physics	4	0.4
Physiotherapy and Rehabilitation	83	9.3
Gastronomy and Culinary Arts	21	2.4
Genetics and Bioengineering	9	1
Food Engineering	15	1.7
Visual Communication Design	1	0.1
Graphic Design	5	0.6
The Custom and Border Management	1	0.1
Public Relations and Publicity	2	0.2
Nursing	79	8.9

Law	6	0.7
Interior Architecture	10	1.1
English Language and Literature	1	0.1
English Language Teaching	6	0.7
Internet and Network Technologies	1	0.1
Business Administration	6	0.7
Public Administration	1	0.1
Comparative Literature	1	0.1
Chemical Engineering	8	0.9
Logistics Management	1	0.1
Mechanical Engineering	5	0.6
Materials Science and Nanotechnology	3	0.3
Engineering		
Mathematics	1	0.1
Mechatronics	2	0.2
Architecture	1	0.1
Textile and Fashion Design	2	0.2
Special Education Teaching	3	0.3
Guidance and Psychological Counseling	7	0.8
Urban Design and Landscape Architecture	1	0.1
Plastic Arts and Painting	10	1.1
Psychology	23	2.6
Radio Television and Cinema	5	0.6
Advertising Design and Communication	3	0.3
Department		
Russian Language and Literature	2	0.2
Arts and Culture Management	1	0.1
Political Science and International Relations	5	0.6
History	1	0.1
Medicine	56	6.3
Theatre	3	0.3
Turkish Language and Literature	1	0.1
International Finance	1	0.1
International Trade and Business	2	0.2
International Trade and Logistics Management	1	0.1
Software Development	2	0.2
Management Information Systems	8	0.9
<b>Total</b>	<b>892</b>	<b>100</b>

Participants were asked whether they study double major/minor program or not. The answers were categorized as “do not have” (84.1 %) , “ND” (4.1 %) , “health departments except ND” (1.1 %) and “other” (10.7 %) (Table 4.5) .

**Table 4.5. Double/Minor Major Program Education of the Participants**

	<b>n</b>	<b>%</b>
<b>Do not have</b>	750	84.1
<b>ND</b>	37	4.1
<b>Health Departments Except ND</b>	10	1.1
<b>Other</b>	95	10.7
<b>Total</b>	<b>892</b>	<b>100</b>

ND: Nutrition and Dietetics

Furthermore, the participants were categorized as “studying ND” (37.6 %) , “health except ND” (35.9 %) and “other departments” (26.5 %) for the statistical analysis as located in Table 4.6 below.

**Table 4.6. Categorization of the Participants’ Departments**

	<b>n</b>	<b>%</b>
<b>ND</b>	336	37.7
<b>Health except ND</b>	320	35.9
<b>Other</b>	236	26.5
<b>Total</b>	<b>892</b>	<b>100</b>

ND: Nutrition and Dietetics

The distribution of the participants’ classes was respectively as follows 26.3% from “1<sup>th</sup>”, 26.1% from “2<sup>nd</sup>”, 27.7% from “3<sup>rd</sup>”, 14.9% from “4<sup>th</sup>”, 2.6% from “5<sup>th</sup>”, 0.2% from “6<sup>th</sup>” class and 2.1% from “Prep School” (Table 4.7) .

**Table 4.7. Classes of the Participants**

	<b>n</b>	<b>%</b>
<b>1<sup>th</sup></b>	235	26.3
<b>2<sup>nd</sup></b>	233	26.1
<b>3<sup>rd</sup></b>	247	27.7
<b>4<sup>th</sup></b>	133	14.9
<b>5<sup>th</sup></b>	23	2.6
<b>6<sup>th</sup></b>	2	0.2
<b>Prep School</b>	19	2.1
<b>Total</b>	<b>892</b>	<b>100</b>

Participants asked in which student club they are active. The student clubs were categorized as “nutrition club” (3.7%) , “other health clubs” (5.8%) , “sport and dance clubs” (3%) , and “other” (8.7%) as in Table 4.8 . Addition to this, 78.7% (n=698) of the participants were not active in any student club.

**Table 4.8. Student Clubs of the Participants in which They are Active**

	<b>n</b>	<b>%</b>
<b>None</b>	702	78.7
<b>Nutrition Club</b>	33	3.7
<b>Other Health Clubs</b>	52	5.8
<b>Sport &amp; Dance Clubs</b>	27	3
<b>Others</b>	78	8.7
<b>Total</b>	<b>892</b>	<b>100</b>

The income status of the participants were examined as comparing income and expense status that shown in the Table 4.9 . It was found that n=450 (50.4%) participants’ income is equal to their expenses. While n=204 (22.9%) participants’ income is greater than their expenses, n=238 (26.7%) participants’ income is lower than their expenses.

**Table 4.9 Income Status of the Participants**

	<b>n</b>	<b>%</b>
<b>Income &gt; Expense</b>	204	22.9
<b>Income = Expense</b>	450	50.4
<b>Income &lt; Expense</b>	238	26.7
<b>Total</b>	<b>892</b>	<b>100</b>

Participants' mother and father's both educational and work status were asked and shown in Table 4.10.

**Table 4.10 Educational and Work Status of Mother and Father**

		<b>n</b>	<b>%</b>	
<b>Educational Status</b>	<b>Mother</b>	Illiterate	1	0.1
		Literate	13	1.5
		Primary school graduate	154	17.3
		High school graduate	305	34.2
		At least Bachelor's degree	419	47
	<b>Father</b>	Literate	4	0.4
		Primary school graduate	132	14.8
		High school graduate	276	30.9
		At least Bachelor's degree	480	53.8
<b>Working Status</b>	<b>Mother</b>	Working	243	27.2
		Not working	547	61.3
		Retired	98	11
		Other	4	0.4
	<b>Father</b>	Working	762	85.4
		Not working	14	1.6
		Retired	99	11.1
		Other	17	1.9
		<b>Total</b>	<b>892</b>	<b>100</b>

Table 4.11 shows participants' living place, the person whom they are living with, status of supermarket shopping, and cooking. While 86.7% (n=773) of them lives at home, 13.1% (n=117) lives in dormitory.

On the other hand, 44.7% (n=399) of the participants “live alone”, 38% of them “live with their families”, 13.7% of them “live with friends” , and lastly 3.6% of them “live with others” .

n=530 (59.4%) participants mostly do their supermarket shopping by themselves. However, supermarket shopping of participants is mostly done by “family” 38.8% , “other” 1.2% , and “friends” 0.6% .

Lastly, 48.7% (n=434) of the participants mostly cook their meals by “his/her-self” . There were n=130 (14.6%) participants who “order from outside”, n=311 (34.9%) whose meals mostly cooked by “family” , and n=6 (0.7%) whose meals mostly cooked by “friend”.

**Table 4.11. Participants’ Living Place, the Person whom They are Living with, Status of Supermarket Shopping and Status of Cooking**

		<b>n</b>	<b>%</b>
<b>Living Place</b>	Home	773	86.7
	Dormitory	117	13.1
	Other	2	0.2
<b>Person whom living with</b>	His/her-self	399	44.7
	Friend	122	13.7
	Family	339	38
	Other	32	3.6
<b>Status of Supermarket Shopping</b>	His/her-self	530	59.4
	Friend	5	0.6
	Family	346	38.8
	Other	11	1.2
<b>Status of Cooking</b>	Her/ His-self	434	48.7
	Eating outside/ Ordering	130	14.6
	Friend	6	0.7
	Family	311	34.9
	Other	11	1.2
<b>Total</b>		<b>892</b>	<b>100</b>

The status of having any diagnosed chronic disease, MNT, have been on a diet in the last 6 months, and the status of shopping with the influence of SM were shown in Table 4.12.

It was found that n=747 (83.7%) participants who does not have any disease. While 8.4% (n=75) of the participants have disease which requires MNT, 7.8% (n=70) of them have disease but does not require MNT.

There were n=22 (2.5%) participants who are already having MNT and n=204 (22.9%) participants have been on a diet in the last 6 months. On the other hand, 66.4% (n=594) of the participants buy a food with the influence of SM. While 85.3 % of SM-influenced shoppers are women, men consisted of 14.7 %. Among overall participants, 68.9 % of women and 54.7 % of men do shopping with the influence of SM.

**Table 4.12. Status of Having any Diagnosed Chronic Disease, Having MNT, Have been on a Diet in the last 6 Months, and Status of Shopping with the Influence of SM**

		n	%
<b>The Status of Having a Chronic Disease</b>	Do not have any disease	747	83.7
	Disease requires MNT	75	8.4
	Diseases do not require MNT	70	7.8
<b>Having MNT</b>	Yes	22	2.5
	No	870	97.5
<b>Have been on a Diet in the Last 6 Months</b>	Yes	204	22.9
	No	688	77.1
<b>The Status of Shopping with the Influence of SM</b>	Yes	592	66.4
	No	300	33.6
<b>Total</b>		<b>892</b>	<b>100</b>

MNT: Medical Nutritional Therapy; SM: Social Media

Table 4.13 shows the smoking, alcohol consumption and PA of the participants. The smoking ratio among participants was found as 25.9% (n=231), and alcohol consumption was 71.4% (n=637).

While 40.4% (n=360) of the participants exceed recommended activity, 43.8% (n=391) were not doing any physical activity, and 15.8% (n=141) were active but their activity was under the recommendation.

**Table 4.13. Smoking, Alcohol Consumption and Physical Activity (PA) of the Participants**

		<b>n</b>	<b>%</b>
<b>Smoking</b>	Yes	231	25.9
	No	661	74.1
<b>Alcohol Consumption</b>	Do not consume	255	28.6
	Consuming	637	71.4
<b>PA</b>	Any activity	391	43.8
	Under activity recommendation	141	15.8
	Exceed activity recommendation	360	40.4
<b>Total</b>		<b>892</b>	<b>100</b>

PA: Physical Activity

Moreover, participants' total spent time on SM and SM platforms shown in the Table 4.14.a and Table 4.14.b. The mean of total time spent on SM platforms per day is  $396.78 \pm 270.89$  minutes (min.) (maximum 2520 min.). However, n=4 participants' do not use any SM platforms and do not spend time on them.

It was found that Instagram was the most popular SM platform of all. It has preferred by 863 participants. In addition to this, the mean time that participants spent on it, was  $111.22 \pm 76.38$  minutes per day. The least preferred SM platform was Clubhouse (n=6) which is followed by Tumblr (n=8). The mean time spent on LinkedIn was the lowest one ( $18.6933 \pm 23.23905$  minutes).

**Table 4.14.a. Participants' Total Time Spending on SM**

	<b>Total Time Spent on SM (min./day)</b>
Mean	398.5698
Median	340.0000
Std. Deviation	270.18682
Minimum	8.00
Maximum	2520.00

Min.: minutes

**Table 4.14.b. Participants’ spending time on SM Platforms**

	n	Minimum (min.)	Maximum (min.)	Mean (min.)	Std. Deviation (min.)
<b>Clubhouse</b>	6	10	75	54.1667	22.45366
<b>Facebook</b>	62	1	180	34.3065	38.70552
<b>Instagram</b>	863	1	600	111.2202	76.38792
<b>LinkedIn</b>	163	1	180	18.6933	23.23905
<b>Pinterest</b>	219	1	120	24.8493	23.76375
<b>Snapchat</b>	512	1	500	47.5996	56.30868
<b>Spotify</b>	673	1	1200	111.6523	99.86952
<b>TikTok</b>	185	1	642	75.7459	74.15286
<b>Tumblr</b>	8	7	90	30.2500	28.16660
<b>Twitter</b>	439	1	300	53.4487	51.80633
<b>WhatsApp</b>	609	1	720	86.1182	87.24347
<b>YouTube</b>	680	1	570	76.8279	69.69763
<b>Other</b>	62	5	300	82.0161	58.50921

*The number of n is greater than sample volume.*

Min: minutes

Choices that participants prefer to follow in order to get nutritional information on SM are shown in Table 4.15. They were able to select more than one choice. While 9.1% (n=177) of the participants were not following someone on SM in order to get nutritional information, the rest of the participants follow at least one of the choices.

The choices which participants prefer to follow are respectively “dietician” 25% (n=488) , “family member – friend” 16.2% (n=316) , “coach/life coach/sportsperson” 14.9% (n=291) , “health professionals except dietician” 13.4% (n=262) , “chef” 8.8% (n=172) , influencer/artist” 7.8% (n=153) , “newspaper/journal/news accounts” 4.7% (n=92) .

**Table 4.15. Choices which Participants prefer to follow in order to get Nutritional Information on SM**

	Responses		% of Cases
	n	%	
<b>Family Member - Friend</b>	316	16.2%	35.4%
<b>Coach/ Life Coach/ Sports person</b>	291	14.9%	32.6%
<b>Dietician</b>	488	25.0%	54.7%
<b>Health Professionals except Dietician</b>	262	13.4%	29.4%
<b>Influencer/ Artist</b>	153	7.8%	17.2%
<b>Newspaper/ Journal/ News Accounts</b>	92	4.7%	10.3%
<b>Chef</b>	172	8.8%	19.3%
<b>No one</b>	177	9.1%	19.8%
<b>Total</b>	<b>1951</b>	<b>100%</b>	<b>218.7%</b>

*The number of n is greater than sample volume.*

Table 4.16.a shows the participants' answers to the SMIU scale.

**Table 4.16.a. Answers' of the Participants to SMIU Scale**

	1	2	3	4	5	6	
	<b>Totally Disagree</b>			<b>Totally Agree</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	
	%	%	%	%	%	%	
	(n)	(n)	(n)	(n)	(n)	(n)	
<b>1</b>	I feel disconnected from my friends when I have not logged into SM	<b>25.3%</b> (226)	<b>24.4%</b> (218)	<b>24.3%</b> (217)	<b>14.1%</b> (126)	<b>7.7%</b> (69)	<b>4%</b> (36)
<b>2</b>	I would like it if everyone used SM to communicate	<b>39.3%</b> (351)	<b>25.6%</b> (228)	<b>19.3%</b> (172)	<b>8.6%</b> (77)	<b>4.3%</b> (38)	<b>2.9%</b> (26)
<b>3</b>	I would be nervous if I could not use SM at all	<b>36.1%</b> (322)	<b>29.8%</b> (266)	<b>15.6%</b> (139)	<b>9%</b> (80)	<b>6.1%</b> (54)	<b>3.5%</b> (31)
<b>4</b>	I get upset when I can't log on to SM	<b>32.3%</b> (288)	<b>29.3%</b> (261)	<b>17.8%</b> (159)	<b>10.9%</b> (97)	<b>6.3%</b> (56)	<b>3.5%</b> (31)
<b>5</b>	I prefer to communicate with others mainly through SM	<b>44.4%</b> (396)	<b>29.9%</b> (267)	<b>11.1%</b> (99)	<b>8.9%</b> (79)	<b>3.7%</b> (33)	<b>2.0%</b> (18)
<b>6</b>	SM plays an important role in my social relationships	<b>18.5%</b> (165)	<b>24.9%</b> (222)	<b>25.3%</b> (226)	<b>15.9%</b> (142)	<b>9.4%</b> (84)	<b>5.9%</b> (53)
<b>7</b>	I enjoy checking my SM account/accounts	<b>9.9%</b> (88)	<b>10.8%</b> (96)	<b>21.4%</b> (191)	<b>19.3%</b> (172)	<b>22.1%</b> (197)	<b>16.6%</b> (148)
<b>8</b>	I don't like to use SM	<b>5.0%</b> (45)	<b>6.1%</b> (54)	<b>7.1%</b> (63)	<b>17.8%</b> (159)	<b>25.6%</b> (228)	<b>38.5%</b> (343)
<b>9</b>	Using SM is part of my everyday routine	<b>3.6%</b> (32)	<b>8.3%</b> (74)	<b>19.7%</b> (176)	<b>19.1%</b> (170)	<b>23.8%</b> (212)	<b>25.6%</b> (228)
<b>10</b>	I respond to content that others share using SM	<b>12.9%</b> (115)	<b>18.5%</b> (165)	<b>24.4%</b> (218)	<b>18.2%</b> (162)	<b>15.8%</b> (141)	<b>10.2%</b> (91)

Participants answers to the Orto-11 scale shown in Table 4.16.b.

**Table 4.16.b. Answers' of the Participants to Orto-11 Scale**

		<b>Always</b>	<b>Often</b>	<b>Sometimes</b>	<b>Never</b>
		<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
		<b>(n)</b>	<b>(n)</b>	<b>(n)</b>	<b>(n)</b>
<b>1</b>	When eating, do you pay attention to the calories of the food?	<b>5.8%</b> (52)	<b>16.6%</b> (148)	<b>49.1%</b> (438)	<b>28.5%</b> (254)
<b>3</b>	In the last 3 months, did the thought of food worry you?	<b>9.8%</b> (87)	<b>19.5%</b> (174)	<b>38.5%</b> (343)	<b>32.3%</b> (288)
<b>4</b>	Are your eating choices conditioned by your worry about your health status?	<b>18.3%</b> (163)	<b>31.6%</b> (282)	<b>41.5%</b> (370)	<b>8.6%</b> (77)
<b>6</b>	Are you willing to spend more money to have healthier food?	<b>13.5%</b> (120)	<b>26.8%</b> (239)	<b>49.2%</b> (439)	<b>10.5%</b> (94)
<b>7</b>	Does the thought about food worry you for more than three hours a day?	<b>3.5%</b> (31)	<b>5.3%</b> (47)	<b>22.3%</b> (199)	<b>68.9%</b> (615)
<b>8</b>	Do you allow yourself any eating transgressions?	<b>6.8%</b> (61)	<b>54.0%</b> (482)	<b>25.9%</b> (231)	<b>13.2%</b> (118)
<b>10</b>	Do you think that the conviction to eat only healthy food increase the self-esteem?	<b>24.7%</b> (220)	<b>30.5%</b> (272)	<b>33.1%</b> (295)	<b>11.8%</b> (105)
<b>11</b>	Do you think that eating healthy food changes your lifestyle (frequency of eating out, friends, ..)?	<b>21.5%</b> (192)	<b>29.6%</b> (264)	<b>36.2%</b> (323)	<b>12.7%</b> (113)
<b>12</b>	Do you think that consuming healthy food may improve your appearance?	<b>53.5%</b> (477)	<b>30.0%</b> (268)	<b>13.8%</b> (123)	<b>2.7%</b> (24)
<b>13</b>	Do you feel guilty when transgressing?	<b>12.7%</b> (113)	<b>21.5%</b> (192)	<b>47.1%</b> (420)	<b>18.7%</b> (167)
<b>14</b>	Do you think that on the market there is also unhealthy food?	<b>72.4%</b> (646)	<b>16.33%</b> (145)	<b>8.2%</b> (73)	<b>3.1%</b> (28)

While the mean score of SMIU was  $30.66 \pm 8.84$ , the mean score of OTS was  $27.44 \pm 5.25$ . The mean score of the sub-dimension of social integration and emotional connection was  $14.5202 \pm 5.89095$ , and The mean score of the sub-dimension of integration with social routines was  $16.1480 \pm 4.32367$  shown in Table 4.17.

**Table 4.17. Score Distributions of The Scales**

	n	Min.	Max.	Mean	Std. Deviation
<b>SMIU Total Score</b>	892	10.00	60.00	30.6682	8.84495
<b>Sub-Dimensions</b>	Social Integration and Emotional Connection	6.00	36.00	14.5202	5.89095
	Integration with Social Routines	4.00	24.00	16.1480	4.32367
<b>OTS</b>	892	12.00	44.00	27.4462	5.25878

SMIU: Social Media Integration Use; OTS: Orto-11 Total Score; Min:minimum; Max:Maximum

When the score corresponding to the 25% quartile was taken as the cut-off score, the score of 24 became cut-off score of the study <sup>6</sup>. n=205 participants had OTS under the score 24 which means they have ON tendency.

According to the cut-off score, the prevalence of the ON tendency in this study was detected as 23%. Tendency of ON was found as 22.5% (n=165) among women, and 25.2% (n=40) among men. It was found that 60% of married, and 22.6% of single participants have ON tendency.

The ON tendency among BMI groups were as follows 9.8% in “<18.5” BMI group, 23.6% in “18.5-24.9” BMI group, 34.5% in “25.0-29.9” BMI group, and lastly 29.6% in “≥30” BMI group.

Additionally, 22.5% of those who does not have any chronic disease, 32% of those whose disease require MNT, and 18.6% of those whose disease do not require MNT showed ON tendency. The ON tendency was found as 59.1% in participants who has MNT, 22.1% in participants who does not have MNT. The ON tendency was detected as 40.2% in participants who has been on a diet last 6 months and 17.9% in participants who has not been on a diet last 6 months.

Moreover, the prevalence of orthorectic students within departments as follows 24.7 % in ND, 19.2 % in Dentistry, 28 % in Pharmacy, 19.4 % in Physiotherapy and Rehabilitation, 15.9 % in Nursing, 23.2 % in Medicine and 24.6% in other departments (Table 4.18).

**Table 4.18. The Prevalence of ON Tendency by Departments**

		ON Tendency		Total	
		Orthorectic	Healthy		
<b>Department</b>	<b>ND</b>	(n)	83	253	336
		% within Dep.	<b>24.7%</b>	<b>75.3%</b>	100.0%
		% of Total	<b>9.3%</b>	<b>28.4%</b>	37.7%
	<b>Dentistry</b>	(n)	20	84	104
		% within Dep.	<b>19.2%</b>	<b>80.8%</b>	100.0%
		% of Total	<b>2.2%</b>	<b>9.4%</b>	11.7%
	<b>Pharmacy</b>	(n)	7	18	25
		% within Dep.	<b>28.0%</b>	<b>72.0%</b>	100.0%
		% of Total	<b>0.8%</b>	<b>2.0%</b>	2.8%
	<b>Physiotherapy and Rehabilitation</b>	(n)	14	58	72
		% within Dep.	<b>19.4%</b>	<b>80.6%</b>	100.0%
		% of Total	<b>1.6%</b>	<b>6.5%</b>	8.1%
	<b>Nursing</b>	(n)	10	53	63
		% within Dep.	<b>15.9%</b>	<b>84.1%</b>	100.0%
		% of Total	<b>1.1%</b>	<b>5.9%</b>	7.1%
	<b>Medicine</b>	(n)	13	43	56
		% within Dep.	<b>23.2%</b>	<b>76.8%</b>	100.0%
		% of Total	<b>1.5%</b>	<b>4.8%</b>	6.3%
	<b>Others</b>	(n)	58	178	236
		% within Dep.	<b>24.6%</b>	<b>75.4%</b>	100.0%
		% of Total	<b>6.5%</b>	<b>20.0%</b>	26.5%
	<b>Total</b>	(n)	205	687	892
		% within Dep.	23.0%	77.0%	100.0%
		% of Total	<b>23.0%</b>	<b>77.0%</b>	100.0%

ND: Nutrition and Dietetics; Dep.: Department; ON: Orthorexia Nervosa

It was observed that the sex (p=0.111), class (p=0.743), student club they attended (p=0.791), and income level status (p=0.747) of the participants did not make a significant difference on the OTS (Table 4.19).

OTS was higher in single participants than in married ones, and this difference was statistically significant ( $p=0.028$ ). A statistically significant difference was found between the BMI classes of the participants and OTS ( $p<0.001$ ). There was a statistically significant difference between the departments of participants and OTS ( $p=0.013$ ) (Table 4.19).

**Table 4.19. The Relationship between OTS and Sex, Marital Status, BMI, Department, Class, Student Club, and Income Status**

		<b>n</b>	<b>p</b>
<b>Sex</b>	Woman	733	0.111
	Man	159	
<b>Marital Status</b>	Married	10	<b>0.028</b>
	Single	882	
<b>BMI Classification</b>	<18.5	143	<b>&lt;0.001</b>
	18.5-24.9	609	
	25.0-29.9	113	
	$\geq 30.0$	27	
<b>Department</b>	ND	336	<b>0.013</b>
	Other Health Departments Except for ND	320	
	Others	236	
<b>Class</b>	1 <sup>th</sup>	235	0.743
	2 <sup>nd</sup>	233	
	3 <sup>rd</sup>	247	
	4 <sup>th</sup>	133	
	5&6 <sup>th</sup>	25	
	Prep School	19	
<b>Student Club</b>	None	702	0.791
	Nutrition Club	33	
	Other Health Clubs	52	
	Sport & Dance Clubs	27	
	Others	78	
<b>Income Status</b>	Income > Expense	204	0.747
	Income = Expense	450	
	Income < Expense	238	

\* $p<0.05$  is accepted as statistically significant.

BMI: Body Mass Index; ND: Nutrition and Dietetics

OTS of “<18.5 kg/m<sup>2</sup>” BMI group was higher than others and this difference was statistically significant (p<0.05). OTS of the participants whose BMI at “18.5-24.9 kg/m<sup>2</sup>” was higher than “25.0-29.9 kg/m<sup>2</sup>” “≥30.0 kg/m<sup>2</sup>” BMI groups’. Lastly, OTS of the “25.0-29.9 kg/m<sup>2</sup>” BMI group was higher than “≥30.0 kg/m<sup>2</sup>” BMI group’s. However, these differences were not statistically significant.

OTS of the participants from “ND” was lower than “other health departments” and “other” . “Other health department”’s OTS was higher than “other” . However, the only significant difference was observed between “ND” and “other health department” group (p=0.028).

There was a negative but statistically non-significant correlation between OTS and age (p=0.494). A significant and negative correlation was found between OTS and body weight (p=0.002). As body weight increases, OTS decreases. Lastly, there was a negative and statistically significant correlation between OTS and BMI (p<0.001). Increase of the BMI leads to a decrease in OTS (Table 4.20).

**Table 4.20 The Correlations between OTS and Age, Body Weight, and BMI**

		<b>Age</b>	<b>OTS</b>
<b>Age</b>	Correlation Coefficient	1.000	-.023
	p		0.494
	n	892	892
		<b>Weight</b>	<b>OTS</b>
<b>Body Weight</b>	Correlation Coefficient	1.000	-.104**
	p value		<b>0.002</b>
	n	892	892
		<b>BMI</b>	<b>OTS</b>
<b>BMI</b>	Correlation Coefficient	1.000	-.166**
	p		<b>&lt;0.001</b>
	n	892	892

OTS: Orto-11 Total Score; BMI: Body Mass Index

*Spearman's rho*

There were statistically non-significant differences on OTS, in terms of educational and work status of both mother and father (Table 4.21).

**Table 4.21. The Relationship between OTS and Educational and Working Status of Parents**

		<b>n</b>	<b>p</b>
<b>Educational Status of Mother</b>	Literate	13	0.655
	Primary school graduate	154	
	High school graduate	305	
	At least Bachelor's degree	419	
<b>Educational Status of Father</b>	Literate - Primary school graduate	136	0.880
	High school graduate	276	
	At least Bachelor's degree	480	
<b>Working Status of Mother</b>	Working	243	0.386
	Not working	547	
	Retired	98	
<b>Working Status of Father</b>	Working	762	0.288
	Not working	14	
	Retired	99	
	Other	17	

\* $p < 0.05$  is accepted as statistically significant.

When living place ( $p=0.902$ ), person whom living with ( $p=0.733$ ), the status of supermarket shopping ( $0.299$ ), and status of cooking ( $p=0.069$ ) of the participants examined, and there was no statistically significant difference on OTS (Table 4.22).

**Table 4.22. The Relationship between OTS and Living Place, Person whom living with, Status of Supermarket Shopping and Status of Cooking**

		<b>n</b>	<b>p</b>
<b>Living Place</b>	Home	773	0.902
	Dormitory	117	
<b>Person whom living with</b>	His/her-self	399	0.733
	Friend	122	
	Family	339	
	Other	32	
<b>Status of Supermarket Shopping</b>	His/her-self	530	0.299
	Other	362	
<b>Status of Cooking</b>	Her/ His-self	434	0.069
	Eating outside/ Ordering	130	
	Other	328	

\*p<0.05 is accepted as statistically significant.

It was found that there was statistically non-significant difference between status of having chronic disease and OTS ( $p=0.08$ ). It was observed that having MNT ( $p<0.001$ ), have been on a diet in the last 6 months ( $p<0.001$ ), and status of shopping with the influence of SM ( $p<0.001$ ) made a statistically significant difference on OTS (Table 4.23). OTS of the participants who has MNT, who has been on a diet last 6 months, and who do shopping with the influence of SM were lower than others which indicates ON tendency.

**Table 4.23. The Relationship between OTS and Status of Having a Chronic Disease, MNT, Have been on a Diet in the Last 6 Months and Status of Shopping with the Influence of SM**

		<b>n</b>	<b>p</b>
<b>Status of Having a Chronic Disease</b>	Do not have any disease	747	0.08
	Disease need MNT	75	
	Disease do not need MNT	70	
<b>MNT</b>	Yes	22	<b>&lt;0.001</b>
	No	870	
<b>Have been on a Diet in the Last 6 Months</b>	Yes	204	<b>&lt;0.001</b>
	No	688	
<b>Status of Shopping with the Influence of SM</b>	Yes	592	<b>&lt;0.001</b>
	No	300	

\*p<0.05 is accepted as statistically significant.

MNT: Medical Nutritional Therapy; SM: Social Media

It was observed that smoking status ( $p=0.962$ ), smoking number of cigarettes ( $p=0.63$ ), and alcohol consumption ( $0.737$ ) were statistically non-significant on OTS (Table 4.24).

It was found that the level of PA made a statistically significant difference on OTS ( $p=0.001$ ). OTS of the “any activity” group was higher than others. However, the only statistically significant difference was observed between “any activity group” and “exceed activity advice” group ( $p=0.001$ ). “Under activity advice” group’s OTS was higher than “exceed activity advice” group and this difference was statistically non-significant (Table 4.24).

**Table 4.24. The Relationship between OTS and Smoking, Alcohol Consumption and Physical Activity**

		<b>n</b>	<b>p</b>
<b>Smoking</b>	Yes	231	0.962
	No	661	
<b>Smoking</b>	1-10 cigarettes	138	0.63
	11-19 cigarettes	29	
	≥20 cigarettes	64	
<b>Alcohol Consumption</b>	Do not consume	255	0.737
	Consuming	637	
<b>PA</b>	Any activity	391	<b>0.001</b>
	Under activity advice	141	
	Do enough activity	360	

\*p<0.05 is accepted as statistically significant.

PA: Physical Activity

Table 4.25 shows the correlation between OTS and total time spent on SM. There was a negative correlation, increase in total time spending on SM lead to decrease in OTS. However, this correlation was statistically non-significant (p=0.283) .

**Table 4.25 The Correlation between OTS and Total Time Spent on SM**

		<b>Total Time Spent on SM</b>	<b>OTS</b>
<b>Total Time Spent on SM</b>	Correlation Coefficient	1.000	-.036
	p value		0.283
	n	892	892

OTS: Orto-11 Total Score; SM: Social Media

*Spearman's rho*

It was found that there were statistically non-significant differences between OTS and the use of Clubhouse (p=0.251), Facebook (p=0.151), LinkedIn (p=0.577), Snapchat (p=0.559), Spotify (p=0.121), Tumblr (p=0.899), Twitter (p=0.873), WhatsApp (p=0.470), Youtube (p=0.588). However, participants who does not use Instagram (p=0.006), Pinterest (p=0.001), and TikTok (p=0.001) had higher OTS than others which

indicates lower ON tendency and these differences were statistically significant (Table 4.26).

**Table 4.26 The Relationship between OTS and Use of SM Platforms**

		<b>n</b>	<b>p</b>
<b>Clubhouse</b>	Yes	6	0.251
	No	886	
<b>Facebook</b>	Yes	62	0.151
	No	830	
<b>Instagram</b>	Yes	863	<b>0.006</b>
	No	29	
<b>LinkedIn</b>	Yes	163	0.577
	No	729	
<b>Pinterest</b>	Yes	219	<b>0.001</b>
	No	673	
<b>Snapchat</b>	Yes	512	0.559
	No	380	
<b>Spotify</b>	Yes	673	0.121
	No	219	
<b>TikTok</b>	Yes	18	<b>0.001</b>
	No	707	
<b>Tumblr</b>	Yes	8	0.899
	No	884	
<b>Twitter</b>	Yes	439	0.873
	No	453	
<b>WhatsApp</b>	Yes	609	0.470
	No	283	
<b>YouTube</b>	Yes	680	0.588
	No	212	
<b>Other</b>	Yes	62	0.195
	No	830	

OTS was higher in participants who does not follow anyone to get nutritional information on SM than in participants who follow at least one of the choices. It indicates that participants who does not follow anyone to get nutritional information on SM have lower ON tendency. This difference was statistically significant ( $p < 0.001$ ).

There were statistically non-significant differences between OTS and following family member – friend (p=0.600) to get nutritional information. However, OTS was statistically higher who does not follow coach/life coach/sportsperson (p<0.001), dietician (p<0.001), health professionals except dietician (p=0.031), influencer/artist (p<0.001), newspaper/journal/news accounts (p=0.001), and chef (p=0.019) than who follows them to get nutritional information (Table 4.27).

**Table 4.27 The Relationship between OTS and Choices that Participants prefer to follow in order to get Nutritional Information on SM**

		<b>n</b>	<b>p</b>
<b>Following No One</b>	Yes	177	<b>&lt;0.001</b>
	No	715	
<b>Following Family Member - Friend</b>	Yes	316	0.600
	No	576	
<b>Following Coach/ Life Coach/ Sportsperson</b>	Yes	291	<b>&lt;0.001</b>
	No	601	
<b>Following Dietician</b>	Yes	488	<b>&lt;0.001</b>
	No	404	
<b>Following Health Professionals except Dietician</b>	Yes	262	<b>0.031</b>
	No	630	
<b>Following Influencer/ Artist</b>	Yes	153	<b>&lt;0.001</b>
	No	739	
<b>Following Newspaper/ Journal/ News Accounts</b>	Yes	92	<b>&lt;0.001</b>
	No	800	
<b>Following Chef</b>	Yes	172	<b>0.019</b>
	No	720	

There was a statistically negative correlation between OTS and SMIU total score (p<0.001), and also sub-dimensions of social integration and emotional connection (p<0.001), and integration with social routines (p=0.002). Decrease in SMIU total score, social integration and emotional connection, and integration with social routines lead to increase in OTS (Table 4.28).

**Table 4.28 The Correlation between OTS and SMIU Total Score, Scores of Sub-Diemensions**

		<b>SMIU Total Score</b>	<b>OTS</b>
<b>SMIU Total</b>	Correlation Coefficient	1.000	-.151**
	p		<b>&lt;0.001</b>
	n	892	892

		<b>Social Integration and Emotional Connection</b>	<b>OTS</b>
<b>Social Integration and Emotional Connection</b>	Correlation Coefficient	1.000	-.147**
	p		<b>&lt;0.001</b>
	n	892	892

		<b>Integration with Social Routines</b>	<b>OTS</b>
<b>Integration with Social Routines</b>	Correlation Coefficient	1.000	-.102**
	p		<b>0.002</b>
	n	892	892

SMIU: Smocial Media Integration Use; OTS: Orto-11 Total Score  
*Spearman's rho*

## 5. DISCUSSION & CONCLUSION

While the Orto-15 Scale examined to create Turkish version, 4 items eliminated and the Cronbach's alpha coefficient found as 0.62 by Arusoğlu et al. <sup>6</sup>. In our study, Cronbach's alpha coefficient found as 0.771. It seems that items were thought to have statistically satisfactory properties with this sample.

According to the 24 cut-off score, the prevalence of the ON tendency in this study was detected as 23%. The prevalence of ON tendency within departments as follows 24.7% in ND, 19.2% in Dentistry, 28% in Pharmacy, 19.4% in Physiotherapy and Rehabilitation, 15.9% in Nursing, 23.2% in Medicine and 24.6% in other departments. While the prevalence of ON tendency was 45.3% in nursing students <sup>25</sup> and 60.1% in health professionals <sup>12</sup> in the studies used Orto-11 Scale, the prevalence of studies that use Orto-15 Scale as follow 45.5% medical doctors <sup>39</sup>, 59.8% in university students <sup>46</sup>, among women health professionals prevalence differs as 5% in doctor, 16% in dieticians, 35% in nurses, 30% in midwife, 11% in physiotherapist <sup>49</sup> and 56.4% in performance artists <sup>10</sup>. Moreover, 41.9% of dieticians were detected as at high risk of ON <sup>7</sup> and the prevalence among pregnant women was found as 21.4% <sup>37</sup>. On the other hand, Varga and Mate found the prevalence of ON as 56.9% with Orto-11 Scale which is specialized for Hungarian culture and revealed that the prevalence may vary as 35-57.8 among risky groups (health professionals, performance artists) <sup>40</sup>. While 34.5% of the Australian dieticians were at high risk for ON, 12.8% of them were diagnosed as orthorectic <sup>62</sup>. Furthermore, Souza et al. found the prevalence of ON as 88.7% among women ND students <sup>100</sup>. Donini found ON prevalence in the general population as 6.9% <sup>52</sup> and Cinosi found the prevalence 10.9% among young women Italian adults. Lastly, Ramacciotti et al. found it as 57.6% with general population in Italia and also revealed that women are in risk for ON 2 times more than men. According to the Ramacciotti et al., high prevalence of their study may be the result of the high rate of participants who do sport. When our result compared with the studies conducted university students, it is lower than these studies <sup>40,46</sup>. This difference might be caused by sociocultural characteristics of participants (their sex distribution, profession and age, city), using different scales and its cut-off scores and 33.6% of the participants in our study were ND students. Moreover, studies conducted with a younger sample, ND students and sample consisted of women have higher ON tendency prevalence than others <sup>7,10,12,25,39,46,49</sup>. This change can be

explained with the increased interest and awareness of these individuals might be the factor for giving attention on healthy eating and tendency to have ED <sup>11,23,42,52</sup>. There are studies in the literature that examines characteristics of ON among doctors/medical students, nurses/nursing students, and dieticians/ND students. However, we could not find a study that examines ON tendency or characteristics among dentists/dentistry students, pharmacists/pharmacy students and physiotherapists/physiotherapy and rehabilitation students. As we found, ON prevalence among them is high that cannot be underestimated.

Since there are two different scales used in the literature, the cut-off score for Orto-15 Scale 35 and/or 40 scores and for Orto-11 Scale scores corresponding to the 25% quartile which varies with the sample characteristics used. That's why the mean scores of the studies were compared. In this study, we found the mean OTS as  $27.44 \pm 5.25$ . Similar to our findings, the mean scores in the studies conducted with a Turkish sample that used Orto-11 Scale were as follows  $26.3 \pm 4.9$  women students studying at Health Science Faculty <sup>53</sup>,  $30.7 \pm 4.45$  in women ND students <sup>8</sup>,  $27.34 \pm 4.53$  in nursing students <sup>25, 27</sup> in medical students <sup>11</sup>,  $28.04 \pm 4.64$  in medical school students <sup>42</sup> and  $26.3 \pm 3.61$  in adults <sup>24</sup>. On the other hand, the mean scores in the studies used the Orto-15 Scale were as follows  $40.33 \pm 6.43$  in university students <sup>46</sup>,  $39.8 \pm 0.22$  in medical doctors <sup>39</sup>,  $39.7 \pm 3.7$  in Turkish dieticians <sup>7</sup>,  $38.9 \pm 3.98$  among dieticians,  $39.3 \pm 2.26$  among doctors,  $37.6 \pm 3.74$  among nurses,  $36.5 \pm 3.99$  among midwife and  $38.7 \pm 3.68$  among physiotherapists in a study conducted with health professionals <sup>49</sup>. While comparing prevalence and results of the studies with our results, it is important to remember that different scales and different cut-off scores are used and results affected by these. Moreover, in the studies conducted with women have higher mean scores or prevalence than others.

While the negative effect of being on a diet on ED was revealed by various studies, there are limited studies in the literature that examined its effect on ON tendency <sup>8,13,22,36-43</sup>. Those who have been on a diet in the last 6 months accounted for 22.9% of the overall participants in this study. We found that OTS was statistically lower in participants who have been on a diet in the last 6 months ( $p < 0.001$ ) which means they have increased ON tendency than those who have not been. Moreover, the ON tendency was detected as 40.2% among participants who have been on a diet last 6 months and 17.9% among participants who have not been. Similar to our results also observed in the study

conducted with the Orto-15 scale, it is found that the Orto-15 score was lower in those medical school students who control their body weight <sup>39</sup>. Moreover, Uzdil, Duran, Varga and Mate found that any effort on weight gain/loss and specific dietary habits are related with increased ON tendency in high school students and general population <sup>13,22,40</sup>. Additionally, Gezer and Kabaran found that those who adhere to the recommendations on macronutrient intake had higher OTS which means decreased ON tendency in ND students <sup>8</sup>. However, there are also studies that found non-significant differences between ON tendency and diet history <sup>41,42</sup>. These conflicting results may be caused by following a diet with/without a dietician, they may restrict themselves for being on a diet. Additionally, it is not known whether individuals have been on a diet because of health concerns or their physical appearance. On the other hand, Turner and Lefevre found that following a vegan, omnivore vegetarian or other diet was not correlated with an Orto-15 score <sup>43</sup>. This may be due to religious beliefs, thoughts, or concerns on sustainable agriculture, animal welfare, or protecting the environment issues are not at the forefront for orthorexic individuals <sup>43</sup>. It is believed that individuals who follow a diet may become more prescriptive over time, which may have increased the tendency to obsessive symptoms <sup>22</sup>.

Unfortunately, the correlation between ON tendency and body weight and BMI are also conflicted <sup>6,39,42-44,46-48</sup>. ON tendency among BMI groups was found as follows 9.8% in “<18.5” BMI group, 23.6% in “18.5-24.9” BMI group, 34.5% in “25.0-29.9” BMI group, and lastly 29.6% in “≥30” BMI group. We found that OTS of the underweight BMI group (<18.5 kg/m<sup>2</sup>) was significantly higher when compared to others  $p < 0.001$ . These results showed that the ON tendency of the underweight BMI group was the lowest and they seemed to have healthier eating behavior when compared to others. On the other hand, ON prevalence was highest among overweight participants. Similar to our result, Fidan et al., Asil and Sürücüoğlu and Özkefeli found a negative correlation <sup>7,11,20</sup>. These results correspond to the definition of ON in the literature. Individuals with ON do not have a desire to be thin or any concerns about physical appearance <sup>26</sup>. However, Gezer and Kabaran found that ON tendency increases with the decrease in BMI <sup>8</sup>. They found that the lowest OTS was present among “<18.5” BMI group <sup>8</sup>. In Contrast to these results, Bosi et al., Tepe and Özkan et al. did not find any significant correlation <sup>19,39,42</sup>. According to the study conducted by Arusoğlu et al., BMI was effective only when it was together with the sex (being woman), increased OCD symptoms, and pathological eating attitude

<sup>6</sup>. Lastly, Asil and Sürücüoğlu also revealed that participants with higher than 25 kg/m<sup>2</sup> BMI had disordered eating behavior and the lowest score on Orto-15 Scale <sup>7</sup>. Similar to our result, Bratman and Knight, Donini et al., and Aksoydan and Camcı found that the prevalence of ON was higher in overweight individuals <sup>10,23,26</sup>. Arusoğlu et al., on the other hand, has put forward that impaired eating attitude and increased obsessive compulsive efforts with high BMI lead to an increase in ON tendency <sup>6</sup>. Moreover, we found a negative significant correlation between OTS and body weight and also BMI values ( $p=0.01$ ). These results may indicate that as body weight and BMI values rise OTS decreases which means that ON tendency increases with the rise in body weight and BMI values. Acar Tek and Karaçil Ermumcu also found a negative correlation between Orto-15 score and BMI and body weight also <sup>49</sup>. The conflicting results on BMI values may be the result of individuals who has concern about their physical apperance, tries to eat healthy to create a change. With these findings, we interpreted that ON tendency can be higher among those who is overweight and obese. However, the underlying motivation of those individuals are still not clear in the literature. Although it is not certain, they may have increased health concerns with the rise in their body weight and risk of having morbidity.

Additionally, we examined the chronic disease and MNT status of the participants. While 83.7% of the participants do not have any chronic disease, 8.4% participants have chronic disease that require MNT and 7.8% have chronic disease do not require MNT. Although Brytek found a correlation between ON tendency and having chronic disease, Özkan et al. did not find <sup>34,42</sup>. Similar to the study of Özkan et al. and Tepe, we could not detect a statistically significant difference between OTS and having disease ( $p>0.05$ ) <sup>19, 42</sup>. The different result in our study may be due to as we categorized them into 3 categories; those who does not have any disease, whose disease require MNT, and whose disease does not require MNT. Since 97.5% participants does not have a dsiease requiring MNT, the distribution of the participants among these groups was not homogenous also. On the other hand, 22.5% of those who do not have any disease, 32% of those whose disease requires MNT, and 18.6% of those whose disease does not require MNT showed increased ON tendency. Prevalence of ON tendency was higher in those whose disease requires MNT. Moreover, we found that the OTS of the participants who has MNT was lower than those who does not ( $p<0.001$ ). The ON tendency was found as high of 59.1% in participants who have MNT, 22.1% in participants who do not have a disease requiring

MNT. This result indicates that participants who have MNT have increased ON tendency. Similar to our results, Arusoğlu, and Asil and Sürücüoğlu found that those who have MNT, have increased ON tendency<sup>6,7</sup>. This can indicate that having a disease that requires MNT and having MNT which may have restrictions on certain kinds of food consumption, offering consuming meals regularly and some guidance on nutrition, may tend to increase ON tendency with the rise in health concerns, awareness on nutrition or foods. This situation may lead to a rise in awareness of these individuals on nutrition whether in a healthy way or not and/or a rise in concerns about their health. When characteristics of ON are considered, which is maintaining or improving their health, it is not surprising that individuals whose disease requires MNT and who have MNT have ON tendency when compared to others. The reason why they have ON tendency can be a result of concerns about the desire to be healthy.

Similarly, there are conflicting results in the literature about the correlation between ON tendency and sex<sup>6,11,17,19,23,25,39,40,46,50</sup>. We found that 22.5% of women and 25.2% of men showed ON tendency similar to the studies in the literature<sup>38,39</sup>. In contrast to our study results, the study of Arusoğlu et al., Ramacciotti et al., Koven, Şanlıer et al., and Lanitis and Raspin found the prevalence of ON tendency was higher in women<sup>6,17,24,46,50,51</sup>. On the other hand, the difference in OTS between women and men was statistically non-significant in our study ( $p>0.05$ ). Although women are thought of as risky group for ON because they tend to develop ED, and also psychiatric diseases more than men do, there are some studies that found men tend to have ON rather than women<sup>11,23,42,52</sup>. Although Bosi et al. found men medical students tend to have an ON tendency more than women, this difference was non-significant<sup>39</sup>. Additionally, Aksoydan and Camcı found that overweight and obese men participants with high educational levels had the lowest Orto-15 score but this difference was statistically non-significant<sup>10</sup>. On the other hand, the prevalence of ON tendency in adolescents was found as similar between sexes<sup>13</sup>. With the change in the living style of men and the rise in the importance given to their physical appearance, men are thought to be risky for developing ON also. The conflicting results in the literature are explained with this change by Mathieu<sup>35</sup>. When our sample group is considered, we think that this overall prevalence is affected due to the ratio of men participants (17.8%). In addition to this, our result can be caused by the high level of educational (when compared to the studies conducted with general

population), sociocultural and economic status of the participants, and the fact that men today care about their physical appearance as much as women do.

Although we found that OTS decreases with the rise in age, this correlation was not statistically significant ( $p>0.05$ ). Similar to our results, Aksoydan and Camcı observed the same result between Orto-15 scores and age in performance artists<sup>10</sup>. However, a negative correlation found as significant among women health professionals<sup>49</sup>. Additionally, there are some studies that found no correlation between ON tendency and age<sup>6,24,39,43,47,48</sup>. Moreover, there are conflicting results in the studies about ON and age. In addition to these results, there are also studies in the literature that found a positive correlation between ON tendency and age<sup>7,11,23,51</sup>. According to the study by Lanitis and Raspın, Generation Z and Millennials were more likely to display ON tendency than Generation X and Boomers<sup>51</sup>. Similarly, when Fidan et al. made the age of 21 a cut-off, they found that participants under 21 years old had an increased ON tendency than older ones<sup>11</sup>. These different results on age can be caused by the age characteristics of sample groups. As a disadvantage of the studies conducted with university students, participants' age mostly consisted of between ages 18-24. That's why, we thought that studies conducted with the general population will give more accurate results on age. To make a clear conclusion on the correlation between ON tendency and age, studies should be conducted with the general population in order to detect risk groups for age also. However, the increase in ON tendency in older individuals can be explained by the rise in health concerns as being aged which fits the characteristics of ON<sup>7,10,26</sup>. Besides it might be suggested that increased ON tendency in young individuals may be related to their educational level or their exposure to healthy eating and diet trends.

In this study, 60% of married, and 22.6% of single participants have increased ON tendency. However, OTS was statistically higher in married participants in this study which means single participants tend to develop ON more than married ones ( $p<0.05$ ). The result of this study is different from Arusođlu et al.'s study which was conducted with adults<sup>6</sup>. In addition to this, there are studies in the literature that found marital status is not effective on ON<sup>7,19,23,24,52</sup>. The high ON tendency prevalence among married participants can be due to there being 1.1% married participants when compared to the single ones. Since this study was conducted with the students, it is thought that the fact that the majority of the students are single, the result can be affected by this.

Since there are studies that revealed there is a correlation between ON tendency and the educational and work status of both father and mother, we examined its effect on ON tendency <sup>8,25,56</sup>. Gezer and Kabaran found that participants whose mother's educational status was at least primary school graduate, have a risk of ED in ND students <sup>8</sup> and Kadioğlu and Ergün found that participants whose parents' educational level is lower, have risk for ED in university students <sup>55</sup>. In addition to this, Arslantaş et al., found that disordered eating prevalence was high among nursing students whose father's educational status was at least primary school graduate <sup>25</sup>. However, we found that there was no relationship between OTS and the educational and work status of both mother and father in this study ( $p>0.05$ ). Similar to our study, Fidan et al. found that the educational and work status of both mother and father was not significant on ON tendency <sup>11</sup>. Besides Fidan et al.'s study, we could not find any study to compare our results. Moreover, a positive correlation between parents' educational level and young individuals' knowledge on nutrition is revealed by some studies <sup>25,56,57</sup>. Educational level of parents' can affect children's nutrition knowledge at some point. However, this effect might be correlated with living together or not during university education.

Besides being university students, students who have a health education are thought to be at risk for ON tendency <sup>7,8,10,57-61</sup>. Gezer and Kabaran's study showed that studying department is effective on developing obsessional healthy eating attitudes <sup>8</sup>. While Aksoydan and Camcı found that ON is affected by studying department, Acar Tek and Karaçil Ermumcu found that there was not any difference among health professionals <sup>10,49</sup>. ON tendency among university students was detected as 83% by Mc Inerney-Ernst <sup>41</sup>, 56.9% in Hungarian university students by Varga and Mate <sup>40</sup>, and 88.7% in women ND students by Souza et al. <sup>100</sup>. However, the prevalence was detected as 6.9% in the general population in the same study <sup>40</sup>. Moreover, the prevalence was detected as 81.9% in Brazilian dieticians <sup>63</sup> and 34.9% in women Australian dieticians <sup>62</sup>. According to the studies conducted in Turkey, the prevalence of ON tendency is as follows 59.8 % in university students <sup>46</sup>, 43.6% and 45.5% in medical school students <sup>11,39</sup>, 45.3% in nursing students <sup>25</sup>, 60.1% in health professionals <sup>12</sup> and among women health professionals prevalence differs as 5% in doctor, 16% in dieticians, 35% in nurses, 30% in midwife, 11% in physiotherapist <sup>49</sup>. In addition to this, Asil and Sürücüoğlu found that 41.9% of Turkish dieticians were at high risk of ON <sup>7</sup>. We found the prevalence of ON tendency among Yeditepe University students as 23% overall and within departments as follows

24.7% in ND, 19.2% in Dentistry, 28% in Pharmacy, 19.4% in Physiotherapy and Rehabilitation, 15.9% in Nursing, 23.2% in Medicine and 24.6% in other departments. It is hard to compare our results and study results conducted with isolated risk groups. However, our general prevalence result is different from Şanlıer et al.'s result <sup>46</sup>. This may be due to the use of different scales. Since they used the Orto-15 scale, the cut-off was a score of 40 which is higher than our cut-off (score of 24) and creates a difference in distribution. Moreover, we think that the difference between existing studies and our results in terms of prevalence within departments can be caused by the distribution of participants' within departments and their sex, use of different scales and even using the same scale cut-off scores differs between each study. On the other hand, with the double major and minor programs, departments were rearranged. We found that there was a statistically significant difference between OTS and departments of the students ( $p=0.013$ ). This difference was due to the difference of ND students and students from other departments ( $p=0.028$ ). OTS of ND students was lower than other health departments and other departments' students. This results indicates that ND students have increased ON tendency when compared to other department's students which is parallel with the existing studies in the literature <sup>7,62,63</sup>. Additionally, Şanlıer et al. found that students who study at social sciences are tend to have ED compared to students study at health science and science but difference of Orto-15 score among departments was not significant <sup>46</sup>. These results may indicate that studying department can affect ON like Aksoydan and Camcı found which is contrast to the study result of Acar Tek and Karaçil Ernumcu <sup>10,49</sup>. This may be due to exposure to the concept of health and health related issues, and healthy eating concept for those who are students in ND. However, with our study results it is difficult to conclude that studying department can be affective on obsessional healthy eating attitudes like Gezer and Kabaran's study result <sup>8</sup>.

On the other hand, with the increase in knowledge, eating behaviour of the students can be affected and changed. This change sometimes appears as increase in the awareness of healthy choices; sometimes appears as obsessive eating habits <sup>8,64-66</sup>. It was revealed by studies that there is a positive correlation between an individual's nutritional knowledge level and his/her eating habits/attitudes <sup>64,65</sup>. Some studies showed that individuals who have nutrition knowledge also failed to reflect their knowledge into a habit <sup>56,57</sup>. Similar to this, Özkan et al., revealed that the level of medical educational level was not correlated with the ON tendency and Tepe found that individual's educational

level was not correlated with the ON tendency <sup>19,42</sup>. However, the class of ND students made a significant difference. The older classes (above 7<sup>th</sup> semester) are making healthier choices than compared with 1<sup>st</sup> class students of ND and students from other departments <sup>66</sup>. In contrast to these results, it is found that there was a statistically non-significant difference in OTS between post-graduated dieticians and ND students <sup>7</sup>. Among performance artists, medical doctors, university students and health professionals, the correlation between ON tendency and educational level was found as non-significant <sup>10,39,40,49</sup>. Similar to these results, we found that there was statistical non-significant difference between OTS and classes of the participants in our study ( $p>0.05$ ). However, there are studies in the literature that reveals educational level is effective on ON tendency <sup>6,23,50,52,66</sup>. While Arusoğlu et al., and Donini et al. found that lower educational level leads to rise in ON tendency <sup>6,23</sup>, another study of Donini et al. found opposite results <sup>52</sup>. On the other hand, Korinth et al. found that increase in the class of students leads to a decrease in ON tendency <sup>66</sup>. Similarly, according to the studies of Arusoğlu et al. and Ramacciotti et al., participants with postgraduate education had a lower score <sup>6,50</sup>. These differences between literature and our study might be resulted from we compare all the departments' classes together. Since they conducted the study within a specific department their analyses made a significant change. Additionally, studies conducted with university students have a class to compare educational level but other studies conducted with general population helps to identify differences between overall educational status. To make a clear conclusion on factor of class or educational level, it might be recommended to the further studies to examine within departments and also in general population.

Since Ünalın et al. found that students who live in the dormitory have increased risk of developing ED, we examined living place also <sup>3</sup>. In contrast to Ünalın et al.'s study, we could not find any correlation between OTS and living place ( $p>0.05$ ) <sup>3</sup>. Additionally, we examined the effect of person that living with, thinking that parents or peers can play an effective role on individuals' nutrition. However, similarly, there was no correlation between OTS and person whom participants living with ( $p>0.05$ ). To compare our results, we could not find any study that examines the effect of living place and the person whom participants living with on ON tendency. Also, the hybrid education system which is having online lecture for a week then face to face lecture for another week, may have influenced the students' responses while the data were collecting. Their living place and person whom they they living with can change from a week to another

week during the hybrid education system. Lastly, we observed that married participants selected “other” choices rather than “family” . This situation also can affected our result.

Student club of the participnats were examined because of the individuals may have increase their awareness about health and/or nutrition with the activity of that club, regardless of the department they study. However, we could not find any corelation between OTS and being active in any student clubs ( $p>0.05$ ). On the other hand, we could not find another study to compare our result in the literature that examines the effect of student club activity on ON tendency. This may be resulted from 78.7% of the participants were not active in any student club.

Since Varga and Mate determined high socioeconomic status related with the risk of ON tendency, we examined the income status <sup>40</sup>. However, we could not detect any correlation between OTS and income status of participants ( $p>0.05$ ). Unfortunately, we could not find any other study to compare our results in the literature. The result may be affected due to they may automatically sign an option without considering it since they have pocket money. In addition to this, their money spent on healthy food and food choices are important also. It was examined in Orto-15 and Orto-11 scales as “*Are you willing to spend more money to have healthier food?*” but it might be suggested that it should be questioned how much of their income they spend on this.

As individuals with ON spend most of their time planning their meals and preparing them with healthy methods, we thought that individuals who do supermarket shopping themselves and prepare their own meals may have ON tendency. However, we could not find any difference on OTS between doing supermarket shopping themselves and doing by others ( $p > 0.05$ ). Although study of Bosi et al. revealed that Orto-15 scores were lower in those who do supermarket shopping themselves, and examining the content of products, the difference was non-significant as we found <sup>39</sup>. On the other hand, ON tendency was observed among these individuals <sup>39</sup>. In addition to this, there was no correlation between OTS and status of cooking whether eating outside/ordering, cooking by his/herself or by others ( $p>0.05$ ). However, Özkan et al. found that ON tendency increases when individuals cook their meals by themselves <sup>42</sup>. Similar findings were also observed in Gezer and Kabaran’s study but while its effect on ED was significant, its effect on ON tendency was not <sup>8</sup>. Apart from these studies, we could not find any study to compare our results. According to the characteristics of ON, we expected to observe a

difference in individuals who do their supermarket shopping and cook their meals by themselves, since they have ritualized habits and are perfectionist for their foods and meals. However, it is possible to shop these natural/pure foods via ordering applications or having healthy food choices via meal ordering applications. This differences may result from their ability and availability for cooking and/or instead of cooking themselves and doing supermarket shopping, they prefer to eat outside/order. Now, it is very easy to eat outside healthy foods or order them via meal ordering applications. To have a clear conclusion on it, these variables should be examined. Additionally, because of the hybrid system in education during the data collection period, their responses might be affected also.

Although main aims of individuals with ON is improving or maintaining their health, we expected to see a difference in ON tendency in terms of smoking and alcohol consumption. Surprisingly there was a non-significant difference between ON tendency and smoking status, the number of cigarettes among smokers, and alcohol consumption ( $p>0.05$ ). Similar results on smoking were also observed in the Fidan et al.'s study<sup>11</sup>. However, there are some studies that find this correlation to be significant also<sup>40,42</sup>. These conflicting results may be due to students' attitudes towards smoking (socialization, self-assertion and so on.). In contrast to our results, Özkan et al. and Varga and Mate found a negative correlation between ON tendency and alcohol consumption which fits to the characteristics of ON<sup>40,42</sup>. This finding may be the result of those participants who consume alcohol periodically were categorized as a consumer and the rest of the participants who never consume and consume it rarely were categorized as non-consumer. Moreover, these conflicting results may occur because students do not want to be held back because of smoking and alcohol consumption in their social environment and also they smoke or consume alcohol to deal with stress.

It was found that level of PA made a statistically significant difference on OTS ( $p=0.001$ ). OTS of the any activity group was the highest of all. However, the significant difference due to the difference between any activity and exceed activity advice group which indicates that participant who exceeds activity recommendation have ON tendency when compared to inactive participants. Apart from the study that found a correlation between ED and doing sport, there are also studies examining its effect on ON tendency<sup>3,40,42</sup>. Similar to the result of our study, Varga and Mate, Özkan et al. and Tepe found a

positive correlation between ON tendency and sports activity<sup>19,40,42</sup>. When motivation of individuals with ON is considered, which is improving or maintaining their health status, the result found as expected<sup>26</sup>. PA is one of the ways to improve or maintain health status. As they are physically active, they wanted to support and enhance their PA and performance with nutrition. We think that their awareness and interest on nutrition can be affected and changed as a result of this situation. Participants who exceed activity recommendations care about eating healthier in our study but it is not known that considerations on their physical appearance also exist or not.

In a study conducted to examine SM use about health issue, it was found that approximately half of the participants have advices about their diseases from SM and almost one third of the participants giving advices about their diseases throughout SM<sup>86</sup>. Bosi et al., found that 20% of men participants, and 38.9% of women participants' food choices have been influenced by TV programs about healthy eating<sup>39</sup>. On the other hand, a study conducted to determine the effect of SM on healthy eating behavior found that participants trust contents in SM and SM use is preferred than watching TV and using computer. The topics that participants interested in SM are healthy eating, recipes and weight loss. It was also found that media affect 64.7% of the participants' nutritional habits. This effect lead to positive changes in water intake, fruit consumption and packaged food consumption. Additionally, it was observed that they shop and try green tea, whole wheat products and chia seed with the influence of SM<sup>18</sup>. We also examined the status of shopping with the influence of SM. There were 66.4% (n=592) participants who do shopping with the influence of SM. In addition to this, 85.3% of SM-influenced shoppers were women. There was a statistically significant difference on OTS between participants who do shopping with the influence of SM and who does not ( $p < 0.001$ ). Since OTS was lower in participants who do shopping with the influence of SM, this indicates that they have an increased ON tendency. High use of SM causes exposure to the contents about foods in terms of their health benefits, harmful contents of them and so on. Moreover, having advices about foods to eat which they exposed also can trigger them to buy these foods. Individuals who have ON tendency might be more likely to be influenced by SM. They may want to try some foods just because of their health promises or the content of they see and prefer to follow on SM is mainly consisted of foods. On the other hand, it is not clear that whether they have ON tendency because of the exposure to

the contents related with health or their interest and shopping behaviour with the influence of SM increased with having ON tendency.

We found a negative but statistically non-significant correlation between OTS and total time spent on SM ( $p>0.05$ ). Although the increase in total time spent on SM lead to a decrease in OTS which means an increase in ON tendency, this change was as non-significant. In contrast to our result, it has been revealed that there is a negative but low level of significant correlation between the duration of using SM and ON tendency among nursing students<sup>20</sup>. However, the difference between studies may be due to studies conducted with different sample sizes and risk groups. Data on total time spent on SM were collected as self report, they may tend to increase/lower their time spent. Moreover, SM platform whether they mainly spent time on it can be also effective; instead of total time spent on SM the use of different SM platforms for different duration of time may create a difference. While SM use has been linked to triggering many different mechanisms such as social appearance anxiety, body image, self-anxiety and eating attitude in individuals, a change in eating attitude can be the mechanism that affects individuals with ON<sup>33</sup>. Because it is contradicted that physical appearance is not at the forefront in individuals with ON<sup>26</sup>.

Studies conducted by Kingir and Kardeş and Koven et al. showed that university students follow health-related issues from SM and eating habits influenced by it and also awareness of diet, nutrients, and healthy eating increases with the use of SM and the internet<sup>17,18</sup>. Although the effect of SM use on ED is revealed by some studies<sup>18,87-92</sup>, there are limited studies in the literature that examines effect of SM on ON tendency<sup>19,20,21,43,51,94,101</sup>. While Özkefeli did not find a correlation between ON tendency and SM use<sup>20</sup>, others found<sup>21,43,51,93,94,101</sup>. According to Arusoğlu, information about the contents of diet and diet products that are constantly on the agenda in the media, advertisements, news about the fact that the contents of some products contain substances such as hormones, additives, dyes and carcinogens, today the concepts of health and beauty are associated with physical weakness and can be the reason to increase in ON tendency<sup>93</sup>. According to our study results, Instagram is the most popular and Clubhouse is the least popular SM platform of all. While mean time spent on LinkedIn was the lowest ( $18.69 \pm 23.23$  min/day) one, mean time spent on Spotify was the highest ( $111.65 \pm 99.86$  min/day). When the correlation between OTS and SM platform use is examined, we found

that there was a non-significant difference between those who use Clubhouse, Facebook, LinkedIn, Snapchat, Spotify, Tumblr, Twitter, Whatsapp, Youtube and who do not ( $p>0.05$ ). However, we found using Instagram, Pinterest and TikTok are related with the decrease in OTS which indicates an increase in ON tendency when compared with those who uses these SM platforms. Similar to the existing studies in the literature<sup>19,21,43,51,94</sup>, we found that increase in Instagram use caused increased ON tendency<sup>43</sup>. Except for the use of Instagram, the effect of Twitter use on ON tendency examined by Turner and Lefevre also<sup>43</sup>. According to Turner and Lefevre, there are several reasons that makes Instagram an effective factor for ON tendency<sup>43</sup>. Firstly, they suggested that the image-based structure of Instagram is aimed at the image superiority effect, a psychological phenomenon in which people are likely to remember images rather than words. Secondly, it was mentioned that individuals try to treat their personal nutrition through the accounts of some people they are interested in, and finally, Instagram celebrities who have a large number of followers are considered experts even if they are not qualified to tell someone what to cook or what not to drink<sup>43</sup>. Although they found that Twitter use is seemed as a weak protective association on ON tendency, we could not find a correlation between ON tendency and Twitter use in our study<sup>43</sup>. The weak correlation in the study of Turner and Lefevre and our finding which is Twitter use is not effective on ON tendency, can be due to fact that it consists of more text-shaped content. Although, maladaptive Facebook use leads to great disordered eating, a study examines its effect on ON tendency could not find<sup>91,92</sup>. Since there are podcasts about the concept of nutrition and health on Spotify and YouTube, we also examined them. Participants wrote down total time spent on each Spotify and YouTube, however it was not clear whether they listen to those podcasts or not, and also it is not certain how much time they spent to listen those. In addition to this, same conflicts can occur on the use of WhatsApp, since the use other than communication purposes was asked. However, the effect of using any other SM platform on ON tendency could not be compared with any study result since we could not find a study that examined it. Similar to Instagram use, Pinterest and TikTok use correlated with the increased ON tendency in our study. Other than Instagram, explanations done by Turner and Lefevre can be proper for Pinterest and TikTok since these SM platforms are based on image-based structure when compared to other platforms<sup>43</sup>.

We found that OTS of the those who do not follow anyone was statistically higher than those who follow someone in order to get nutritional information on SM ( $p<0.001$ )

. In addition to this, there were statistically non-significant differences between OTS and following family members – friend and health professionals except dietician in order to get nutritional information on SM ( $p>0.05$ ). On the other hand, it is found that OTS was statistically lower in those who follows coach/life coach/ sportsperson ( $p<0.001$ ) , dietician ( $p<0.001$ ) , influencer/artist ( $p<0.001$ ) , newspaper/journal/ news accounts ( $p=0.001$ ) and chef ( $p=0.019$ ) . Our results indicates that participants who follow coach/life coach/sportsperson, dietician, influencer/artist, newspaper/journal/news accounts and chef in order to get nutritional information on SM have increased ON tendency when compared to those who do not follow. According to our results, following someone (expert in the field or not) on SM in order to get nutritional information can be a contributing factor for ON tendency which is also found by Turner and Lefevre <sup>43</sup>. Participants may be under the influence of whom they follow and ON tendency increases with the exposure to the contents about nutritional information. Although it is expected that participants prefer to follow dieticians in order to get nutritional information, it is a surprising result that also people who are not expert in the field of nutrition are being followed by many of the individuals for nutritional information. Moreover, it is not known as a limitation of our data collection form- whether family members/friends are being followed because they have identities such as a dietitian or a doctor when participants check this option. Although it is found that participants who use SM as a source of information about weight have increased ON tendency, unfortunately, we could not find any study conducted in the literature to compare our results <sup>20</sup>.

The sub-dimension of integration with social routines includes questions about how much a person uses SM in their daily communication, how much they care about it, and the role of SM in their life. On the other hand, the sub-dimension of social integration and emotional connection examines feelings such as tension, unhappiness, and disconnection that a person feels when they are not connected to SM <sup>96</sup>. We found a negative and statistically significant correlation between OTS and SMIU total score ( $p=0.01$ ). In addition to this, OTS and sub-dimensions of social integration and emotional connection and integration with social routines scores were negatively and significantly correlated ( $p=0.01$ ). These results indicates that increase in SMIU total score which means increased SM use lead to a decrease in OTS means an increase in ON tendency. Moreover, increased use of SM as a part of daily routine and the fact that individuals feel negative emotions when they cannot connect to SM have been found to be associated

with increased ON tendency in our study. Although SM use detected as an effective and contributing factor of ED by some studies, there are limited studies in the literature that examines its effect on ON <sup>20,88-90</sup>. Similar to the findings of our study, Özkefeli found a negative and statistically significant correlation between OTS and SMIU total score, and the sub-dimension of integration with social routines score <sup>20</sup>. With the increase in SM use, individuals are exposed to uncontrolled content on the SM about healthy foods, nutrition facts, food ingredients, concept of “a fit body” and recommendations that individuals give about their diseases and so on. This can be the reason that increased SM use correlated with the increase in ON tendency.

ON is almost a new concept that its popularity and prevalence increase day by day. Although its etiological factors and diagnostic criteria are not clear, its prevalence and consequences should not be underestimated. More studies of a descriptive nature are needed to determine whether ON is an ED or an OCD.

To conclude, according to our study results marital status (being single), BMI (being overweight or obese), increased bodyweight, having diet restrictions, having MNT, studying at the ND department, shopping with the influence of SM, doing high PA, Instagram, Pinterest, and TikTok use, and following someone especially, coach/life coach/sportsperson, dietician, influencer/artist, newspaper/journal/news accounts and chef in order to get nutritional information on SM and high SM use can be contributing factors on ON tendency. These results should be supported by further studies. Although we could not find any correlation between ON tendency and sex, class/educational level, student club, income status, age, educational and work status of parents, living place, person whom living with, status of supermarket shopping, cooking, having disease, smoking, alcohol consumption, total time spent on SM, using Clubhouse, Facebook, LinkedIn, Snapchat, Spotify, Tumblr, Twitter, WhatsApp, YouTube and following family member-friend, health professionals except dieticians in order to get nutritional information on SM, more studies needed to have a clear conclusion on them.

On the other hand, there are still unknown paradoxes between ON and BMI, and body weight. Since physical appearance is not at the forefront for orthorexic individuals, individuals with ON tendency have lower BMI whether this is because of ON or not. In addition to this, what is the underlying motivation in those individuals who have ON

tendency and are overweight or obese? The underlying reasons and motivations for those situations are still not clear. More studies are needed to brighten these paradoxes.

It is not surprising that SM use has an effect on ON tendency. People are producing and sharing content on topics such as health, nutrition and so on. on SM platforms without being an expert on these subjects. With the increase of health contents (obesity, diabetes, genetically modified organisms, food additives and so on.) in the media, awareness of individuals on nutrition increased. These concerns may lead to having ON<sup>10</sup>. In addition, it is not clear whether people who have health concerns or desire to protect their health already use SM for this aim, or they are triggered with these contents and ON tendency is affected. This is also another point that needed to be explained by various studies. Besides the contents in the media, the high rate of SM use and consequences as a result of exposure to these contents should not be underestimated and protective interventions should be planned. Though controlling contents in SM is not possible, lectures about media awareness and nutrition knowledge to all students (except ND students) can be planned as an intervention. Moreover, to protect ND students from various ED and ON, psychology-based lectures or approaches can be offered in the curriculum.

Besides there are conflicting results in the literature on effective factors of ON, this may be due to the presence of two different scales and their different cut-off scores. Thus, validity and reliability and also the comparison of the Scales (Orto-15 and Orto-11) should be examined and a certain cut-off score should be determined. Besides representing healthy ones, different cut-off scores may represent high, moderate, and low ON tendencies like Özkan et al. demonstrated in their study<sup>42</sup>.

Lastly, this study was conducted during the Covid-19 pandemic period. This may lead to an increase in people's health concerns and awareness of nutrition, which affects their eating attitudes/habits, and food preferences. After the pandemic ends, its effect on ON tendency should be examined also.

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YEDİTEPE ÜNİVERSİTESİ REKTÖRLÜĞÜ  
Sağlık Bilimleri Enstitüsü Müdürlüğü

19.10.2021

Sayı : E.18897253-302.14.01-1022  
Konu : Tez Araştırma İzni Hk.

İLGİLİ MAKAMA

Yeditepe Üniversitesi Sağlık Bilimleri Enstitüsü Beslenme ve Diyetetik Anabilim Dalı 20193036014 No'lu Yüksek Lisans öğrencisi Pınar USTA'nın, Dr. Öğr. Üyesi Binnur OKAN BAKIR danışmanlığında yürüteceği "Üniversite Öğrencilerinde Ortoreksiya Nervoza (ON) Eğiliminin ve ON Eğiliminde Etkili Faktörlerin Saptanması: Kesitsel Bir Çalışma" başlıklı tez çalışmasını, Yeditepe Üniversitesi öğrencileriyle gönüllülük esasına uygun olarak yürütmesi uygun görülmüştür.

İmza  
Prof. Dr. Fatma Yeşim EKİNCİ  
Rektör Yardımcısı

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**ETİK KURULU**

Versiyon No

1.0

Sayfa 1 / 2

**KARAR FORMU**

3.07.2021

<b>ETİK KURUL BİLGİLERİ</b>	Etik Kurulun Adı	Yeditepe Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu
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	Araştırmanın;	<input checked="" type="checkbox"/>
	• Niteliği	<input checked="" type="checkbox"/>
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	• Amaç ve hedefleri	<input checked="" type="checkbox"/>
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	• Araştırma bütçesi (Mevcutsa)	<input checked="" type="checkbox"/>
	• Süresi ve uygunluğu (Zaman cetveli)	<input checked="" type="checkbox"/>
	• Kaynakları	<input checked="" type="checkbox"/>
	Araştırma izin belgesi / belgeleri	<input checked="" type="checkbox"/>
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	Taahhütname-2 Daha önce yapılmış etik kurul başvuruları mevcut olup olmadığına dair taahhüt	<input checked="" type="checkbox"/>
	Taahhütname-3 Araştırma sırasında araştırma bütçesinde yer almayan ve gönüllünün kendisine veya Sosyal Güvenlik Kurumuna ek yük getirecek hiçbir işlem uygulanmayacağına dair taahhüt	<input checked="" type="checkbox"/>
Taahhütname-4 COVID-19 hastalarında tedavi yaklaşımları ve bilimsel araştırmalar genelgesi okunmasına dair taahhüt	<input checked="" type="checkbox"/>	
Araştırmacıların her birisine ait özgeçmiş formu	<input checked="" type="checkbox"/>	
Ek belgeler (Varsa kullanılan ölçek izinleri vb.)	<input checked="" type="checkbox"/>	

<b>KARAR BİLGİLERİ</b>	Başvuru Numarası	202105053
	Toplantı Tarihi	21.06.2021
	Toplantı Yeri	Çevirim içi (Google Meet)
	Karar No	26

Araştırmanın Başlığı

**Üniversite Öğrencilerinde Ortoreksiya Nervoza (ON) Eğiliminin ve ON Eğiliminde Etkili Faktörlerin Saptanması: Kesitsel Bir Çalışma**

Araştırmacılar

**Usta P, Okan Bakır B.**



BAŞVURU NUMARASI: 202105053

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<b>Prof. Dr. Didem ÖZDEMİR ÖZENEN</b> Başkan	<b>Doç. Dr. Gökhan ERTAŞ</b> Başkan Yardımcısı	<b>Doç. Dr. Elif SUNGURTEKİN EKÇİ</b> Raportör												
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<b>Dr. Öğr. Üyesi E. Çiğdem ALTUNOK</b> Üye	<b>Dr. Öğr. Üyesi Binnur OKAN BAKIR</b> Üye	<b>Dr. Öğr. Üyesi E. Nur ÖZDAMAR</b> Üye												
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Araştırmanın Başlığı

Üniversite Öğrencilerinde Ortoreksiya Nervoza (ON) Eğiliminin ve ON Eğiliminde Etkili Faktörlerin Saptanması: Kesitsel Bir Çalışma

Araştırmacılar

Usta P, Okan Bakır B.

**Sosyal Medya Kullanımı Ölçeği Kullanım İzni Hk.**

2 messages

Tue, Apr 6, 2021 at 10:02 AM

Sayın Ahmet Akın,

Yeditepe Üniversitesi, Sağlık Bilimleri Enstitüsü, Beslenme ve Diyetetik Anabilim Dalı'nda yüksek lisans eğitimi almaktayım ve aynı zamanda da Yeditepe Üniversitesi'nde asistan olarak çalışmaktayım.

Tez danışmanım Dr. Öğr. Üyesi Binnur Okan Bakır ile "Üniversite Öğrencilerinde Ortoreksiya Nervoza Eğiliminin Saptanması" konulu yüksek lisans tez çalışmam için tarafınıza ait olan Sosyal Medya Kullanımı Ölçeği'ni üniversite öğrencilerine uygulamak üzere izninizi isterim.

Saygılarımla..

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**Pınar USTA**

Yeditepe Üniversitesi  
Sağlık Bilimleri Fakültesi  
Beslenme ve Diyetetik Bölümü Asistanı  
(216) 578 00 00 - 3273

**Ahmet Akın** <  
To: Pınar Usta

Tue, Apr 6, 2021 at 10:20 AM

Kullanabilirsiniz ıyı çalışmalar

Prof Dr Ahmet Akın  
İstanbul Medeniyet Üniversitesi Psikolojik Danışmanlık Anabilim Dalı

6 Nis 2021 Sal 10:09 tarihinde Pınar Usta ·

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T. C.  
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**SAĞLIK YÜKSEKOKULU**  
**Beslenme ve Diyetetik Bölümü**

13/4/2021

Sayın Pınar USTA,

Ortoreksiya Nervoza eğiliminin saptanması için ORTO-11 ölçeğini (**Arusoğlu 2006**), ilgili yerlerde kaynak gösterilme şartıyla, araştırmanızda kullanabilirsiniz. Adı geçen ölçek başka çalışmalarda kullanılmak istendiğinde tekrar izin alınmalı ve başkalarına verilmemelidir. Çalışmanız yayınlandıktan sonra bir örneğinin tarafıma gönderilmesini rica ederim.

**İMZA**

Araştırmacılar Adına

Dr. Öğr. Üy. Gülcan Arusoğlu  
Kırklareli Üniversitesi  
Sağlık Bilimleri Yüksek Okulu  
Beslenme ve Diyetetik Bölümü

**Araştırmanın Başlığı:** Üniversite Öğrencilerinde Ortoreksiya Nervoza (ON) Eğiliminin ve ON Eğiliminde Etkili Faktörlerin Saptanması: Kesitsel Bir Çalışma

**Sorumlu Araştırmacı:** Dr. Öğr. Üyesi Binnur OKAN BAKIR  
**İMZA**

**Araştırmacı:** Dyt. Pınar USTA  
**İMZA**

## Bilgilendirilmiş Gönüllü Olur Formu

“Üniversite Öğrencilerinde Ortoreksiya Nervoza (ON) Eğiliminin ve ON Eğilimine Etki Eden Faktörlerin Saptanması: Kesitsel Bir Çalışma” adlı çalışma Yeditepe Üniversitesi, Sağlık Bilimleri Enstitüsü, Beslenme ve Diyetetik Ana Bilim Dalı’na ait yürütülen bir yüksek lisans tez çalışmasıdır. Bu bağlamda Yeditepe Üniversitesi’nde okuyan en az 377 öğrenciye ulaşmak hedeflenmektedir. Gönüllü katılımcılar, 20 Mayıs – 20 Aralık 2021 tarihleri arasında tek seferlik 15 dakika sürecek bir ankete tabi tutulacaktır. Hedeflenen örneklem sayısına ulaşıldığında araştırmaya katılım sona erecektir. Gönüllülerin toplamda 50 sorudan oluşan sosyodemografik veri toplama formu, Sosyal Medya Kullanımı Ölçeği ve Orto-11 Ölçeği yanıtlanması istenmektedir.

Araştırma, üniversite öğrencilerinin Ortoreksiya Nervoza eğilimlerini saptamak amacıyla Pınar USTA tarafından yürütülmektedir. Elde edilen verilerin, üniversite öğrencilerinde Ortoreksiya Nervoza eğilimine neden olan faktörlerin belirlenmesine katkısının olacağı düşünülmektedir.

Çalışmaya katılımınız gönüllülük esasına dayalı olup istediğiniz zaman, herhangi bir ceza veya yaptırıma maruz kalmaksızın, hiçbir hakkınızı kaybetmeksizin araştırmaya katılmayı reddedebilir veya araştırmadan çekilebilirsiniz. Araştırmaya katılımınız karşılığında sizden bir ücret talep edilmeyecek ve size maddi/manevi bir ödeme veya ödül verilmeyecektir. Araştırmanın amacına ulaşabilmesi için sorulan soruları samimi ve tarafsız olarak, size en uygun gelen cevapları işaretleyerek yanıtlamanız gerekmektedir.

İzleyiciler, yoklama yapan kişiler, etik kurul, kurum ve diğer ilgili sağlık otoritelerinin gönüllünün orijinal tıbbi kayıtlarına doğrudan erişimlerinin bulunabilecektir ancak bu bilgiler gizli tutulacak, yazılı bilgilendirilmiş gönüllü olur formunun imzalanmasıyla gönüllü veya kanuni temsilcisinin söz konusu erişime izin vermiş olacaktır.

Araştırma konusuyla ilgili ve gönüllünün araştırmaya katılmaya devam etme isteğini etkileyebilecek yeni bilgiler elde edildiğinde gönüllünün veya kanuni temsilcisi zamanında bilgilendirilecektir.

Ayrıca araştırmacının ve kurumun yürütülen araştırmadan herhangi bir maddi çıkarı yoktur. Vereceğiniz bilgiler araştırmacı tarafından toplanacak, değerlendirilecek, güvenli bir şekilde saklanacak ve bilimsel amaçla kullanılacaktır. Kişisel kimlik bilgileriniz alınmayacak, kişisel verileriniz üçüncü kişilerle paylaşılmayacaktır. Ancak çalışmanın verileri yayın amacı ile kullanılabilir.

Çalışmayla ilgili soru sormak ve sonrasında verilerinizle ilgili bilgi almak için araştırmacıya mail atabilir [pinar.usta@yeditepe.edu.tr](mailto:pinar.usta@yeditepe.edu.tr) veya **0538 846 7095** arayabilirsiniz.

Araştırmaya katıldığınız, tüm soruları samimi ve tarafsız yanıtladığınız için teşekkürler.

“Bilgilendirilmiş gönüllü olur formundaki tüm açıklamaları okudum. Bana yukarıda konusu ve amacı belirtilen araştırma ile ilgili yazılı ve sözlü açıklama aşağıda adı belirtilen araştırmacı tarafından yapıldı. Araştırmaya gönüllü olarak katıldığımı, istediğim zaman gerekçeli veya gerekçesiz olarak araştırmadan ayrılabileceğimi biliyorum.”

“Söz konusu araştırmaya, hiçbir baskı ve zorlama olmaksızın kendi rızamla katılmayı kabul ediyorum.”

“Bu çalışma sonuçlarının kullanılmasını kısıtlamamayı, yayın, rapor ve benzeri bilimsel dokümanlarda kullanılmasını kabul ediyorum.”

“İster doğrudan, ister dolaylı olsun araştırma uygulamasından kaynaklanan nedenlerle meydana gelebilecek herhangi bir sağlık sorununun ortaya çıkması halinde, her türlü tıbbi müdahalenin sağlanacağı konusunda gerekli güvence verildi.”

**GÖNÜLLÜ**

**TARİH:**

**ADRES:**

**TELEFON:**

**AD SOYAD:**

**İMZA**

**SORUMLU ARAŞTIRMACI**

Dr. Öğr. Üyesi Binnur OKAN BAKIR

**İMZA**

**ARAŞTIRMACI**

Yüksek Lisans Öğr. Diyetisyen Pınar USTA

**ADRES:** İnönü mah. Kayışdağı Cad. 326A 26 Ağustos Yerleşimi 34755 Ataşehir/İstanbul

**TELEFON:** 0538 846 7095

**İMZA**

**TANIK**

**TARİH:**

**ADRES:**

**TELEFON:**

**AD SOYAD:**

**İMZA**

## Sosyodemografik Veri Toplama Formu

1. Adınız Soyadınız /mail adresiniz:

2. Tanısı konmuş bir psikiyatrik hastalığınız var mı? (Yanıtınız Evet ise anketi sonlandırabilirsiniz.)

- Evet  
 Hayır

3. Cinsiyetiniz:

- Kadın  
 Erkek

4. Doğum Tarihiniz:

5. Ağırlığınız (kg):

6. Boyunuz (cm):

7. Eğitim gördüğünüz fakülte ve bölüm:

8. Sınıfınız:

- Hazırlık  
 1.sınıf  
 2.sınıf  
 3.sınıf  
 4.sınıf  
 5.sınıf  
 6.sınıf

9. Yandal/çift anadal yapıyorsanız bölümünüzü ve fakültenizi belirtin lütfen.

10. Okul kulüpleri arasından aktif olarak görev aldıklarınız varsa belirtin lütfen.

11. Medeni durumunuz:

- Evli  
 Bekar

12. Aylık geliriniz:

- Gelirim giderimden fazladır.  
 Gelirim giderimle aynıdır.  
 Gelirim giderimden azdır.

**13. Annenizin eğitim düzeyi:**

- Okuma yazma yok
- Okur-yazar
- İlköğretim Mezunu
- Lise Mezunu
- Lisans ve Üzeri

**14. Babanızın eğitim düzeyi:**

- Okuma yazma yok
- Okur-yazar
- İlköğretim Mezunu
- Lise Mezunu
- Lisans ve Üzeri

**15. Anneniz çalışıyor mu?**

- Evet
- Hayır
- Emekli
- Diğer (Sağ değil / Bilmiyorum)

**16. Babanız çalışıyor mu?**

- Evet
- Hayır
- Emekli
- Diğer (Sağ değil / Bilmiyorum)

**17. Yaşadığınız yer:**

- Ev
- Yurt
- Diğer

**18. Kiminle yaşıyorsunuz?**

- Tek başına
- Arkadaş ile
- Aile ile
- Diğer

**19. Mutfak alışverişinizi çoğunlukla kim yapar? (en sık olanı işaretleyin lütfen)**

- Kendim
- Arkadaşım
- Ailem
- Diğer

**20. Yemeğinizi çoğunlukla kim yapar? (en sık olanı işaretleyin lütfen)**

- Kendim
- Dışarıdan yerim/Sipariş ederim
- Arkadaşım
- Ailem
- Diğer

**21. Doktor tarafından tanısı konmuş herhangi bir hastalığınız var mı? Var ise belirtiniz.**

- Var (.....)
- Yok

**22. Tıbbi diyet tedavisi uyguluyor musunuz?**

- Evet
- Hayır

**23. Son 6 ay içerisinde kilo kaybı amacıyla diyet yapıyor musunuz?**

- Evet
- Hayır

**24. Sigara kullanıyor musunuz? Kullanıyorsanız miktar belirtin lütfen.**

- Evet ..... adet/gün
- Hayır

**25. Alkol kullanıyor musunuz? Kullanıyorsanız tür ve miktar belirtin lütfen.**

- Evet ...../hafta
- Hayır

**26. Yaptığınız fiziksel aktiviteyi ve süresini belirtin lütfen.**

..... saat/hafta

**27. Sosyal medyada gördüğünüz besini/yemeği satın alır veya dener misiniz?**

- Evet
- Hayır

**28. Aşağıdaki sosyal medya sitelerinde geçirdiğiniz süreleri belirtin.**

Clubhouse ..... dakika /gün

Facebook ..... dakika/gün

Instagram ..... dakika /gün

Linkedin ..... dakika /gün

Pinterest ..... dakika /gün

Snapchat ..... dakika /gün

Spotify	..... dakika /gün
Tiktok	..... dakika /gün
Tumblr	..... dakika /gün
Twitter	..... dakika /gün
Whatsapp	..... dakika /gün (İletişim amacı dışında)
Youtube	..... dakika /gün
Diğer	..... dakika /gün

**29. Beslenme alanında bilgi almak için ağırlıklı olarak takip ettiğiniz kişileri işaretleyin lütfen. (Birden fazla seçeneği işaretleyebilirsiniz)**

- Aile Bireyi
- Antrenör/Yaşam Koçu
- Arkadaş
- Diyetisyen
- Doktor
- Diğer Sağlık Çalışanları
- Fenomen/Influencer
- Gazete/Dergi/Haber Hesapları
- Sanatçı
- Sporcu
- Şef
- Hiçkimse

## Sosyal Medya Kullanımı Ölçeđi

Lütfen ařađıdaki ifadeleri okuduktan sonra kendinizi deđerlendirip sizin için en uygun kutucuđun içine (X) işareti koyunuz.

	1	2	3	4	5	6
	Tamamen Katılmıyorum			Tamamen Katılıyorum		
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

## Orto-11 Ölçeđi

Bu anket sizin yeme davranışlarınızla ilgilidir. Lütfen her bir soruyu dikkatlice okuyunuz ve size uygun gelen kutucuđun içine (X) işareti koyunuz.

		<b>Her zaman (1)</b>	<b>Sık Sık (2)</b>	<b>Bazen (3)</b>	<b>Hiçbir Zaman (4)</b>
<b>1</b>	Yemek yerken yediklerinizin kalorisine dikkat eder misiniz?				
<b>3</b>	Son üç ay içerisinde tükettiđiniz besinleri düşünmek endişelenmenize neden oldu mu?				
<b>4</b>	Sađlıđınızla ilgili endişeleriniz besin seçiminizi etkiler mi?				
<b>6</b>	Daha sađlıklı besinlere daha fazla para harcar mısınız?				
<b>7</b>	Sađlıklı beslenme ile ilgili düşünceler sizi günde üç saatten fazla meşgul eder mi?				
<b>8</b>	Yeme konusunda sınırlarınızı aşmak için kendinize izin verir misiniz?				
<b>10</b>	Besinler içerisinde sadece sađlıklı olanlarını tüketmek kendinize olan güveninizi artırır mı?				
<b>11</b>	Sađlıklı besin seçimleri yapmak yaşam tarzınızı deđiştirir mi? (dışarıda yeme, arkadaşlarla yemek gibi)				
<b>12</b>	Sađlıklı beslenmenin dış görünümünüzü daha iyi hale getirebileceđini düşünür müsünüz?				
<b>13</b>	Sađlıksız beslendiđinizde kendinizi suçlu hisseder misiniz?				
<b>14</b>	Süpermarketlerde sađlıksız besinlerin de satıldıđını düşünür müsünüz?				

## EK 6. Özgeçmiş

### Kişisel Bilgiler

Adı	Pınar	Soyadı	USTA
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### Öğrenim Durumu

Derece	Alan	Mezun Olduğu Kurumun Adı	Mezuniyet Yılı
Doktora	-	-	-
Yüksek Lisans	Beslenme ve Diyetetik Pr.	Yeditepe Üniversitesi	
Lisans	Beslenme ve Diyetetik (İng)	Yeditepe Üniversitesi	2019
Lise	Fen	Kadir Has Anadolu Lisesi	2014

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

Bildiği Yabancı Dilleri	Yabancı Dil Sınav Notu (*)
İngilizce	YÖKDİL 2022 – 85

### İş Deneyimi (Sondan geçmişe doğru sıralayın)

Görevi	Kurum	Süre (Yıl - Yıl)
Araştırma Görevlisi	Yeditepe Üniversitesi	Eylül 2022 - ..
Lisansüstü Bursiyer	Yeditepe Üniversitesi	Mart 2020 – Eylül 2022

### Bilgisayar Bilgisi

Program	Kullanma becerisi
Microsoft Office	Çok iyi
BEBIS	Çok iyi

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

### Bilimsel Çalışmaları

SCL, SSCL, AHCI indekslerine giren dergilerde yayınlanan makaleler

-
-

### Diğer dergilerde yayınlanan makaleler

-
-

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

-
-

### Hakemli konferans/sempozyumların bildiri kitaplarında yer alan yayınlar

-
-

### Diğer (Görev Aldığı Projeler/Sertifikaları/Ödülleri)

-
-