

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

**DETERMINING THE INFLUENCE OF USING  
SOCIAL MEDIA ON EATING ATTITUDES  
AMONG UNIVERSITY STUDENTS**

MASTER THESIS

MELIS KEKULLUOGLU

SUPERVISOR  
Assistant Prof. Dr. Irem KAYA CEBIOGLU  
İSTANBUL-2020

## THESIS APPROVAL FORM

### TEZ ONAYI FORMU

Kurum : Yeditepe Üniversitesi Sağlık Bilimleri Enstitüsü




Program : Yüksek Lisans

Tez Başlığı : Üniversite Öğrencilerinde Sosyal Medya Kullanımının Yeme Tutumu Üzerindeki Etkisinin İncelenmesi

Tez Sahibi : Melis KEKÜLLÜOĞLU

Sınav Tarihi : 29.05.2020

Bu çalışma jürimiz tarafından kapsam ve kalite yönünden Yüksek Lisans Tezi olarak kabul edilmiştir.

	Unvanı, Adı-Soyadı (Kurumu)	İmza
Jüri Başkanı:	Dr. Öğr. Üyesi Jale ÇATAK	
Tez danışmanı:	Dr. Öğr. Üyesi İrem KAYA CEBİOĞLU	
Üye:	Dr. Öğr. Üyesi Binnur OKAN BAKIR	

### ONAY

Bu tez Yeditepe Üniversitesi Lisansüstü Eğitim-Öğretim ve Sınav Yönetmeliğinin ilgili maddeleri uyarınca yukarıdaki jüri tarafından uygun görülmüş ve Enstitü Yönetim Kurulu'nun 29/05/2020 tarih ve 2020/05-68 sayılı kararı ile onaylanmıştır.

Prof. Dr. Bayram YILMAZ  
Sağlık Bilimleri Enstitüsü Müdürü



## DECLARATION

I hereby declare that this thesis is my 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 accepted for the award of any other degree except where due acknowledgment made in the text.

29/05/2020

Signature

Melis KEKULLUOGLU



## DEDICATION

Firstly, I would like to say my profound gratitude to my supervisor Assistant Prof. Dr. Irem KAYA CEBIOGLU, who has always shared her treasurable knowledge and ideas with me; also, she showed me support in all the difficulties I have experienced. She answered all my questions with endless patience through my master and always welcomed me sincerely with her smiling face. I believe that I will always benefit from her valuable information and suggestions throughout my professional and private life.

I also would like to thank thesis jury members, Assistant Prof. Dr. Binnur OKAN BAKIR and Assistant Prof. Dr. Jale CATAK for their insightful evaluations and contributions to this study.

Last but not least, I owe my gratitude to my beloved mother, Ebru KEKULLUOGLU, my father Onder KEKULLUOGLU, my dearest sister Derya POLAT and my precious friend Ayça YAGCIOGLU who has provided full support to me through all my life and contributed a lot to me to reach my current position. Lastly, I would also like to thank my precious friends who gave me support, understanding and patience through this rewarding process.

I present my thanks and gratitude

Melis KEKULLUOGLU

## TABLE OF CONTENTS

THESIS APPROVAL FORM .....	ii
DECLARATION .....	iii
DEDICATION.....	iv
TABLE OF CONTENTS.....	v
LIST OF FIGURES .....	vii
LIST OF TABLES.....	viii
LIST OF SYMBOLS AND ABBREVIATIONS .....	ix
ENGLISH ABSTRACT .....	x
TURKISH ABSTRACT .....	xi
1.INTRODUCTION AND PURPOSE.....	1
2.LITERATURE REVIEW .....	3
2.1.University Life and Characteristic Features of the Period.....	3
2.1.1.Lifestyle Changes during the University Period.....	3
2.1.2.Nutritional Health Problems in University Students .....	5
2.2.Internet and Internet Addiction.....	9
2.3.History of Social Media.....	11
2.3.1.Social Media Platforms.....	13
2.3.2.Definition and Consequences of Social Media Addiction.....	17
2.3.3.Problems That May Occur Due to Internet and Social Media Use .....	17
2.4.The Effects of the Internet and Social Media on Health.....	21
3.MATERIALS AND METHODS.....	25
3.1.Participants.....	25
3.2.Data Collection .....	25
3.2.1.Data Collection Form.....	25
3.2.2. Scales .....	26
3.3.Statistics .....	28
3.4.Ethical .....	29
4.RESULTS .....	30
5.DISCUSSION.....	56
6.CONCLUSIONS AND RECOMMENDATIONS .....	60
7.REFERENCES .....	62

8.APPENDIXES .....	79
8.1.Appendix 1 (Informed Consent Form) .....	79
8.2.Appendix 2 (Scales).....	80
8.3.Appendix 3 (Permits About Thesis) .....	85
8.4.Appendix 4 Ethics Committee Approval Certificate.....	87
8.5.Appendix 5 Curriculum Vitae.....	90



## LIST OF FIGURES

<b>Figure 2.1.</b> Interaction between Factors Determining an Obesogenic Environment	7
<b>Figure 2.2.</b> Digital around the World in 2020	9
<b>Figure 2.3.</b> The Digital Changeover in Turkey	10
<b>Figure 2.4.</b> Overview of Internet Use	11
<b>Figure 2.5.</b> Daily Time Spend with Media	12
<b>Figure 2.6.</b> Social Media Overview	13
<b>Figure 2.7.</b> Most-Used Social Media Platforms	14
<b>Figure 2.8.</b> Facebook Audience Overview	15
<b>Figure 2.9.</b> Instagram Audience Overview	16



## LIST OF TABLES

<b>Table 4.1.</b> Descriptive quantitative properties of the sample	31
<b>Table 4.2.</b> Descriptive qualitative properties of the sample	32
<b>Table 4.3.</b> Age and BMI means according to sex	33
<b>Table 4.4.A.</b> Examination of scale scores according to variables	37
<b>Table 4.4.B.</b> Examination of Eat-40 sub-factors according to variables	39
<b>Table 4.5.A.</b> Examination of social media applications according to variables	41
<b>Table 4.5.B.</b> Distribution off social media applications used by participants	44
<b>Table 4.6.</b> Examination of variables according to time spent on social media	46
<b>Table 4.7.A.</b> Examination of variables according to Young cut-off points	47
<b>Table 4.7.B.</b> Examination of qualitative properties according to Young cut-off points	49
<b>Table 4.8.A.</b> Examination of variables according to Bergen cut-off points	50
<b>Table 4.8.B.</b> Examination of qualitative properties according to Bergen cut-off points	52
<b>Table 4.9.A.</b> Examination of variables according to EAT-40 cut-off points	53
<b>Table 4.9.B.</b> Examination of qualitative properties according to EAT-40 cut-off points	55

## **LIST OF SYMBOLS AND ABBREVIATIONS**

<b>AN</b>	: Anorexia Nervosa
<b>APA</b>	: American Psychiatric Association
<b>BED</b>	: Binge Eating Disorder
<b>BMI</b>	: Body Mass Index
<b>BN</b>	: Bulimia Nervosa
<b>DSM-V</b>	: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition
<b>ED</b>	: Eating Disorder
<b>ECHO</b>	: Commission on Ending Childhood Obesity
<b>ED</b>	: Eating Disorders
<b>kg</b>	: Kilogram
<b>NCD</b>	: Noncommunicable diseases
<b>NHANES</b>	: National Health and Nutrition Examination Survey
<b>SNS</b>	: Social networking site
<b>SPSS</b>	: Statistical Package for the Social Sciences
<b>WHO</b>	: World Health Organization
<b>IAT</b>	: Young's Internet Addiction Test
<b>s-IAT</b>	: Short Version of Young's Internet Addiction Test
<b>BSMAS</b>	: Bergen Social Media Addiction Scale
<b>EAT-40</b>	: Eating Attitudes Test
<b>TurkStat</b>	: Turkish Statistical Institute

## ENGLISH ABSTRACT

**Keküllüoglu, M. (2020). Determining The Influence of Using Social Media on Eating Attitudes Among University Students. Yeditepe University, Institute of Health Science, Department of Nutrition and Dietetics, MSc Thesis, Istanbul.**

The present study aims to investigate the effects of social media applications, which we frequently use in our daily lives and become indispensable on the eating attitude of university students. The fact that young people use social media applications excessively in this critical period of their lives may cause health problems such as obesity, as well as negatively affect body perception and even affect their future health status. The thesis was planned as a cross-sectional descriptive study and conducted with 509 (346 women, 163 men) and mean age ( $21.5 \pm 2.32$ ) students who received undergraduate education at Yeditepe University Kayışdağı 26 August Campus and using social media. Young Internet Addiction Short Form was used to identify internet addiction. Bergen Social Media Addiction Scale used for identify social media addiction, Eating Attitude Test was used to determine irregular eating attitudes, and Body Mass Index (BMI) ( $\text{kg}/\text{m}^2$ ) was to determine obesity status. The data were collected online and in face-to-face interviews using a questionnaire. As a result of the study concluded that social media addiction differs according to age, gender, where the person lives, and frequency. It found that the sub-dimensions of Eating Attitude Test differed according to gender, BMI, the effect of social media on eating attitude, visuals encountered in social media, and application of the recipes seen in social media. BMI varied according to gender and EAT sub-factors. As a result, social media addiction can lead to the development of obesity risk factors and unhealthy nutritional attitudes.

**Keywords:** University students, Social Media, Eating Attitude Test (EAT-40)

## TURKISH ABSTRACT

**Keküllüođlu, M. (2020). Üniversite Öğrencilerinde Sosyal Medya Kullanımının Yeme Tutumu Üzerindeki Etkisinin İncelenmesi. Yeditepe Üniversitesi, Sağlık Bilimleri Enstitüsü, Beslenme ve Diyetetik ABD, Yüksek Lisans Tezi, İstanbul.**

Bu çalışma ile günlük yaşantımızda sıkça kullandığımız ve vazgeçilmez haline gelen sosyal medya uygulamalarının üniversite öğrencilerinin yeme davranışları üzerindeki etkisini incelemek amaçlanmıştır. Gençlerin hayatlarının bu kritik döneminde sosyal medya uygulamalarını fazla kullanmaları, obezite gibi sağlık sorunlarına yol açabilir, beden algısını da olumsuz yönde etkileyebilir ve hatta gelecekte ki sağlık durumlarının değişmesine neden olabilir. Bu tez çalışması kesitsel tanımlayıcı çalışma olarak tasarlanmış olup, Yeditepe Üniversitesi Kayışdağı 26 Ağustos Kampüsünde lisans eğitimi alan, sosyal medya kullanan 509 (346 kadın, 163 erkek) ve yaş ortalaması (21.5±2.32) olan öğrenciler ile gerçekleştirilmiştir. Çalışmada internet bağımlılığını ölçmek için Young İnternet Bağımlılığı Kısa Formu, sosyal medya bağımlılığını ölçmek için Bergen Sosyal Medya Bağımlılık Ölçeđi, düzensiz yeme tutum davranışları ölçmek için Yeme Tutum Testi uygulanmış ve obezite durumunu saptamak için Beden Kütle İndeksi (BKİ) (kg/m<sup>2</sup>) bakılarak gerçekleştirilmiştir. Veriler online ortamda ve yüz yüze görüşmeler ile anket formu kullanılarak toplanmıştır. Çalışma sonucunda sosyal medya bağımlılığının yaşa, cinsiyete, kişinin yaşadığı yere, sıklığına göre farklılık gösterdiği belirlenmiştir. Yeme Tutum Testi'nin alt boyutlarında cinsiyete, BKİ, sosyal medyanın yeme tutumu üzerinde ki etkisine, sosyal medyada karşılaşılan görsellere ve sosyal medyada görülen tariflerin uygulanması durumlarına göre farklılıklar gösterdiği bulunmuştur. BKİ ise cinsiyete, YTT alt faktörlerine göre farklılık göstermiştir. Sonuç olarak, sosyal medya bağımlılığı obezite ve ona bađlı risk faktörlerinin gelişmesine hatta kişinin sağlıksız beslenme tutumları sergilemesine neden olabilir.

**Anahtar Kelimeler:** Üniversite öğrencileri, Sosyal Medya, Yeme Tutum Testi

## 1. INTRODUCTION AND PURPOSE

Obesity is one of the most critical health problems of this era, and it defined as a disease of energy imbalance caused by factors that increase energy intake and decrease energy consumption, which is associated with hyperinsulinemia, hyperlipidemia, and hypertension (1,2). Many environmental factors cause obesity; excessive and incorrect eating habits, inadequate physical activity, socio-cultural factors, etc. (3). Then, the increasing use of computers and smartphones in recent years also included among these factors. Studies have reported a linear relationship between eating habits and long-term computer use a lack of physical activity, and increased obesity. The habit of snacking (high energy-dense foods), sedentarism, increased portion perception based on frequent seeing on social media, and wrong diet practices while using a computer or telephone considered to be one of the risk factors that play a role in the development of obesity because it increases energy intake (4).

According to the Household Information Technology Usage Survey conducted by the Turkish Statistical Institute (TurkStat) in 2019, it stated that internet usage was 75.3% in individuals aged 16-74 in 2019. This rate was 72.9% last year. Internet usage rates were 81.8% for men in the 16-74 age group and 68.9% for women. This shows us that the rate of internet usage is higher among men than women (5). According to household information results, technologies usage survey, 88.3% of households have access to the internet from the house. This rate was 83.8% in the previous year. According to these data, it is possible to say that the internet usage of people has increased gradually (5). The use of social media, especially among young people, has become an essential part of life. With the widespread use of social media, social media addiction has emerged as an important problem. This situation is reflected in all life habits of young people and changes their eating behavior. According to The World Health Organization (WHO) recommendations, people should consume five portions of vegetables and fruits daily for their health protection. The average daily consumption of university students found to be 2.2 to 3.8 servings/day. Although insufficient and unbalanced nutrition is an important problem for all individuals in Turkey, university students are one of the groups in which nutrition problems are seen most (6). According to studies, adverse effects of individuals eating behaviors due to

social media usage may increase the risk of both obesity and Eating Disorders (ED). ED considered as severe and vital clinical and medical disorder that can cause mental health problems, especially among young people and adults in the United States (7,8). The etiology of eating behavior is multifactorial, and emphasized that exposure to social media has an essential contribution among these factors (8).

It is crucial to determine the effects of using social media on students' dietary pattern, and it is also important to regulate their eating habits in their adulthood and to prevent possible problems that may be caused by malnutrition. Changing eating behaviors may influence the physical and mental status of the university student as well as deviously affect learning performance. For these reasons, it is essential to determine the nutritional habits and knowledge of university students and to develop suitable recommendations for the situation (9). With the information obtained as a result of studies, measures that take into consideration the factors preventing healthy nutrition should be developed because healthy eating of university students is social importance in terms of both their health and their healthy eating habits as a model for future generations (10).

If the risk identified, it would be a pioneer to plan activities for university students to get the correct information from social media and to raise awareness about increasing their physical activities. This study aimed to determine the prevalence of social media usage of Yeditepe University students and to investigate the effects of social media usage on eating attitudes.

## **2. LITERATURE REVIEW**

### **2.1 University Life and Characteristic Features of the Period**

Many young people who start university leave their families and their homes due to reasons such as city change, unfavorable financial situation and desire for independent living. Living alone or with friends in student dormitories, apartments, or with other families leads to significant changes in the lifestyle of young people (11). The transition from high school to university also coincides with the transition from adolescence to adulthood, which includes ages between 18 to 29. Students need to be able to adapt to their new environment. This developmental period consists of 5 characteristic features which they are; feeling neither adolescent nor adult, self-focus, identity exploration, instability, disequilibrium, and possibility. It is also a substantial period for increasing independence and for assuming an active role for responsibility young people's health (12).

University is a critical period concerning unhealthy changes in eating behaviors in young people. They are always trying to make healthy food choices with increasing independence. Students reported to be affected by individual factors such as taste preferences, disciplined, increased self-determination in decision-making time and affordance, their social communication networks, parental control and support, transitioning to independent living, friends), physical environment for example appeal and prices of food products, accessibility and availability), and macro environments such as media and advertising. Additionally, the relationships between predictive factors and university students' eating attitudes seemed to be connected by university characteristics, such as residency, changes in social circles like student unions, university lifestyle, higher academic expectations, and exams (13).

#### **2.1.1. Lifestyle Changes during the University Period**

University students might experience critical environmental changes. These changes can have a harmful impact on the quality of their diet and lifestyle (14). Eating attitudes of young people can be affected by many factors. These factors can be thoughts about their bodies, perceptions, genetic features, lifestyles etc. Similarly, these factors also affect people's choices for healthy and unhealthy behavior (15). University student populations vastly reported to irregular sleep patterns, decreased

physical activity level, sedentary behaviors, increased substance use and unhealthy dietary behaviors, inadequate snacking, skipping meals, high consumption of fast foods, and insufficient consumption of vegetables and fruits (16–19). When students had problems adapting to this transition, this could have negative impacts on their health behaviors also in the later years might be an effect on weight status (20). Studies show that increasing urbanization and mechanization causes changes in the dietary habits of individuals. Examples of these changes include immobility, increased intake of high energy and fatty foods. These conditions are associated with obesity in childhood and adulthood (21,22). A sedentary lifestyle and an unhealthy diet can cause adverse physical changes in the youth, such as obesity and high blood pressure, which can trigger noncommunicable diseases NCDs in adulthood (23). Nutrition-related NCDs pose a significant problem worldwide. NCDs have four main common behavioral risk factors which they are; inadequate physical activity, tobacco use, obesity, and unhealthy diet. NCDs also increase in developing countries. There is another point to be aware of, which, as mortality from NCDs occurs at an earlier age in developing countries (24).

Studies show that when students start university, a considerable decrease in physical activities observed due to reasons such as changing the social environment they live in, time spent studying, the internet, and social media time. With this sedentary life, unhealthier dietary habits emerge (25). Savcı et al. found that physical activity levels of university students were low (68% ) (26).

Another critical factor in the transition to university life is friendship and peer relationships. These play huge roles during the students' journey of finding themselves also social development and person to person relationships. During university life, students will be able to develop internally stable and external environmental changes that push them to evolve complex identities (27,28). In this period, friendship leads to socialization opportunities and psychological support. In contrast, factors such as peer pressure and a changing social environment can lead to wrong decisions about one's own health. These decisions made not only reflect the values and moral beliefs of the person, but also their ability to make sense is an integral part of the development as it affects the future of the person (29,30).

Health-related attitudes in early life affect later risks for lifestyle-related disorders. That's why it is crucial to investigate health behaviors among youth. University students represent a significant segment of the young adult population (31). It is also a period of transition from childhood to adulthood in which mental and physical changes and social relationships experienced most dynamically (32). Known that the decisions that young people take now affect their future health so much, they should be encouraged to take responsibility for their lives to become healthy individuals in the future (33).

## **2.1.2. Nutritional Health Problems in University Students**

### **Overweight and Obesity**

The prevalence of obesity is gradually increasing as a result of imbalanced diets and sedentary life in both developed and developing countries; as a result, overweight and obesity have become an epidemic worldwide (34). In the same way, Turkey, as well as other countries, has encountered an epidemiological transition in recent years, with the result being evident changes in lifestyle behaviors and food consumption patterns. More westernized food habits have replaced the traditional Mediterranean healthy food habits (35), which are characterized by a low intake of fruits and vegetables, also dietary fiber and high consumption of foods rich in sugar, salt, and fat.

Except for the above, obesity mainly occurs as a result of genetic, environmental, cultural, physiological, and behavioral factors related to excessive fat accumulation and energy imbalance (36). Causal mechanisms thought that provide the expansion of obesity include some environmental factors which induction via geographical and social networks (37).

Obesity defined as increased adipose tissue storage, which can harm health. Obesity as a result of metabolic and endocrine functions of the body is more than healthy fat tissue, organic, systemic, physiological, metabolic, hormonal, psychological, aesthetic and social problems that can cause to disease alongside hypertension, type 2 diabetes, dyslipidemia, metabolic syndrome, coronary heart disease and even cancer (38).

The most frequently used parameter in the diagnosis of obesity is BMI calculated with dividing body weight to height. WHO defines overweight and obesity

as Overweight is a BMI higher than or equal to 25, and Obesity is a BMI higher than or equal to 30 (39). BMI provides the most useful population-level measure of overweight and obesity as it is the same for both sexes and all ages of adults (34).

It must know that getting under control of overweight and obesity and their associated diseases is challenging for the whole world (40). Mainly unhealthy eating behaviors observed in young people. According to studies in the USA, the university is a vital period for weight gain (25,41,42). According to studies, young people said to be particularly vulnerable to poor eating and have the habit of eating "junk". For example, fast foods, sugary sweetened drinks, low fruit and vegetable intakes contribute to the increase in overweight and obesity, which can be important determinants of university students' health (34,43). It is showed that young people leaving their parents and their homes to attend college experience shows numerous health-related behavioral changes, which includes increasing unhealthy dietary habits (44). These acquired habits mostly attributed to radical changes in the resources available and environment, exposure to unhealthy foods and habits (45). In studies conducted for university students in the US, it stated that students did not consume recommended amounts of vegetables and fruits. Still, instead, they consume increased quantities of high-fat foods (46,47). In the study of Butler et al. (48) conducted, there is a significant decrease in the amount of bread, vegetables, and fruits consumed during the freshman year of university and also significant increases in fat intake and alcohol consumption in US students. In a study by Lloyd-Richardson et al. (49) reported that unhealthy eating attitudes and alcohol consumption may contribute significantly to energy intake and may, therefore, make easier students' weight gain. A similar pattern said that weight gain is also prevalent among university students in Europe (50). However, there is not enough literature on this subject in Europe. In a Greek study (51), university students showed a higher intake of total and saturated fat and lower consumption of monounsaturated and polyunsaturated fat, vitamin E, folate, and fiber compared to the American Heart Association (AHA) guidelines. Crombie et al. (25) warned that these health attitudes may not only occur during the university years but may remain throughout adulthood as well. Therefore, prevention programs such as nutritional education, against unhealthy eating habits among university students are needed to prevent the increase of overweight and obesity prevalence at later ages.

## Obesogenic Environment

The obesogenic environment defined as a sedentary lifestyle and a living environment that promotes high energy intake. It causes obesity to occur and spread due to weight gain (52). In 2014, WHO established the Commission on Ending Childhood Obesity (ECHO) to clarify the most effective approaches and interventions in different contexts around the world in ending childhood and adolescent obesity. In the report published in 2016, ECHO described the obesogenic environment as "an environment that takes forward sedentary behavior and high energy intake. This includes the foods that are available, purchasable, reachable, and promoted; physical activity opportunities; and the social norms about physical activity and food " (53).

As shown in Figure 2.1. familial obesogenic environment and urban obesogenic environment are interrelated, and it is not possible to think of them independently (54).

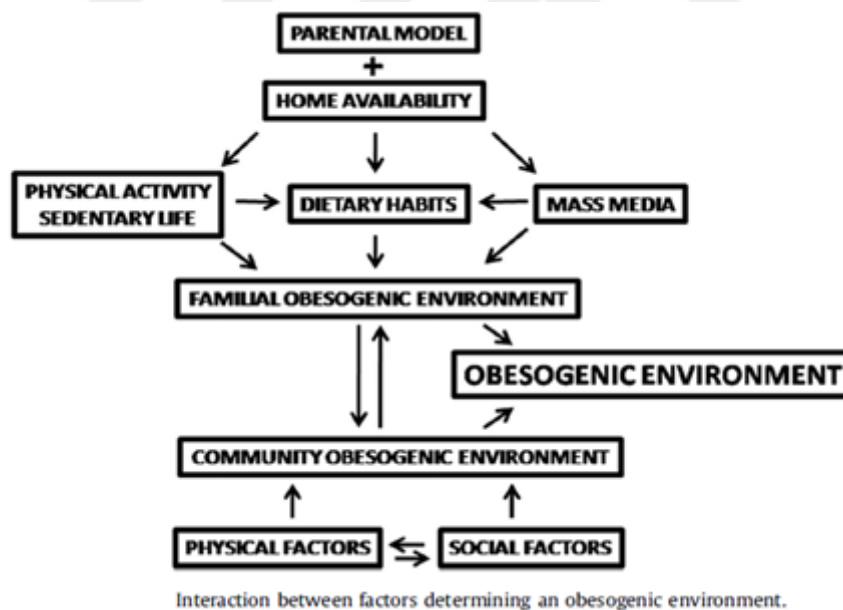


Figure 2.1. Interaction Between Factors Determining an Obesogenic Environment (52)

### *Familial obesogenic environment*

Several factors create the familial obesogenic environment. These are listed as follows; The First one is the habits of children/teenagers eating at home are significantly affected by the availability of food, as well as the healthy and unhealthy eating habits of the parents. The second one is; the level of physical activity of

children/teenagers depends significantly on the likelihood of physical activity and the parent's model of physical activity. Third and finally, the presence and correct use of mass media at home related to parental model. It's also useful in the formation of a familial obesogenic environment (55,56). Increasing the use of the World Wide Web (WWW) tools as an example of mass and media causes the development of familial obesogenic factors. While the WWW revolution allows for an interactive and unidirectional communication process worldwide, it also brings about impulsive psychiatric disorders similar to Internet Addiction, possibly a pathological gambling addiction (57). The Internet Addiction might be a risk factor for both urban and familial obesogenic environment (58).

#### *Urban obesogenic environment*

Social and physical factors cause the contribution of an urban obesogenic environment. Relevant physical factors are the environment of community, public transportation system, accessibility of fields for physical activity, and availability of places where food consumed. However, the primary social consideration is the effect of cultural, political, social, and micro and macro-economic factors exercise on family, the community as well as on the children/teenager's life (52). Next to these psychosocial determinants, researchers convinced of the importance of the environmental influence on eating behaviors (59–61). Brug et al. (59), reported that the environment has changed during the last decades, whereas opportunities to eat energy-dense foods are available everywhere. In their study, Egger et al. (60) suggested that increased obesogenic environment is causing the rise prevalence of obesity rather than any 'pathology' in genetic mutations or metabolic defects within individuals.

Ecological models consider the connections and the continuous interactions between people and their environments (36,37). Based upon the latter two theories, Story et al. (36) proposed a framework including individual, social, environmental, physical environmental, and macro levels, to understand factors influencing eating behaviors.

## 2.2 Internet and Internet Addiction

The Internet is a tool we use to reach information frequently in daily life with the rapid development of technology in the information age we are in right now. No doubt using the internet has gained an essential place in our life. Since the beginning of the 2000s, we have been in contact with the world. We can carry out our professional and academic activities, thanks to the use of the internet that has been spreading rapidly in all areas of our lives. People also use the internet in different platforms such as social networks, job posts, general knowledge track and entertainment (62).

Since 2012, the digital social marketing agency "We Are Social" and a social media tool "Hootsuite" have been publishing statistical data reports on the internet and social media use every year (63).



Figure 2.2. Digital around the World in 2020 (63)

According to the latest 'Global Digital 2020 Overview' report, it announced that 59% of the world population, i.e., 4.5 billion people, are internet users. According to the same statement, the number of social media users worldwide has increased to about 3.8 billion users by January 2020 (63).

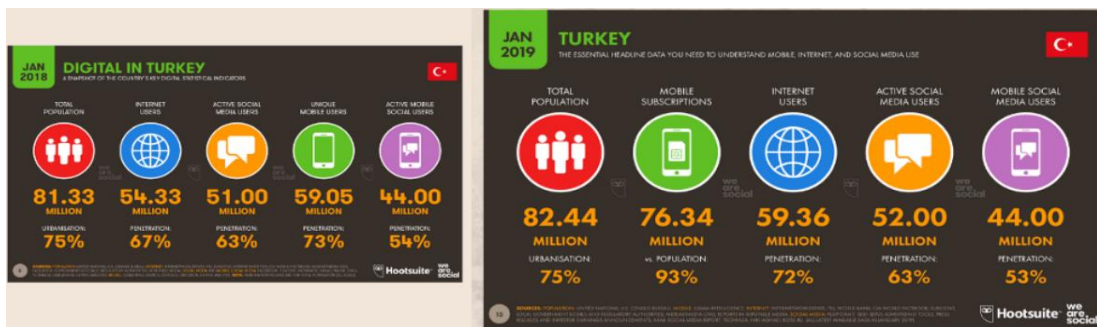
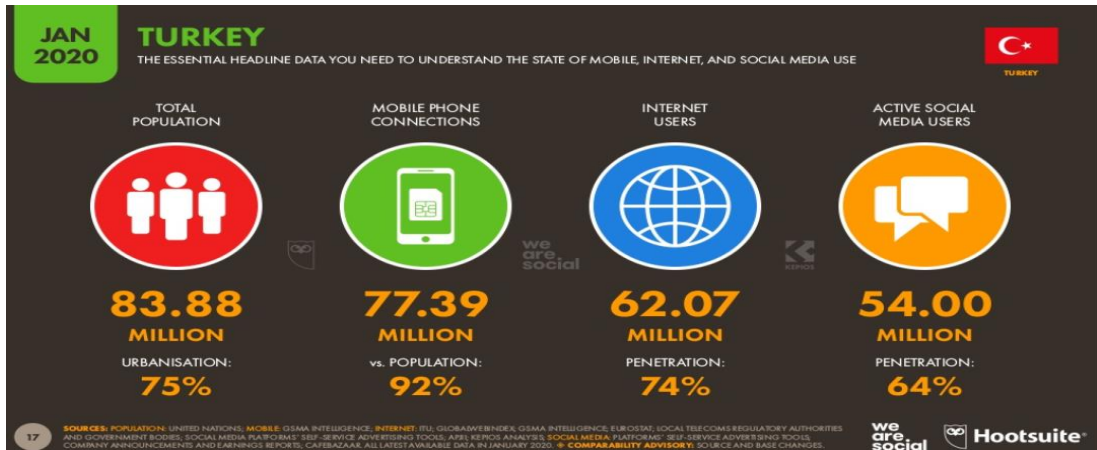
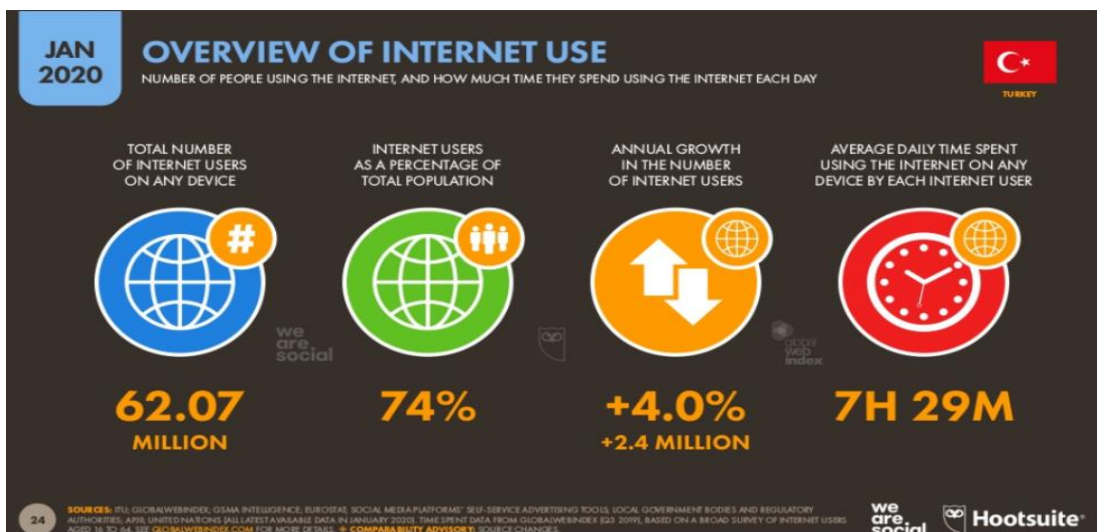


Figure 2.3. The Digital Changeover in Turkey (63)

Referring to the report published in Turkey in the last three years, Turkey, as well as in the world, seems to be an increase in the use of the internet. While it was 67% in 2018 and 72% in 2019, seen that this rate increased to 74% as of January 2020, it observed that the number of active social media users increased and reached 54 million in 2020 (63).



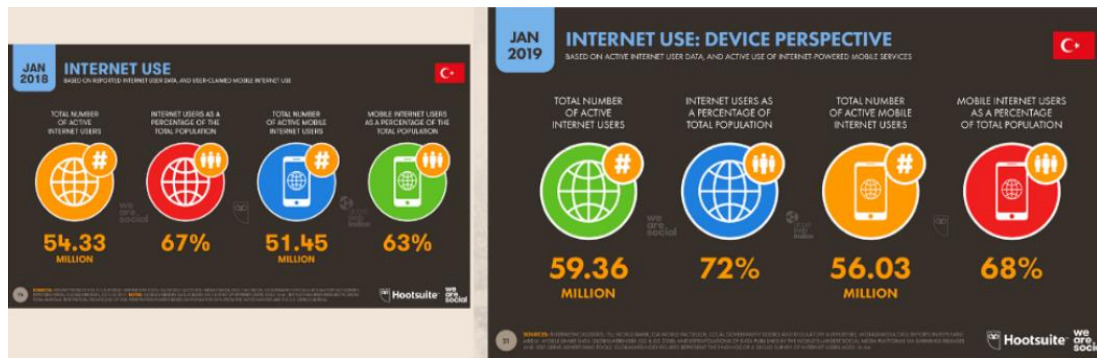


Figure 2.4. Overview of Internet Use (63)

Referring generally to the use of the Internet in Turkey, it is clear that by the year 2019, an increase of 4% in Internet usage. Besides, it has been stated by every internet user that the average daily time spending time using the Internet on any device is 7 hours 29 minutes (63). The number of internet users in Turkey 46 million (this number constitutes 56.7% of the population of Turkey) has exceeded usage is rapidly gaining popularity, especially among young people (64). The widespread use of the Internet has created new problem areas such as internet addiction and has directed researchers to work on these issues.

According to Kwon, Kim, Cho, and Yang (2013) (65) article, addiction meant just substance or drug misuse in the past. However, in today's world, the word addiction means both drug, substance and games, gambling, or the Internet. The reason for called addiction to excessive internet use, just as in substance use, it causes failure in academic, business life, and also in social, private life (66). It emphasized that the internet, which has become an essential source of access to information, especially for adolescents and university students, it's an addictive in this population. (67). Goldberg first used the term Internet addiction in 1995 (68). Internet addiction causes mood disorders, perception disorders, adjustment disorders in individuals as well as substance addiction, and tolerance develops in individuals who are addicted to the internet. Deprivation felt when there is no internet (69). Kutlu et al. (2016) (70), as cited in this article, it was found that research is associated with internet addiction and low social support, depression, loneliness, anxiety, and shyness.

### 2.3 History of Social Media

In the last ten years, social media has started to play an essential role in our lives. Almost everyone uses at least one of the social media platforms, which gives

users a chance to be connected to the world. The concept of social media has spread across the globe with the effect of the internet, which has changed from Web 1.0 to Web 2.0 (71).

Social media is a kind of a Web 2.0 based concept, including all platforms in which users can create, revise, and share content. Social media involves a great variety of platforms in which users can create content such as social networking sites, blogs, wikis, virtual interactive games, video sharing sites (71). These days, the use of social media is growing day by day. Compared to traditional media, Social Networking Sites (SNS) presents a fantastic platform that includes many different activities, not like television, that is only for enjoyment or newspaper that is solely for getting knowledge. Social media also gives users the right to announce their emotions, thoughts, and the chance to win praises from other users (72). In brief, social media platforms provide many diverse opportunities for users, such as "determining with other people and gaining a sense of belonging; finding a basis for social interaction; connecting with friends, family and society" (73).

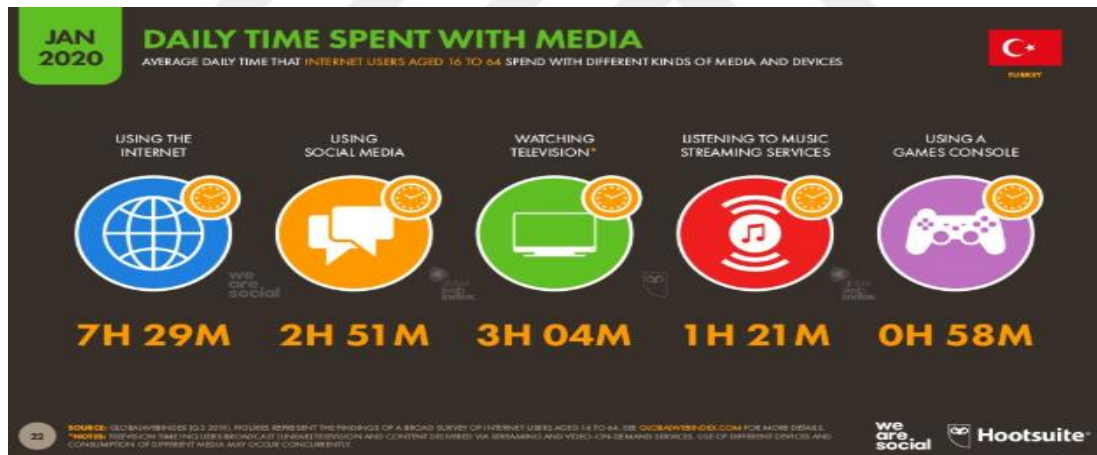


Figure 2.5. Daily Time Spent with Media (63)

When we look at the daily use of social media in our country, we see that it is 2 hours and 51 minutes per person per day. Compared to 2019, the number of social media users increased by 4.2% to 54 million (63).

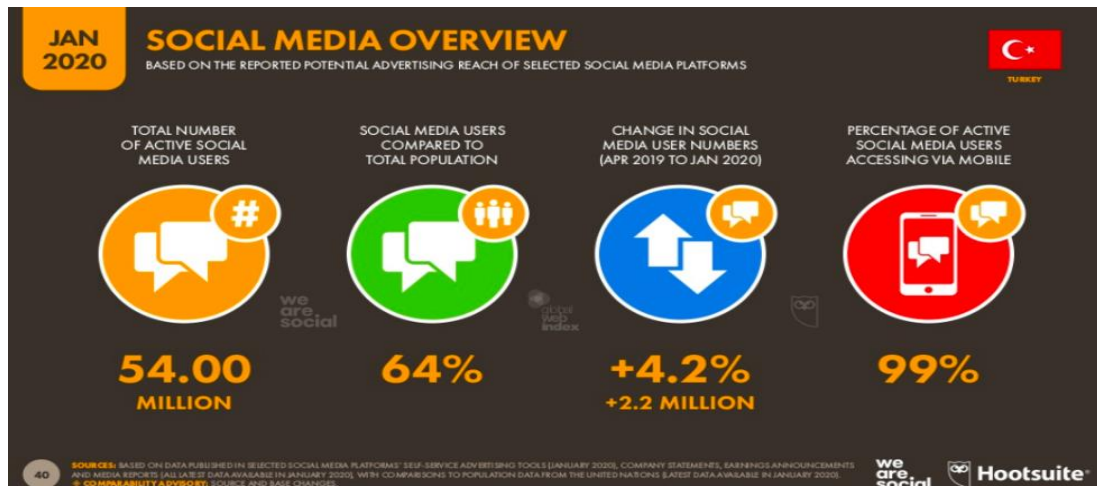


Figure 2.6. Social Media Overview (63)

### 2.3.1. Social Media Platforms

The number of social media platforms and their users has escalated day by day with the advances in technology, and interpersonal communication becomes more comfortable among people. Social media has various platforms, and these platforms ensure a variety of uses for people (74). While some social media applications can charge users with some fee, while others are free like Facebook, Instagram, Twitter, and other texting sites have become available free of charge on the smartphone application stores. Social media platforms are web-based services that help people to create their profiles, share some information with other users along with these profiles, and allow other users to see their information (75). The first social media platform was SixDegrees.com, which was launched in 1997 (75). Social media has different forms, namely, online blogs, social blogs, internet forums, podcasts, wikis, virtual games, photo and video sites. Facebook, Twitter, LinkedIn, Google+, Reddit, WhatsApp, YouTube, Tumblr, Instagram, Vine, and Snapchat are social media platforms with widespread use. Social media platforms that became prevalent with the aim of communication were Facebook, Twitter, Myspace, and Skype (76). Instagram, YouTube, and Snapchat are social media platforms that used for video sharing & searching, photo sharing, and social communication.

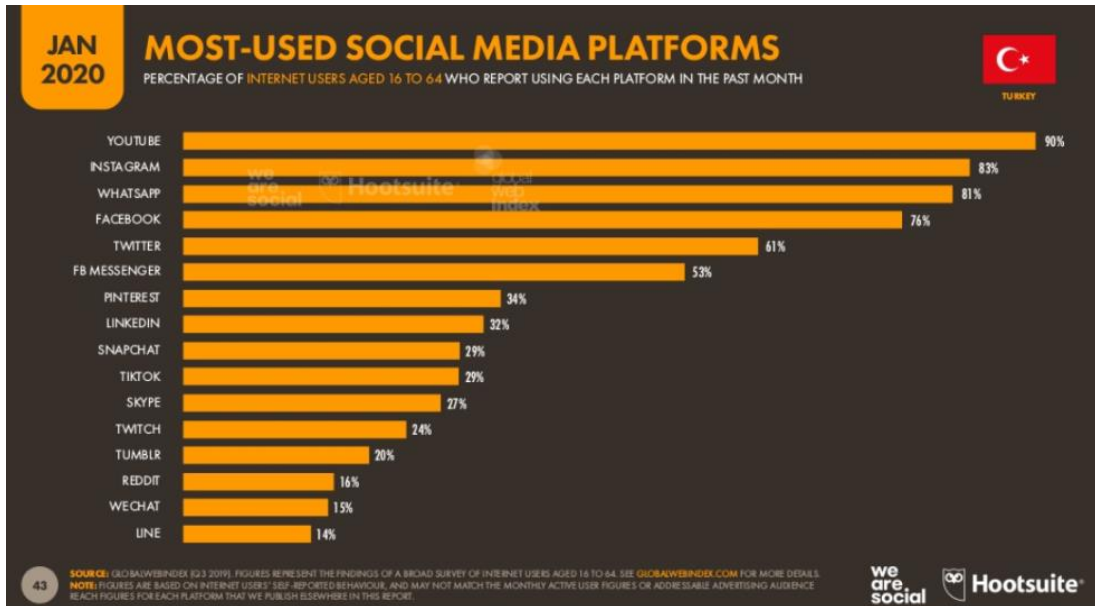


Figure 2.7. Most-Used Social Media Platforms (63)

Turkey ranks first in January 2020 we look at the most widely used social media platform YouTube has reported. It is seen that Instagram, WhatsApp, Facebook, and others are next (63).

Facebook, is a well-known social media site created in 2004. It was initially designed as a communication tool for Harvard University students. Still, it rapidly spread to other schools in the US and was made available to everyone who had an email in 2006 (77). Social media usage, especially Facebook usage, has increased significantly in the last ten years. University students use Facebook for approximately 100 minutes a day (78).

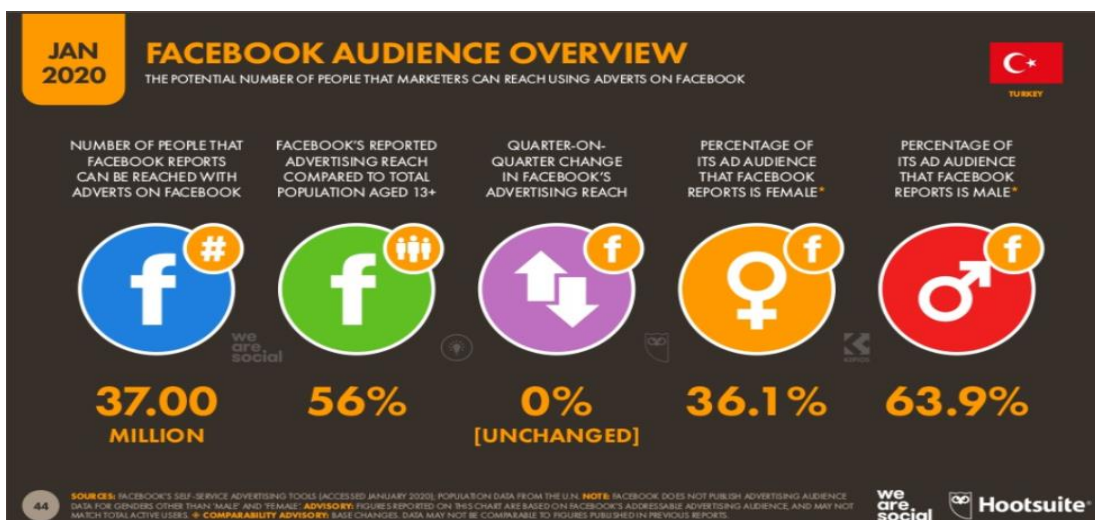




Figure 2.8. Facebook Audience Overview (63)

In Turkey, the number of users of 51 million in 2018. We also examine the use of Facebook status has already dropped to 37 million in 2020. Based on this, we can say that the number of users of the application has decreased, but Facebook is still among the most used social media platforms in our country, and the majority of users are men with 63.9% (63).

*Instagram*, founded by Mike Krieger and Kevin Systrom in 2010 as a photo and video sharing site, was sold to Facebook in 2012, and recently its prevalence has been increasing exponentially (79). Compared to other social media platforms, Instagram gives priority to visuality. Instagram can easily be used on smartphones, and users can access their accounts anytime they want via their mobile phones; therefore, Instagram users can readily see sharings of people they follow themselves or people that they follow them by clicking the application many times a day (79). While the platform allows users to share pictures or videos on their profile, they can also add a caption on any subject they want. They can use hashtags to describe the photos and write what this photo means for them, and tag other users using with a symbol “@”. The hashtag #food is one of the most popular hashtags on Instagram. This shows the importance of Instagram for sharing food-related ingredients (80).

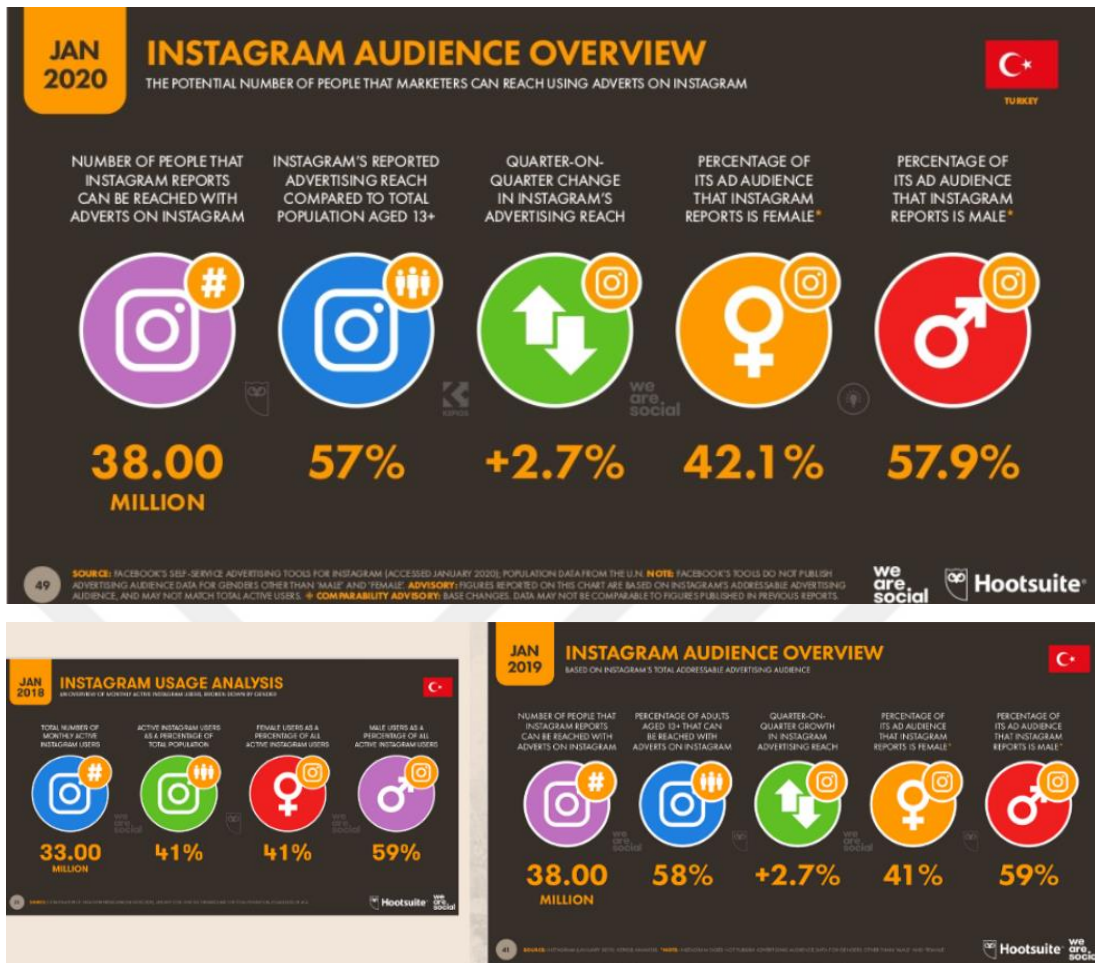


Figure 2.9. Instagram Audience Overview (63)

When the Instagram usage reports of Turkey; We see that the number of users increased by 5 million from 2018 to 2020 (63).

*Twitter*, Developed by Jack Dorsey in 2006, Twitter is a microblogging post-based social network that offers users have the freedom to send tweets, share photos, videos, and send messages with a certain number of characters (81). Twitter has become one of the most influential and popular social media platforms (82).

YouTube is the largest online video-sharing website worldwide, with music and videos, clips, video blogs, short original videos, and a wide range of user-created corporate media content. Turkey, in the last few years, has shown an increase in the use of YouTube. Due to this rapid increase, the use of YouTube has passed Facebook, which the most common social networking site worldwide. 92% of internet users reported using YouTube in 2019. According to the report of 2020, It seems that the most used social media platform is YouTube (63).

*Tumblr* founded by David Karp in 2007. It is a blog and social networking site consisting of blogs, where all kinds of sharing allowed. It also has a structure that helps individuals to develop their creativity by being able to edit their blogs by using their creativity, adding blog content that will consist of text, photos, quotes, links, chat, audio, and video freely (83).

### **2.3.2. Definition and Consequences of Social Media Addiction**

Internet addiction mostly associated with social media and gaming (84). That's why social media addiction considered a subcategory of excessive Internet usage (85). It is consequently that online social network addiction shows similarity with Internet addiction (86). Social media addiction can relate many different factors and daily sparing duration on the Internet and how many times people checked their social media accounts defines many things about addiction level of them. For example, more spend time on the internet or social media; the higher the levels of addiction might occur (87). Briefly, excessive social media usage can bring with social media addiction, and that is causes failure in academic life, business life, and even in private life.

Studies on social media addiction have shown that many variables such as sex, age, personality traits, depression, anxiety, and stress may be related to social media addiction. In terms of demographic features, it was seen that women and young people are more prone to social media addiction. The reason for this is that, because the social aspects of women are more prominent and they tend to communicate, young people are more prone to social media addiction in relation to using technology more actively than adults (88–90).

### **2.3.3. Problems That May Occur Due to Internet and Social Media Use Definition of Eating Disorders and Causes**

Although a specific cause and pathogenesis for eating disorders are unknown, risk factors considered to include general, social, familial, developmental, psychological, behavioral, and biological factors and life events. The media regarded as one of the generates of eating disorders. Research in psychology shows that self-confidence is highly delicate to manipulation through the media. Although studies assume that women are easily manipulated by social media faster than men, it also certain that men's self-confidence could be manipulated by social media (91).

Individuals under the age of 25 are more than 90% of eating disorders. It is 5-20 times more prevalent in women than in men, and only 5-10% of all cases are men (92).

Eating disorders can be described as a severe impairment of eating behavior, struggle to control their shape and body weight, along with atypical eating behavior, and having excessive anxiety about food; disorders in which abnormal eating behaviors mostly are seen to lose weight or preserve the low body. The diagnosis of eating disorders depends on some factors. These may be the type of eating disorder, anxiety level about one's weight and body, and dietary restrictions that the person has applied to himself/herself. The most common symptoms among the diagnoses can be considered compensatory behaviors. In these symptoms there are some conditions such as; the lack of satisfaction with the body shape, overeating in a short time, concern about body weight and desire to lose weight steadily, feeling of losing control during eating, compensatory behavior such as vomiting, diuretic or use of medications to lose weight, using laxatives, excessive exercise, fasting and skipping meal times for dietary restriction, refusing a specific nutrient or create rules about nutrients to lose weight, features such as unhappiness or stress increase eating habits (93,94).

As stated by APA DSM-V classification (2013), Eating Disorders observed in 8 main groups (95). These are; Anorexia Nervosa, Bulimia Nervosa, Pica, Rumination Disorder, Avoidant/Restrictive Food Intake Disorder, Binge Eating Disorder, Other Specified Feeding or Eating Disorders.

Eating disorders, the prevalence and frequency of which are increasing in youth, are defined by the WHO as "important medical condition" requiring "medical attention" (96). university and high school students are the best representative of top risk groups in terms of eating disorders (97).

*Anorexia nervosa (AN)*, includes a severe calorie limitation, strict rules on eating and anxiety of gaining weight. In repetitive attacks, large amounts of food consumed, then purging may occur (98). AN is a failure to maintain body weight due to dietary restriction because of fear of gaining weight. It's also a disorder on body image.

AN may appear from the through adolescence. The first warning signs are listed as follows; losing weight in a short time, doing extreme diet and exercise practices, skipping meals, calculating the calorie amount of everything eaten and

increasing interest about food products labels, increased stress level after eating, starting to hide the body by wearing large clothes, dry skin, hair loss, brittle nails, and mood swings. Medical signs include difficulty in regulating body temperatures, low heartbeat, low blood pressure, blood electrolyte imbalances, and periods of dizziness and lightheadedness. As a result of suicide risk and medical complications, the risk of death in the AN increases vividly (99).

- Park et al., in their study, content related to anorexia examined on Tumblr, a popular blog to talk about eating disorders within a month. Among the 35,432 posts collected, the most spread articles reviewed, and the message properties of these articles coded. Findings in the study showed that positive messages for anorexia are more likely to be published on Tumblr (100).
- Syed-Abdul et al. studied 140 YouTube videos and classified them as pro-anorexia, informative, and others. Of the 40 most-watched videos, 20 are informative, and the rest are pro-anorexia videos. They evaluated to measure audience behavior. The results of the study show that pro-anorexia videos found on YouTube at high rates. About a third of the videos about anorexia introduced anorexia as a lifestyle. Besides, it was reported that pro-anorexia videos are chosen more than informative videos by viewers. However, the number of comments these videos was two times higher than the informative videos. As a result, pro-anorexia content on social media may pose a danger, especially for young people. It thought that it might be practical to encounter pro-anorexia content while looking for healthy diet ingredients (101).
- According to Oksanen et al. study, they collected data on the videos and commentators of the top 50 YouTube anti-anorexia and pro-anorexia channel users, and they studied 12,161 comments and 395 anorexia videos. As a result of the study, although pro-anorexia contents are the vast majority on YouTube, videos that encourage help for anorexia and oppose pro-anorexia communities are more popular. Moreover, these videos showed that they received more positive feedback and comments than pro-anorexia videos (102).

*Bulimia Nervosa (BN)*, defined as extreme eating and characterized by binge attacks with purging to abstain gaining weight and changes in body. Fasting, self-induced vomiting, laxative use and diuretic, excessive exercise routine, and use of

some drugs (e.g., insulin) seen in BN. BN usually begins in the adolescent age (103). Early warning signs are; eating secretly, frequent toilet visits after meals, include the loss of large amounts of food, using fingers to vomit and induce vomiting, and swelling of the face. The appearance of these symptoms at least twice a week for three months, defined as bulimia. Medical complications seen in BN are usually electrolyte imbalance in the body, esophageal ulcer, and tooth decay. The risk of death from BN increases, primarily due to suicide. On the other hand, when treatment is carried out by experts, 70% of patients will begin to recover over time (104).

- 106 women university students who participated in a study that examined cyberbullying would mediate the relationship between media and bulimic attitude in a study by O'Riordan et al. The findings showed that the relationship between the two dimensions of the media (information source and internalization) and the bulimic attitude mediated perceived cyberbullying. These findings highlight the vital impact of cyberbullying on bulimic attitudes (105).
- According to Blechert et al., the sample of this study consists of 20 bulimia nervosa and 22 healthy individuals. While measuring the eye movements of the participants, slides containing the digitalized images of the participants' bodies watched along with the bodies of individuals with high and low body mass indexes. As a result of the study founded that bulimic participants focused more on presentation images with lower body mass index compared to the control group (103).

*Binge Eating Disorder (BED)* compared with AN and BN, was a more widespread eating disorder. As a result of the studies carried out by WHO (106), the frequency of eating disorders in adults was 1.4%. This rate represents a small part of the population. When comparing sexes for eating disorders, women are more vulnerable to eating disorders than men. Looking at the prevalence of BED in women, it is also higher than men. However, it understood that the most common eating disorder in men is BED. BED is a situation where, under repeated conditions, it consumes more food in a short period of time than most people can consume because it cannot control itself. People can do this behavior even if they are not hungry (103,107).

- Dakanalis et al. their study on 685 adolescents for three years. They investigated the effect of media on the individual. The results pointing that media-ideal internalization envisaged a person to think and study their body from the external observer's point of view. There were negative emotional experiences about the person's body and appearance. In contrast, these harmful emotional experiences have found to trigger subsequent dietary restriction followed by overeating, and each of these critical things of eating disorders affects each other (108).

*Orthorexia Nervosa* considered an eating disorder, although DSM is not included (95). If we refer to its definition, it stated as an unhealthy obsession with eating healthy food. This definition also constitutes the recommended diagnostic criteria for ON (109). Anxiety and dietary restrictions observed in people with ON. These behaviors cause clinical disorders (110). There is some similarity between ON, AN, and obsessive-compulsive disorder. Both AN and ON share perfectionism and guilt in food transitions. However, while AN patients are busy with the amount of food, ON patients are occupied with the quality of the food they consume. Symptoms of orthorexia are associated with healthy lifestyle choices, such as consume more healthy foods (111).

- Turner et al. examined the links between the use of social media, especially in the symptoms of Instagram and orthorexia nervosa. They evaluated the social media usage, eating behaviors, and signs of orthorexia nervosa in 680 participants. The study found that the use of Instagram for a more extended period was associated with the trend towards orthorexia nervosa and that other social media channels did not have such a significant impact. In the same study, a weak positive relationship found between Twitter and orthorexia symptoms. These findings emphasize the effects of social media on psychological well-being and show that social media "celebrities" can affect hundreds of thousands of people. Besides, these results thought to have clinical effects on the development and recovery of eating disorders (112).

#### **2.4 The Effects of the Internet and Social Media on Health**

Information sharing about the health sector in social media provides convenience to appeal to large masses of people as a source of information about

health, especially young people, turn to social media. Today, social media contents related to health and fitness are becoming widespread and provide young people with open access. Besides, these sites are top-rated and cause interaction among people (113). But, the information acquired from these platforms can be deceptive; it observed that most health news or healthcare sharing lacks in terms of science originated and bibliography. However, getting information is so easy and unsupervised, especially the spread of correct and outdated information affecting public health, prolonged time spent in the virtual environment, exposure to negative comments, or content (114).

According to the Hartman Group report, people use social media to get inform actual food choices, with 54% of users want to share and discover food experiences, and 42% are using to seek suggestions about food (115). These data show that the majority use of social media affects eating attitudes.

Same time there is some words come into our lives with our use of social media. To illustrate the point, the "Fitspiration" word comprised of "fit" and "inspiration" words, and this word especially used for exercise and healthy nutrition based sharings of Instagram users, aimed to urge people to healthy alternative nutrition plans. According to research done with women on Instagram, 110 women, who did excessive exercise and shared the contents, including healthy nutrition on Instagram, was investigated, and eventually found out that these people tended eating disorder. They also found that most of the images of women show an objectify element, which may have adverse effects on self-esteem and body image (116). Moreover, the researchers drew attention to the social comparison of body image disturbance (117). Image-based platforms like Instagram have also shown to confer and meaningful decrease in self-reported loneliness to users, whereas text-based platforms such as Twitter do not (118). When all of these situations examined, there is evidence that there are negative links between mental health and social media use, but the situation is not yet clear. In some cases, social media may have protective or positive qualities.

When we look at other social media applications producing and sharing content on social media platforms such as YouTube and Vimeo is becoming more and more common day by day. For example, approximately 26% of teens aged 13-17 create and upload videos on YouTube. Also, over 4 billion pages are viewed by users every day. However, YouTube is acquirement popularity among European and American

healthcare providers not only as a video store also as a social network where users communicate to build trust with favorites and comments (101). Many health-related contents shared on these platforms. However, an increasing number of healthcare consumers are looking for health-related information on social media (119), and there are situations in which the info gaining from these platforms is misleading, and this creates a problem of trust (101).

Facebook, which has 655 million users per day, can also lead to the development of ED by idealizing its thin body structure. People spend about 100 minutes on Facebook daily (78). Among those who have Facebook accounts, the number of friends is high, and the allocated time on social media has been interrelating with increased negative body perception (120).

Smith et al. examined the excessive use of Facebook and the changes in eating pathology in women educated at college, and it was found wrong Facebook usage was associated with more eating pathology. As a result of the study, determined that Facebook may affect the pathology of eating by creating a negative body perception (121). According to a study by Mabe et al. (122), 960 women answered the questionnaires about using Facebook and irregular eating. In the second study, 84 women told to use Facebook or use an alternative website for more than 20 minutes. At the end of the study, the use of Facebook associated with more irregular eating. Besides, reported that Facebook usage was associated with more weight anxiety compared to alternative internet use in the study. In another study, a relationship found between the time adolescents spend on Facebook and irregular eating behaviors. The group spending time on Facebook has reported to have more shape and weight anxiety when compared to the control group viewing a neutral website. The high time allocated for photographic applications on Facebook has associated with the perception that thin individuals are more attractive and of higher status, as well as the stronger desire to be slim (123). In another study, a questionnaire consisting of 112 questions applied to 1001 participants between the ages of 15-29. It concluded that the adolescent women mostly use social media contents related to health and fitness. In addition, individuals with eating disorders, wrong practices such as detox or laxative were more in all probability to use social media content related to health and fitness (113).

Another study investigated the effect of using social media on healthy behavior (diet and exercise) of young adults. It stated that applications such as online exercise diary increase their motivation and inspire the sharing of social media in the choice of food. At the same time, they postpone doing sports because of not being aware of the spending time on social media, and they tend to have an unhealthy diet due to the shared wrong flow of information (124).

Recently, the "healthy eating movement" trend has started to spread in social media. The pioneers of this movement, especially on Instagram, "where visuality is at the forefront", do not have formal education in nutrition or health sciences. Still, they have the power to reach and influence hundreds of thousands of people. Since Instagram is an image-based platform, followers may be more likely to follow or mimic the diet of 'celebrities' because they feel a more personal connection.

It should always keep in mind that the use of social media among young people has a good deal of negative effects as well as positive outcomes, social media should be used with caution, and parents should be more conscious about this issue. They knew that using too much social media is harmful to many factors. The high number of followers when using Instagram is directly related to depressive symptoms (125).

Considering all this information, it is useful to fully understand the problems surrounding students' health-related lifestyles and to promote long-term health. Because any problems that arise continue from adulthood to old age. And this affects overall health and well-being (126).

### **3. MATERIALS AND METHODS**

#### **3.1. Participants**

The study is a cross-sectional descriptive study designed to investigate the differences between eating attitudes of undergraduate students studying at Yeditepe University Kayisdagi 26 Agustos Campus according to their social media usage.

The population of the study consists of 16450 students enrolled in the undergraduate program according to the data obtained from the student affairs of 13 faculties teaching at Yeditepe University Kayisdagi 26 August Campus. The sample size was calculated as a minimum 370 when the confidence level accepted as 95% in a sample whose population was known and whose distribution was assumed to be heterogeneous.

#### **3.2. Data Collection**

Data collection form consisted of an informed consent form, demographic information, food selection and feeding habits, Bergen Social Media Addiction Scale (BSMAS), Eating Attitudes Test (EAT-40), and short version of Young's Internet Addiction Test (s-IAT).

Data collection carried out in 2 different ways. The first one was made by sharing the link obtained through the [www.onlineanketler.com](http://www.onlineanketler.com) with the students by student representatives of all departments. The second one applied by interviewing the data collection form face to face with the students. Among the faculties listed alphabetically, it tried to reach the target number starting with the first one. If the target number could not achieve in the related faculty, data collection continued until the amount of the target sample completed from the next faculty in alphabetical order. The average time per participant to complete the data collection form determined as 10 minutes. Data collection was completed in 4 months and reached 509 participants.

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

The data collection form consists of 6 sections.

In the first part, the participant's age, sex, department, where he/she lives, the most frequently used social media platform, how many hours a day he/she spent using social media, whether the use of social media affects eating behavior, whether the images they have seen through social media affect the choice of eating, whether they

had tried the recipes he/she had seen through the media asked. In addition to these questions, anthropometric measurements (height, weight) were questioned based on the statements of the individuals.

BMI value of the students calculated with "Body Weight / (Height)<sup>2</sup> (kg / m<sup>2</sup>)" from the body weight and height information obtained by the participants' self-reports. BMI was calculated by grouping according to WHO classification. This classification is <18.5: underweight, 18.50 - 24.99: normal range, ≥25.00: overweight, ≥30.00: obese (127).

In the second part, it questioned what the participants pay the most attention when choosing their food according to their food choice and eating habits.

### **3.2.2. Scales**

#### **Bergen Social Media Addiction Scale (BSMAS)**

Various measuring instruments are used in the world and Turkey to assess the social media addiction. The Bergen Social Media Addiction Scale (BSMAS) was adapted to evaluate social media addiction in general by changing the content of the measurement tool used by Andreassen and colleagues to assess Facebook addiction (88,90). The scale can be used to diagnose social media addiction and evaluate the effectiveness of interventions developed to reduce addiction.

The BSMAS was developed by Andreassen et al. in 2016 (90) and adapted to Turkish by Demirci in 2019 (128). The BSMAS used in the Italian sample (129) in the Hungarian sample (89), and the Persian example (130), and adaptation studies conducted in these countries. The scale found to be reliable and valid in all three countries.

The scale consists of 6 questions based on a five-point Likert-type rating ranging from 1 "never" to 5 "always" The internal consistency of the scale was found to be 0.88. The score of the scale ranged between 6 to 30. In this study, a cut-off score of 19 points used as the ideal threshold according to the suggestion of Banyai's research, which is considered the individuals who has ≥19 scores as at risk of problematic social media use (89). In this study, the recommended classification used according to these cut-off values and qualitative evaluations made according to these classifications. The scores given by the participants are answered based on their

experiences from last year each item of the scale measures six basic dependency measures, namely mental occupation, mood change, tolerance, deprivation, conflict, and failed cessation attempt. Questions on the scale correspond to diagnostic addiction criteria. To get a total for this measure, the items summed together, and a higher total would indicate a higher social media usage. It has stated that if a person often answers or very often to more than four questions, they are addicted to social media.

### **Eating Attitude Test (EAT-40)**

Eating Attitudes Test (EAT-40) was developed by Garner & Garfinkel in 1979 (131) and adapted to Turkish in 1989 by Savaşır and Erol (132). It used to measure irregular eating attitudes and behaviors for body weight control, which can apply to people over the age of eleven. It created to identify adolescents with eating disorders and to measure symptoms of anorexia nervosa. Besides, the behavior and attitudes of patients with eating disorders related to eating; it evaluates the signs of possible disorders in eating behaviors in normal individuals. The aim is to establish a valid index of Anorexia nervosa symptoms (131). This test is a screening tool for undifferentiated eating disorders in high-risk populations in Turkey used in many studies.

It is a multidimensional self-report scale with 40 items designed to evaluate the behaviors, attitudes, and characteristics of eating disorders, especially bulimia nervosa and anorexia nervosa (133). The level of the total score related to the psychopathology. EAT can identify individuals who can maybe consider to be "patient" at a clinical level, or it can be an indicator of how susceptible to this disorder (134). The total score of the scale is obtained by summing up the scores from each item. Garner and Garfinkel (131) reported an alpha coefficient of 0.94 to this shows consistency. Answers of the participants rated on a 1 (Always) to 6 (Never) spectrum. Items 1, 18, 19, 23, 27 and 39 are scored: 6=3 points; 5=2 points; 4=1 point; 3, 2, or 1=0 points. The remaining items are scored: 1 = 2 points; 2=2 points; 3=1 point, and 4, 5, or 6=0 points.

Scores for each item differ from one another. The total score is the sum of each item. A score higher than 30 considered to be an indicator of anorectic disorder (133). According to the assessment scale of EAT-40; People who scored " $\geq 30$ " were qualified as "Impaired Eating Attitude" those who scored " $< 30$ " were considered "Normal"

(131). In this study, the recommended classification used according to these cut-off values and qualitative evaluations made according to these classifications. The group divided into two for categorical examination. Factor analysis of the scale revealed four interpretable factors, including anxiety, dietary behavior, social stress, and thinness obsession formation (132).

### **Young's Internet Addiction Test-Short Form (s-IAT)**

It is the first measurement test developed by Young in 2004 to be used to evaluate internet addiction (135,136) and initially used in the UK (136). s-IAT, which was converted into a short form by Pawlikowski et al. in 2013 (137) and adapted to Turkish by Kutlu et al. in 2015 (70). According to the result of the study of Kutlu et al., It shows that s-IAT is a valid and reliable scale use for adolescents and university students (70).

s-IAT consists of 12 items and is a 5-point Likert (1 = Never, 5 =Always) type scale. As a result of confirmatory factor analysis, s-IAT found to be in good response ( $\chi^2=173.58$ ,  $SD=53$ ,  $CFI=0.95$ ,  $SRMR=0.064$ , and  $RMSEA=0.079$ ). The internal consistency reliability coefficient of the scale calculated as 0.85. The results obtained from the validity and reliability studies showed that the validity and reliability of the s-IAT was achieved. There are no items scored in reverse order. Higher scores indicate high levels of internet addiction (70). When using one standard deviation (SD) for defining a cut-off score, which means "Problematic" internet use, this score would be  $>30$ . Based on these data, the cut-off score indicating "Pathological" internet use ( $M+2$  SD) would be  $>37$ . The scores  $\leq 30$  shows "Acceptable" internet use (138). In this study, the recommended classification used according to these cut-off values and qualitative evaluations made according to these classifications.

### **3.3. Statistics**

All data obtained in this study analyzed with SPSS 21.0 statistical program. Quantitative variables described as mean, standard deviation (SD), median, minimum (min) and maximum (max) values, while qualitative variables as numbers (n) and percent (%). The independent variables of the study were BSMAS score, s-IAT scores, spending time on social media, sex, BMI, and faculty of participants. In contrast, the dependent variable was the EAT-40 score.

Shapiro Wilk-W test used to control the distribution of normality. Since none of the parameters distributed normally, non-parametric tests used to analyze the significance of the differences between parameters. While for quantitative parameters, the Mann-Whitney U and Kruskal Wallis tests used, the chi-square test used for qualitative parameters. To determine the possible relationship between two quantitative parameters, Spearman's rank correlation coefficient ( $r_s$ ) calculated. The confidence interval determined as 95% in all analyzes, and the results were considered statistically significant for  $p < 0.05$ .

### **3.4. Ethical**

Ethical approval consent taken from the Non-Interventional Clinical Research Ethics Committee of Bezmialem University with the decision numbered 54022451-050.05.04- dated 16.04.2019. The data collection process of the study was started after the approval of the ethics committee, also with the decision numbered 50532705-302.14.01-E.267 by the Rectorate of the Yeditepe University, it was found appropriate to conduct this thesis study voluntarily with a sample of Yeditepe University undergraduate students. (Appendix 3,4)

## 4. RESULTS

This chapter includes analyses which were applied to test the hypotheses of the present study mentioned in Chapter 3 and the results of these analyses. Descriptive statistics were used to perceive the demographic features of the participants, to understand the social media usage routine of the participants, and to gain knowledge about social networking sites preferences of the participants.

In the present study, sex, BMI classification, where they live, hours spending on social media, preferred social media platform, and food selection and nutrition habits of the participants were taken into consideration as demographic factors. As shown in Table 4.1 and 4.2, the mean age of the 509 participants was  $21.5 \pm 2.32$  (min:17-max:50). 68% of participants were women %32 of the participants were men (n=346, n=163; respectively). Besides, Table 4.2 shows that 48.1% (n=245) participants live with their family, 34.2% (n=174) participants live in the dormitory, and 17.7% (n=90) participants live with a friend together in the student house or alone in the student house.

The mean BMI of the participants was  $22.42 \pm 3.94$  (min:15.24-max:40.47) (Table 4.1.). According to WHO's BMI classification 10.4% (n=53) of the participants were underweight, 70.7% (n=360) of them were normal, 14.1% (n=72) of them were pre-obese and 4.8% (n=24) of them were obese (Table 4.2.).

Daily spending hours on social networking sites of the participants and their most preferred social media platform were asked to gain knowledge about their social media usage habits. According to the results, the mean time spent by the participants using daily social media was  $3.1 \pm 1.75$  hours (min:1– max:13) (Table 4.1). There are many social media platforms which are currently in use all over the world. In this study, the most common 4 social media platforms; YouTube, Instagram, Twitter and Others (Facebook, Reddit, WhatsApp, Tumblr), were included in the questionnaire.

Table 4.1. Descriptive quantitative properties of the sample

	<b>Mean±SD</b>	<b><u>Min-Max</u></b>
<b>Age</b>	21.5±2.32	17-50
<b>BMI</b>	22.42±3.94	15.24-40.47
<b>Hours spending on social media</b>	3.1±1.75	1-13
<b>Bergen Score</b>	20.1±6.53	6-30
<b>EAT-40 Score</b>	12.89±6.49	0-37
<b>Young Score</b>	26.9±8.19	12-59

The most used social media platform was Instagram, 64.6% (n=329) of the participants stated that they were using Instagram. Following that YouTube 20.4% (n=104), Twitter 11.6% (n=59) and Others (Facebook, Reddit, WhatsApp, Tumblr) 3.3% (n=17) were the most preferable social networking sites (Table 4.2.).

When we look at the Food Selection and Nutrition Habits part of the table, those who say that social media affects my eating behavior was 54.2% (n = 276), and those who say they were not affected 45.8% (n = 233). (Table 4.2). Those who say that social media affects the choice of eating was 73.3% (n = 373), while those who say not affected were 26.7% (n = 136). Those who said that I tried the recipes I saw on social media were 70.3% (n = 358), and those who said I didn't try were 29.7% (n = 151) (Table 4.2.).

When asked about their food selection attitudes; %40.3 (n=205) of them prefer their food to be delicious, %16.3 (n=83) of them to have a balanced and sufficient content, %15.7 (n=80) of them choose easy to prepare, 11.8% (n=60) of them choose a square meal, 5.3% (n=27) of them want their meals to be economical, 3.9% (n=20) choose whether the cooking method is healthy or not, 3.3% (n=17) of them to have low-calorie meals, 2% (n=10) to them choose low-fat foods lastly 1.4% (n=7) choose foods free from additives (Table 4.2).

The mean Bergen score of 509 participants was 20.1±6.53 (min:6-max:30) (Table 4.1). As the group divided into two according to the cut-off point 19 of the scale, %59.3 (n=302) has Problematic Social Media Use ( $\geq 19$ ), 40.7% (n=207) of them were non-problematic Social Media Use ( $< 19$ ) (Table 4.2).

The mean EAT-40 score of 509 participants was 12.89±6.49 (min:0-max:37) (Table 4.1). EAT-40 scores frequency according to cut off point 30 of the participants

were in different 2 groups; 98.6% (n=502) were score Normal (<30), 1.4% (n=7) of them were Impaired Eating Attitude ( $\geq 30$ ) (Table 4.2).

The mean Young score of 509 participants was  $26.9 \pm 8.19$  (min:12-maz:59) (Table 4.1). Young scores frequency according to cut off points of the participants were in different 3 groups; 71.3% (n=363) were Acceptable ( $\leq 30$ ), 18.5% (n=94) were Problematic ( $>30$ ) and 10.2% (n=52) of them were Pathological ( $>37$ ) (Table 4.2).

Table 4.2. Descriptive qualitative properties of the sample

		%	n
<b>Sex</b>	Women	68	346
	Men	32	163
<b>Where they live</b>	my family	48.1	245
	in dormitory	34.2	174
	at the student house alone/with my friends	17.7	90
<b>BMI classification</b>	Underweight	10.4	53
	Normal	70.7	360
	Pre-obese	14.1	72
	Obese	4.8	24
<b>Preferred social media platforms</b>	YouTube	20.4	104
	Instagram	64.6	329
	Twitter	11.6	59
	Others	3.3	17

#### Food Selection and Nutrition Habits

<b>Do you think the use of social media affects your eating behavior?</b>	Yes	54.2	276
	No	45.8	233
<b>Do the visuals you have seen on social media affect your eating choices?</b>	Yes	73.3	373
	No	26.7	136
<b>Have you tried the recipes you've seen on social media?</b>	Yes	70.3	358
	No	29.7	151

Table 4.2. Descriptive qualitative properties of the sample continuous

<b>Food Selection Attitude</b>	easy to prepare	15.7	80
	whether the cooking method is healthy or not	3.9	20
	to be economical	5.3	27
	to be a square meal	11.8	60
	to be delicious	40.3	205
	free from additives	1.4	7
	being low-fat	2	10
	be low-calorie	3.3	17
	have a balanced and sufficient content	16.3	83
<b>Bergen scores frequency according to cut off point 19</b>	Problematic social media use ( $\geq 19$ )	59.3	302
	Non-Problematic social media use ( $< 19$ )	40.7	207
<b>EAT-40 scores frequency according to cut off point 30</b>	Normal (score $< 30$ )	98.6	502
	Impaired Eating Attitude (score $\geq 30$ )	1.4	7
<b>Young scores frequency according to cut off points</b>	Acceptable Internet Use ( $\leq 30$ )	71.3	363
	Problematic Internet Use ( $> 30$ )	18.5	94
	Pathological Internet Use ( $> 37$ )	10.2	52

As shown in Table 4.3. BMI values of men ( $24.24 \pm 4.23$ ) were significantly higher than women ( $21.56 \pm 3.48$ ) ( $p=0.000$ ).

Table 4.3. Age and BMI means according to sex.

	<b>Sex</b>						<b>Sig.</b>
	<b>Total (n= 509)</b>		<b>Women (n= 346)</b>		<b>Men (n=163)</b>		
	<b>Mean<math>\pm</math>SD</b>	<b>Min-Max</b>	<b>Mean<math>\pm</math>SD</b>	<b>Min-Max</b>	<b>Mean<math>\pm</math>SD</b>	<b>Min-Max</b>	<b>p*</b>
<b>Age</b>	21.52 $\pm$ 2.32	17-50	21.46 $\pm$ 2.35	18-50	21.66 $\pm$ 2.24	17-29	0.546
<b>BMI</b>	22.42 $\pm$ 3.94	15.24-40.47	21.56 $\pm$ 3.48	16.10-38.27	24.24 $\pm$ 4.23	15.24-40.47	<b>0.000</b>

p-value calculated by \*Mann Whitney-U test.

As shown in Table 4.4.A, while there were statistically significant differences between sexes according to their EAT 40 and Bergen scale scores ( $p=0.024$ ,  $p=0.003$ ;

respectively), there was no difference between them according to their Young scale scores ( $p>0.05$ ). Women have higher EAT 40 and Bergen scale scores than men ( $13.27\pm6.56$ ,  $12.06\pm6.26$  and  $20.71\pm6.23$ ,  $18.76\pm6.94$ ; respectively). Women Bergen scale scores mean it indicates problematic use of social media. The mean Bergen scale score of the obese participants have a higher score than the other groups, which indicates problematic social media use.

The mean EAT 40 scores of all BMI groups were quite similar, and there was no statistical difference between the BMI groups ( $p>0.05$ ). Although obese individuals have slightly higher Young and Bergen scale scores ( $30.5\pm8.31$  and  $30.00\pm19.54$ ; respectively), there were no significant differences between the groups ( $p>0.05$ ) (Table 4.4.A).

When Bergen scores of the individuals investigated according to their living place, those live in dormitory ( $n=90$ ) have higher scores ( $22.10\pm6.44$ ) than others, which indicates and this difference was statistically significant ( $p=0.001$ ). Bergen's score of participants who live with their family ( $n=245$ ) was  $20.03\pm6.53$ , and those living at their own student house ( $n=174$ ) has the lowest score  $19.12\pm6.37$  which all indicates problematic social media use. However, there was no significant difference between groups according to their EAT 40 and Young scores ( $p>0.05$ ) (Table 4.4.A).

When comparing scales scores according to an individual's social media application preference, no statistically significant difference was observed ( $p>0.05$ ). EAT 40 scores were quite similar in all social media applications users, but Young scores of the 'Instagram' and 'Twitter' users were slightly higher ( $27.01\pm8.29$  and  $27.41\pm8.70$ ; respectively) than other groups and those prefer 'Other' social media applications had the highest Bergen scores ( $21.35\pm7.43$ ) which indicate problematic use of social media (Table 4.4.A).

Those who mentioned that their eating behavior is affected by their social media use had significantly higher EAT 40 scores ( $13.77\pm6.65$ ;  $p=0.001$ ) and Young scores ( $28.33\pm8.15$ ;  $p=0.000$ ). However, they have higher Bergen scores ( $20.66\pm6.13$ ), which indicates the problematic use of social media, than those mentioned that their eating behaviors are not affected by their social media use, this difference was not statistically significant ( $p>0.05$ ).

When the question “Do the visuals you have seen on social media affect your eating choices?” were compared with the scores, the scores of those who answered yes in all of them are higher than those who said “no”, and this difference is statistically significant for EAT 40, Young and Bergen scores, ( $p = 0.006$ ,  $p = 0.002$  and  $p = 0.034$ ; respectively). When the last question of this table “Have you tried the recipes you've seen on social media?” is compared with the scores, the score of those who say “yes” in EAT 40 is higher than those who say no and this difference is statistically significant ( $p = 0.000$ ). However, no statistical significance observed with the Young and Bergen scores ( $p > 0.05$ ).

Table 4.4.B. EAT-40 sub-factors examined. When EAT-40 Factor 1 analyzed at the level of sexes, the scores of women founded to be higher than men. This difference was statistically significant ( $p = 0.024$ ). However, when the EAT40 Factor 2, 3, and 4 analyzed in terms of sexes, it was not found statistically significant ( $p > 0.05$ ). When sub-factor analysis examined according to BMI classification; It observed that the pre-obese and obese participants had higher scores in the sub-factors dealing with EAT-40 Factor 1 (Obesity anxiety-excessive occupation factor with obesity) and EAT-40 Factor 3 (The perception factor of social pressure by the environment regarding weight gain) subjects and this difference was statistically significant ( $p = 0.001$  and  $p = 0.000$ ; respectively). There was no statistically significant difference between the BMI classification and EAT-40 Factor 2 (Diet-Regime Factor) and EAT40 Factor 4 (Excessive interest factor about losing weight) ( $p > 0.05$ ). There was no statistically significant difference between “Where do you live?” and EAT 40 sub-factors ( $p > 0.05$ ). Similarly, there was no statistically significant difference between “Which social media platform do you use most often?” questions and EAT 40 sub-factors ( $p > 0.05$ ). When the question “Do you think your use of social media affects your eating behavior?” and EAT 40 sub-factors compared, the scores of those who say yes for EAT40 Factor 1, 2 and 4 are higher than those who say no, and this difference is statistically significant ( $p = 0.000$ ,  $p = 0.027$  and  $p = 0.029$ ; respectively). When the question “Do the visuals you have seen on social media affect your eating choices?” and EAT 40 sub-factors compared, the scores of those who say yes for EAT40 Factor 1, 2 and 4 are higher than those who say no, and this difference is statistically significant ( $p = 0.001$ ,  $p = 0.023$  and  $p = 0.013$ ; respectively).

Also question ‘Have you tried the recipes you've seen on social media?’ and EAT 40 sub-factors compared, the scores of those who say yes for EAT40 Factor 1, 2 and 4 are higher than those who say no, and this difference is statistically significant ( $p = 0.007$ ,  $p = 0.000$  and  $p = 0.008$ ; respectively). There was no statistical significance in terms of EAT40 Factor 3 (The perception factor of social pressure by the environment regarding weight gain) in 3 questions ( $p > 0.05$ ).



Table 4.4.A. Examination of scale scores according to variables

	EAT-40 Total Score			Young Score			Bergen Score			
	<u>Mean±SD</u>	<u>Min-Max</u>	<u>Sig.</u>	<u>Mean±SD</u>	<u>Min-Max</u>	<u>Sig.</u>	<u>Mean±SD</u>	<u>Min-Max</u>	<u>Sig.</u>	
<b>Sex</b>	<b>Women (n= 346)</b>	13.27±6.56	0-37	<b>0.024*</b>	27.12±8.29	12-59	0.415*	20.71±6.23	6-30	<b>0.003*</b>
	<b>Men (n=163)</b>	12.06±6.26	2-36		26.43±7.99	12-48		18.76±6.94	6-30	
<b>BMI</b>	<b>Underweight (n=53)</b>	12.22±5.61	3-28	0.772**	26.58±9.04	13-50	0.143**	19.75±7.12	6-30	0.952**
	<b>Normal (n=360)</b>	12.93±6.77	0-37		26.71±8.24	12-59		20.23±6.37	6-30	
	<b>Pre-obese (n=72 )</b>	12.93±5.78	2-27		26.90±7.09	15-45		19.81±6.85	6-30	
	<b>Obese (n=24)</b>	13.58±6.17	5,32		30.5±8.31	17-49		30.00±19.54	8-30	
<b>Where do you live?</b>	<b>my family (n=245)</b>	12.80±6.41	0-37	0.697**	26.98±8.08	12-53	0.756**	20.03±6.53	6-30	<b>0.001**</b>
	<b>in dormitory (n=90)</b>	13.17±6.09	4-34		27.21±8.31	13-59		22.10±6.44	6-30	
	<b>at the student house alone/my friends (n=174)</b>	12.86±6.82	3-36		26.62±8.34	12-51		19.12±6.37	6-30	

Tablo 4.4.A. Examination of scale scores according to variables continues

<b>Which social media platform do you use most often?</b>	<b>YouTube (n=104)</b>	13.29±6.18	2-36		26.83±7.84	12-46		19.28±7.15	6-30	
	<b>Instagram (n=329)</b>	12.57±6.41	0-37	0.346**	27.01±8.29	12-59	0.421**	20.37±6.27	6-30	0.397**
	<b>Twitter (n=59)</b>	13.59±7.55	4-36		27.41±8.70	13-49		19.52±6.54	8-29	
	<b>Others (n=17)</b>	14.11±5.82	9-34		23.35±6.26	12-31		21.35±7.43	6-30	
<b>Do you think your use of social media affects your eating behavior?</b>	<b>Yes</b>	13.77±6.65	0-37	0.001*	28.33±8.15	12-59	0.000*	20.66±6.13	6-30	0.054*
	<b>No</b>	11.83±6.13	2-36		25.20±7.94	12-51		19.41±6.93	6-30	
<b>Do the visuals you have seen on social media affect your eating choices?</b>	<b>Yes</b>	13.38±6.73	0-37	0.006*	27.58±8.04	12-59	0.002*	20.53±6.12	6-30	0.034*
	<b>No</b>	11.52±5.57	2-28		25.03±8.34	12-50		18.86±7.41	6-30	
<b>Have you tried the recipes you've seen on social media?</b>	<b>Yes</b>	13.85±6.73	2-37	0.000*	26.99±8.38	12-59	0.903*	20.30±6.35	6-30	0.372*
	<b>No</b>	10.59±5.21	0-28		26.68±7.77	12-47		19.58±6.93	6-30	

p value calculated by \*Mann Whitney-U and \*\*Kruskal-Wallis tests.

Table 4.4.B. Examination of EAT-40 sub-factors according to variables

		EAT40 Factor 1 (Obesity anxiety-excessive occupation factor with obesity)			EAT40 Factor 2 (Diet-Regime Factor)			EAT40 Factor 3 (The perception factor of social pressure by the environment regarding weight gain)			EAT40 Factor 4 (Excessive interest factor about losing weight)		
		<u>Mean±SD</u>	<u>Min-Max</u>	<u>Sig.</u>	<u>Mean±SD</u>	<u>Min-Max</u>	<u>Sig.</u>	<u>Mean±SD</u>	<u>Min-Max</u>	<u>Sig.</u>	<u>Mean±SD</u>	<u>Min-Max</u>	<u>Sig.</u>
<b>Sex</b>	<b>Women (n= 346)</b>	1.55±1.89	0-7	<b>0.000*</b>	1.80±2.26	0-10	0.778*	0.71±0.99	0-5	0.076*	0.45±0.77	0-4	0.944*
	<b>Men (n=163)</b>	0.72±1.24	0-5		1.80±2.40	0-11		0.98±1.30	0-6		0.47±0.88	0-5	
<b>BMI</b>	<b>Underweight (n=53)</b>	0.52±1.24	0-6	<b>0.001**</b>	1.43±1.98	0-8	0.574**	1.69±1.32	0-6	<b>0.000**</b>	0.37±0.79	0-3	0.531**
	<b>Normal (n=360)</b>	1.31±1.77	0-7		1.86±2.40	0-11		0.74±1.09	0-5		0.46±0.78	0-4	
	<b>Pre-obese (n=72)</b>	1.58±1.82	0-7		1.81±2.17	0-10		0.45±0.73	0-3		0.54±0.97	0-5	
	<b>Obese (n=24)</b>	1.58±1.93	0-6		1.75±1.77	0-5		0.75±0.79	0-2		0.37±0.64	0-2	
<b>Where do you live?</b>	<b>my family (n=245)</b>	1.34±1.78	0-7	0.534**	1.67±2.27	0-11	0.089**	0.91±1.18	0-6	0.057**	0.46±0.80	0-5	0.871**
	<b>in dormitory (n=90)</b>	1.41±1.97	0-7		1.56±2.01	0-7		0.78±1.05	0-5		0.44±0.72	0-2	
	<b>at the student house alone/my friends (n=174)</b>	1.14±1.59	0-6		2.12±2.47	0-10		0.65±1.01	0-5		0.45±0.86	0-5	

Tablo 4.4.B. Examination of EAT-40 sub-factors according to variables continues

<b>Which social media platform do you use most often?</b>	<b>YouTube (n=104)</b>	1.03±1.66	0-6		1.85±2.31	0-10		0.75±0.91	0-4		0.42±0.84	0-5	
	<b>Instagram (n=329)</b>	1.33±1.75	0-7		1.78±2.29	0-11		0.81±1.14	0-6		0.45±0.77	0-4	
	<b>Twitter (n=59)</b>	1.44±2.01	0-7	0.338**	1.83±2.46	0-10	0.976**	0.91±1.23	0-5	0.917**	0.55±0.96	0-5	0.782**
	<b>Others (n=17)</b>	1.35±1.41	0-4		1.82±2.21	0-7		0.76±1.14	0-4		0.41±0.61	0-2	
<b>Do you think your use of social media affects your eating behavior?</b>	<b>Yes</b>	1.58±1.85	0-7		1.97±2.34	0-10		0.81±1.09	0-5		0.52±0.86	0-5	
	<b>No</b>	0.93±1.55	0-7	<b>0.000*</b>	1.61±2.24	0-11	<b>0.027*</b>	0.80±1.13	0-6	0.83*	0.37±0.73	0-5	<b>0.029*</b>
<b>Do the visuals you have seen on social media affect your eating choices?</b>	<b>Yes</b>	1.46±1.85	0-7		1.93±2.37	0-11		0.78±1.06	0-5		0.51±0.85	0-5	
	<b>No</b>	0.81±1.35	0-6	<b>0.001*</b>	1.47±2.09	0-9	<b>0.023*</b>	0.86±1.24	0-6	0.832*	0.31±0.64	0-2	<b>0.013*</b>
<b>Have you tried the recipes you've seen on social media?</b>	<b>Yes</b>	1.44±1.85	0-7		2.08±2.40	0-10		0.76±1.09	0-6		0.51±0.81	0-5	
	<b>No</b>	0.92±1.45	0-7	<b>0.007*</b>	1.15±1.91	0-11	<b>0.000*</b>	0.91±1.15	0-5	0.168*	0.34±0.78	0-5	<b>0.008*</b>

p value calculated by \*Mann Whitney-U and \*\*Kruskal-Wallis tests.

As shown at the Table 4.5.A. YouTube users age mean variables of 104 participants was  $21.40 \pm 2.17$  (min:17-max:29), Instagram users age variables mean of 329 participants was  $21.52 \pm 2.42$  (min:18-max:50), Twitter users age mean variables of 59 participants was  $21.66 \pm 2.11$  (min:18-max:29) and other applications users mean age variables of 17 participants was  $21.58 \pm 1.73$  (min:19-max:25). YouTube users BMI mean variables of 104 participants was  $22.51 \pm 4.56$  (min:15.24-max:39.61), Instagram users mean BMI variables of 329 participants was  $22.22 \pm 3.56$  (min:16.10-max:36.06), Twitter users mean BMI variables of 59 participants was  $21.66 \pm 2.11$  (min:16.9-max:40.5) and other applications users mean BMI variables of 17 participants was  $24.05 \pm 4.05$  (min:17.8-max:30.8). The mean time spent on YouTube of 104 participants was  $3.06 \pm 1.93$  (min:1-max:13), mean time spent on Instagram of 329 participants was  $3.08 \pm 1.74$  (min:1-max:13), mean time spent on Twitter of 59 participants was  $2.98 \pm 1.52$  (min:1-max:6) and mean time spent on other applications of 17 participants was  $2.58 \pm 1.41$  (min:1-max:5). According to the data, the most time-consuming social media application is Instagram. There was no statistical significance between social media applications and age, BMI and time spent on social media ( $p > 0.05$ ).

Table 4.5.A. Examination of social media applications according to variables

	YouTube (n=104)		Instagram (n=329)		Twitter (n=59)		Others (n=17)		Sig.
	Mean±SD	Min-Max	Mean±SD	Min-Max	Mean±SD	Min-Max	Mean±SD	Min-Max	p*
Age	$21.40 \pm 2.17$	17-29	$21.52 \pm 2.42$	18-50	$21.66 \pm 2.11$	18-29	$21.58 \pm 1.73$	19-25	0.856
BMI	$22.51 \pm 4.56$	15.24-39.61	$22.22 \pm 3.56$	16.10-36.06	$22.83 \pm 4.56$	16.9-40.5	$24.05 \pm 4.05$	17.8-30.8	0.306
Time spent on social media (hours)	$3.06 \pm 1.93$	1-13	$3.08 \pm 1.74$	1-13	$2.98 \pm 1.52$	1-6	$2.58 \pm 1.41$	1-5	0.597

p value calculated by \*Kruskal-Wallis test.

As indicated in Table 4.5.B., when we look at the use of social media applications among women and men for sex differences, the rate of women using Instagram is very high compared to men 72% (n=249). Men were using YouTube 24.4% (n=48), Twitter 14.7% (n=24) and other applications more than 6.7% (n=11) women participants and this is statistically significant (p=0.000). When the distribution of the participants to the social media applications used by the BMI classification examined, it determined that the most used app was Instagram for each group. While 50% (n=12) of the obese participants were using Instagram, 66.9% (n=241) of the individuals with normal BMI were using Instagram, but this difference was not statistically significant (p>0.05). Looking at the answers to “my family”, “in dormitory” and “at the student house alone/my friends” given to the question “Where do you live?” it seen that the most frequently used social media application is Instagram among all groups (67.8% n=166, 60% n=54 and 62.6% n=109; respectively) and this difference was not statistically significant (p>0.05). Of those who said yes to question, “Do you think your use of social media affects your eating behavior?” 68.1% (n=188) were using Instagram, followed by YouTube 20.7% (n=57), while the lowest was 2.2% (n=6) other applications. Similarly, the number of those who said no was in the order of distribution, but the rate of Twitter use was higher in those who said no 14.6% (n=34), but this difference was not statistically significant (p>0.05). Those who said yes for the question “Do the visuals you have seen on social media affect your eating choices?” used the most Instagram 69.4% (n=259). There is a difference of approximately 18% between those who say that “what they see on social media affects my choice of eating” and those who say I am not affected by using Instagram on my eating choices. This difference is quite large and statistically significant (p=0.001). More than half of the participants answered the question Have you tried the recipes you've seen on social media? Yes. The order of those who answered yes and no to use social media applications is similar but not statistically significant (p>0.05). The social media application used by those with high EAT40 scores compared to each other is 43% with Instagram.

When Bergen scores compared with the usage of social media platforms, the most used application is Instagram, followed by YouTube Twitter and other applications. While the rate of those who “Problematic social media use ( $\geq 19$ )” using Instagram is 67%,

the rate of those who do not have problems using Instagram is 61%, but this difference is not statistically significant ( $p>0.05$ ). When the distribution of usage of social media applications analyzed according to the Young cut-off distinction, it was seen that the problematic internet usage is the most Instagram with 67%, and the pathological internet usage is also on Instagram with 63%. However, this difference is not statistically significant ( $p>0.05$ ).



Table 4.5.B. Distribution of social media applications used by participants

		<u>YouTube</u> (n=104)		<u>Instagram</u> (n=329)		<u>Twitter</u> (n=59)		<u>Others</u> (n=17)		<u>Sig.</u>
		%	n	%	n	%	n	%	n	p*
<b>Sex</b>	<b>Women (n= 346)</b>	16.2	56	72.0	249	10.1	35	1.7	6	<b>0.000</b>
	<b>Men (n=163)</b>	29.4	48	49.1	80	14.7	24	6.7	11	
<b>BMI</b>	<b>Underweighth (n=53)</b>	26.4	14	60.4	32	11.3	6	1.9	1	0.292
	<b>Normal (n=360)</b>	19.7	71	66.9	241	10.6	38	2.8	10	
	<b>Pre-obese (n=72)</b>	15.3	11	61.1	44	16.7	12	6.9	5	
	<b>Obese (n=24)</b>	33.3	8	50.0	12	12.5	3	4.2	1	
<b>Where do you live?</b>	<b>my family (n=245)</b>	20.0	49	67.8	166	9.4	23	2.9	7	0.725
	<b>in dormitory (n=90)</b>	23.3	21	60.0	54	13.3	12	3.3	3	
	<b>at the student house alone/my friends (n=174)</b>	19.5	34	62.6	109	13.8	24	4.0	7	
<b>Do you think your use of social media affects your eating behavior?</b>	<b>Yes (n=276)</b>	20.7	57	68.1	188	9.1	25	2.2	6	0.074
	<b>No (n=233)</b>	20.2	47	60.5	141	14.6	34	4.7	11	
<b>Do the visuals you have seen on social media affect your eating choices?</b>	<b>Yes (n=373)</b>	18.0	67	69.4	259	10.5	39	2.1	8	<b>0.001</b>
	<b>No (n=136)</b>	27.2	37	51.5	70	14.7	20	6.6	9	
<b>Have you tried the recipes you've seen on social media?</b>	<b>Yes (n=358)</b>	19.6	70	65.4	234	12.0	43	3.1	11	0.802
	<b>No (n=151)</b>	22.5	34	62.9	95.0	10.6	16	4.0	6	
<b>EAT-40 scores frequency according to cut off point 30</b>	<b>Impaired Eating Attitude (score <math>\geq 30</math>)</b>	14	1	43	3	29	2	14	1	0.174
	<b>Normal (score <math>&lt;30</math>)</b>	21	103	65	326	11	57	3	16	
<b>Bergen scores frequency according to cut off point</b>	<b>Problematic social media use (<math>\geq 19</math>)</b>	18	55	67	202	11	33	4	12	0.314
	<b>Non-Problematic social media use (<math>&lt;19</math>)</b>	24	49	61	127	13	26	2	5	
<b>Young scores frequency according to cut off points</b>	<b>Acceptable Internet Use (<math>\leq 30</math>)</b>	20	72	64	233	12	43	4	15	0.388
	<b>Problematic Internet Use (<math>&gt;30</math>)</b>	23	22	67	63	7	7	2	2	
	<b>Pathological Internet Use (<math>&gt;37</math>)</b>	19	10	63	33	17	9	0	0	

p value calculated by \*Chi-squared test.

As shown in Table 4.6, women consume more time on social media platforms than men and this is statistically significant ( $1.55 \pm 1.90$  and  $0.72 \pm 1.24$ ; respectively) ( $p=0.004$ ). No statistically significant difference was found between BMI classification and time spent on social media ( $p>0.05$ ). Likewise, there was no statistically significant difference between “Where do you live?” and “Which social media platform do you use most often?” questions and the time spent on social media ( $p>0.05$ ). Those who said yes to question “Do you think your use of social media affects your eating behavior?” spent more time on social media than those who said no, and this difference is statistically significant ( $p=0.044$ ). Likewise, those who said yes to question “Do the visuals you have seen on social media affect your eating choices?” spent more time on social media than those who said no, and this difference is statistically significant ( $p=0.008$ ). Although those who said yes to question “Have you tried the recipes you've seen on social media?” spent more time on social media than those who said no, this difference was not statistically significant ( $p>0.05$ ).

Table 4.6. Examination of variables according to the time spent on social media

		<u>Mean±SD</u>	<u>Min-Max</u>	<u>Sig.</u> <u>p</u>
<b>Sex</b>	<b>Women (n= 346)</b>	1.55±1.90	0-7	<b>0.004**</b>
	<b>Men (n=163)</b>	0.72±1.24	0-5	
<b>BMI</b>	<b>Underweighth (n=53)</b>	3.26±2.33	1-13	0.086*
	<b>Normal (n=360)</b>	2.95±1.59	1-13	
	<b>Pre-obese (n=72)</b>	2.99±1.39	1-7	
	<b>Obese (n=24)</b>	4.33±2.82	1-13	
<b>Where do you live?</b>	<b>with family (n=245)</b>	3.18±1.85	1-13	0.381*
	<b>in dormitory (n=90)</b>	3.03±1.86	1-13	
	<b>at the student house alone/with friends (n=174)</b>	2.88±1.52	1-8	
<b>Which social media platform do you use most often?</b>	<b>YouTube (n=104)</b>	3.06±1.93	1-13	0.597*
	<b>Instagram (n=329)</b>	3.08±1.74	1-13	
	<b>Twitter (n=59)</b>	2.98±1.52	1-6	
	<b>Others (n=17)</b>	2.58±1,41	1-5	
<b>Do you think your use of social media affects your eating behavior?</b>	<b>Yes</b>	3.18±1.79	1-13	<b>0.044**</b>
	<b>No</b>	2.89±1.67	1-13	
<b>Do the visuals you have seen on social media affect your eating choices?</b>	<b>Yes</b>	3.14±1.72	1-13	<b>0.008**</b>
	<b>No</b>	2.79±1.79	1-13	
<b>Have you tried the recipes you've seen on social media?</b>	<b>Yes</b>	3.12±1.73	1-13	0.057**
	<b>No</b>	2.88±1.78	1-13	

p value calculated by \*Kruskal-Wallis and \*\* Mann-Whitney U tests.

Acceptable mean age variables of 363 participants was 21.57±2.45 (min:18-max:50), Problematic mean age variables of 94 participants was 21.16±1.96 (min:17-max:27) and Pathologic internet users mean age variables of 52 participants was 21.81±1.86 (min:18-max:27) (Table 4.7.A.). There is no statistical significance between age and young cut off distinctions ( $p>0.05$ ). Acceptable internet users mean BMI variables of 363 participants was between 22.31±3.79 (min:15.24-max:40.47), Problematic internet users mean BMI variables of 94 participants was 22.52±4.23 (min:16.23-max:39.61) and Pathologic internet users mean BMI variables of 52 participants was 21.81±1.86 (min:17.02-max:35.56). There is no statistical significance between BMI and Young cut-off distinctions ( $p>0.05$ ). As the time spent

on social media increases, internet addiction scores increase, and this increase is statistically significant ( $p=0.000$ ). As the EAT-40 score increases, internet addiction increases linearly in the score, and this increase is statistically significant ( $p=0.000$ ). Internet addiction scores increase as EAT Factor 1 and Factor 2 scores increase ( $p=0.001$  and  $p=0.000$ ; respectively) and is statistically significant. However, there was no statistically significant difference between Factor 2, 3, Bergen scores, and internet addiction score ( $p>0.05$ ).

Table 4.7.A. Examination of variables according to Young cut-off points

	Acceptable Internet Use (n=363)		Problematic Internet Use (n=94)		Pathologic Internet Use (n=52)		Sig.
	Mean±SD	Min-Max	Mean±SD	Min-Max	Mean±SD	Min-Max	p*
<b>Age</b>	21.57±2.45	18-50	21.16±1.96	17-27	21.81±1.86	18-27	0.132
<b>BMI</b>	22.31±3.79	15.24-40.47	22.52±4.23	16.23-39.61	22.92±4.35	17.02-35.56	0.761
<b>How many hours per day do you spend using social media?</b>	2.83±1.63	1-13	3.36±1.72	1-13	4.00±2.16	1-13	<b>0.000</b>
<b>EAT-40 score</b>	12.12±6.14	0-37	14.18±6.55	2-30	15.88±7.51	5-36	<b>0.000</b>
<b>EAT Factor 1</b>	1.12±1.68	0-7	1.63±1.87	0-7	1.76±1.85	0-6	<b>0.001</b>
<b>EAT Factor 2</b>	1.74±2.27	0-11	1.72±2.19	0-9	2.38±2.64	0-10	0.211
<b>EAT Factor 3</b>	0.77±1.08	0-5	0.79±1.13	0-5	1.05±1.27	0-6	0.241
<b>EAT Factor 4</b>	0.36±0.70	0-4	0.68±1.06	0-5	0.73±0.84	0-3	<b>0.000</b>
<b>Bergen Score</b>	20.18±7.14	6-30	20.44±4.11	7-30	18.81±5.46	6-29	0.199

p value calculated by \*Kruskal-Wallis test.

As shown in Table 4.7.B., when we look at the use of social media applications among women and men for sex differences, the majority of women were problematic internet users with 74.5%. In comparison, the majority of men are pathological internet users with 32.7%, but this has no statistical significance ( $p>0.05$ ). When the young cut-off distinction examined according to BMI classification, it is not statistically significant ( $p>0.05$ ). Likewise, when the young cut-off differences between the question ‘‘Where do you live?’’ were examined, it is not statistically significant ( $p>0.05$ ). When comparing the distinctions between the question ‘‘Have you tried the recipes you've seen on social media?’’ and Young cut-off points, this difference is not statistically significant ( $p>0.05$ ). When comparing the ‘‘Do you think your use of social media affects your eating behavior’’ with the Young cut-off distinctions in

Problematic Internet Use and Pathologic Internet Use, those who say yes are more than those who say no, and this difference is statistically significant ( $p = 0.004$ ). Similarly, in question ‘Do the visuals you have seen on social media affect your eating choices?’ all who say yes in all distinctions are more than those who say no, and this difference is statistically significant ( $p=0.025$ ). When comparing EAT-40 score discrimination with Young score discrimination, there is no statistical significance ( $p>0.05$ ). Similarly, comparing Bergen score discrimination with Young score discrimination, there is no statistical significance ( $p>0.05$ ).



Table 4.7.B. Examination of qualitative properties according to Young cut-off points

		Acceptable Internet Use (n=363)		Problematic Internet Use (n=94)		Pathologic Internet Use (n=52)		Sig.
		%	n	%	n	%	n	p*
Sex	Women (n= 346)	66.4	241	74.5	70	67.3	35	0.325
	Men (n=163)	33.6	122	25.5	24	32.7	17	
BMI	Underweighth (n=53)	10.7	39	8.5	8	11.5	6	0.633
	Normal (n=360)	71.3	259	70.2	66	67.3	35	
	Pre-obese (n=72)	14.3	52	14.9	14	11.5	6	
	Obese (n=24)	3.6	13	6.4	6	9.6	5	
Where do you live?	my family (n=245)	47.7	173	53.2	50	42.3	22	0.584
	in dormitory (n=90)	17.4	63	19.1	18	17.3	9	
	at the student house alone/ friends (n=174)	35	127	27.7	26	40.4	21	
Do you think your use of social media affects your eating behavior?	Yes	49.6	180	67.0	63	63.5	33	0.004
	No	50.4	183	33.0	31	36.5	19	
Do the visuals you have seen on social media affect your eating choices?	Yes	70.2	255	84.0	79	75.0	39	0.025
	No	29.8	108	16.0	15	25.0	13	
Have you tried the recipes you've seen on social media?	Yes	70.8	257	67.0	63	73.1	38	0.698
	No	29.2	106	33.0	31	26.9	14.0	
EAT-40 scores frequency according to cut off point	Impaired Eating Attitude $\geq 30$	1.1	4	1.1	1.0	3.8	2.0	0.698
	Normal $< 30$	98.9	359	98.9	93.0	96.2	50.0	
Bergen scores frequency according to cut off points	$< 19$ (Non-Problematic social media use)	4.9	152	34.0	32.0	44.2	23.0	0.333
	$\geq 19$ (Problematic social media use)	58.1	211	66.0	62.0	55.8	29.0	

p value calculated by \*Chi-squared test.

Non-Problematic social media users mean age variables of 207 participants was  $21.83 \pm 1.86$  (min:17-max:29), Problematic social media users mean age variables of 302 participants was  $21.3 \pm 2.56$  (min:18-max:50) (Table 4.8.A.). There was a statistically significant difference between Bergen cut-off score and age ( $p=0.001$ ). According to the Bergen cut-off score, when BMI examined, there was no statistically significant difference ( $p>0.05$ ). According to the Bergen cut-off score, there was an increase in the time spent on social media compared to those who had Problematic social media use. Still, this increase was not statistically significant ( $p>0.05$ ). An increase in EAT-40 and Young score observed, but this increase was not statistically significant ( $p>0.05$ ). Similarly, when EAT-40 sub-factors examined according to Bergen cut-off distinction, no statistical significance was observed ( $p>0.05$ ).

Table 4.8.A. Examination of variables according to Bergen cut-off points

	Non-Problematic social media use <19 (n=207)		Problematic social media use ≥19 (n=302)		Sig. <b>p*</b>
	<u>Mean±SD</u>	<u>Min-Max</u>	<u>Mean±SD</u>	<u>Min-Max</u>	
<b>Age</b>	21.83±1.86	17-29	21.3±2.56	18-50	<b>0.001</b>
<b>BMI</b>	22.42±3.92	16.1-47.4	22.42±3.95	15.24-39.18	0.951
<b>Hours spending on social media</b>	2.97±1.74	1-13	3.1±1.75	1-13	0.314
<b>EAT 40 score</b>	12.49±6.47	2-36	13.16±6.49	0-37	0.173
<b>EAT Factor 1</b>	1.21±1.67	0-7	1.33±1.81	0-7	0.581
<b>EAT Factor 2</b>	1.81±2.35	0-10	1.80±2.28	0-11	0.847
<b>EAT Factor 3</b>	0.81±1.12	0-5	0.80±1.12	0-6	0.927
<b>EAT Factor 4</b>	0.43±0.78	0-5	0.47±0.82	0-5	0.722
<b>Young Score</b>	26.23±8.94	12-53	27.36±7.62	13-59	0.055

p value calculated by \*Mann-Whitney U test.

As mentioned in Table 4.8.B., while 73.8% of the participants using problematic social media are women, 26.2% are men. Likewise, 59.4% of the non-problematic social media users are women, and this difference is statistically significant ( $p=0.000$ ). There is no statistically significant difference between Bergen cut-off separation and BMI classification ( $p>0.05$ ). When Bergen cut-off separation compared with the question “Where do you live?” it is observed that the majority of problematic social media users live in the home environment (with family 47.7% and at the student house alone/with friends 30.8%; respectively), while non-problematic

social media users are similar in distribution and this is statistically significant ( $p=0.013$ ). When Bergen cut-off distinction compared with the question ‘‘Do you think your use of social media affects your eating behavior?’’ yes answer to problematic social media users is 57.9%, no answer is 42.7%, and on the contrary, non-problematic social media users yes answers is 48.8%, and no answers is 51.2%, and this is the difference statistically significant ( $p=0.026$ ). Comparing Bergen cut-off distinction with questions ‘Do the visuals you have seen on social media affect your eating choices?’ and ‘Have you tried the recipes you've seen on social media?’ both respondents answered yes in both problematic and non-problematic social media, but this difference is not statistically significant ( $p>0.05$ ). When Bergen cut-off separation compared with EAT-40 and Young scores, there is no statistical significance ( $p>0.05$ ).

Table 4.8.B. Examination of qualitative properties according to Bergen cut-off points

		Non-Problematic social media use <19 (n=207)		Problematic social media use ≥19 (n=302)		Sig.
		%	n	%	n	p*
Sex	Women (n= 346)	59.4	123	73.8	223	0.000
	Men (n=163)	40.6	84	26.2	79	
BMI	Underweighth (n=53)	10.1	21	10.6	32	0.984
	Normal (n=360)	71.5	148	70.2	212	
	Pre-obese (n=72)	14.0	29	14.2	43	
	Obese (n=24)	4.3	9	5.0	15	
Where do you live?	with family (n=245 )	48.8	101	47.7	144	0.013
	in dormitory (n=90 )	12.1	25	21.5	65	
	at the student house alone/with friends (n=174)	39.1	81	30.8	93	
Do you think your use of social media affects your eating behavior?	Yes	48.8	101	57.9	175	0.026
	No	51.2	106	42.1	127	
Do the visuals you have seen on social media affect your eating choices?	Yes	69.6	144	75.8	229	0.072
	No	30.4	63	24.2	73	
Have you tried the recipes you've seen on social media?	Yes	68.6	142	71.5	216	0.270
	No	31.4	65	28.5	86	
EAT-40 scores frequency according to cut off point	Impaired Eating Attitude ≥30	1.4	3	1.3	4	0.595
	Normal <30	98.6	204	98.7	298	
Young scores frequency according to cut off points	Acceptable Internet Use (≤30)	73.4	152	69.9	211	0.732
	Problematic Internet Use (>30)	15.5	32	20.5	62	
	Pathological Internet Use (>37)	11.1	23	9.6	29	

p value calculated by \*Chi-squared test.

Participants who have normal eating attitude mean age variable was  $21.52 \pm 2.32$  (min:17-max:50). Participants who have Impaired Eating Attitude mean age variable was  $21.28 \pm 0.95$  (min:20-max:23) (Table 4.9.A.). There was no statistically significant difference between age and EAT 40 score discrimination ( $p > 0.05$ ). Participants who have normal eating attitude mean BMI was  $22.40 \pm 3.93$  (min:15.24-max:40.47), Participants who have Impaired Eating Attitude mean BMI variables was (min:20.58-max:32.03) (Table 4.9.A.). Despite the increase in BMI of the Impaired Eating Attitude, there is no statistical significance ( $p > 0.05$ ). Likewise, there is no statistical significance, despite the increased hours spent on social media for those who have Impaired Eating Attitude scores ( $p > 0.05$ ). No statistically significant difference was found between Young, Bergen scores, and EAT-40 cut-off scores ( $p > 0.05$ ) (Table 4.9.A.).

Table 4.9.A. Examination of variables according to EAT-40 cut-off points

	Normal <30 (n=502)		Impaired Eating Attitude $\geq 30$ (n=7)		Sig.
	Mean $\pm$ SD	Min-Max	Mean $\pm$ SD	Min-Max	p*
Age	21.52 $\pm$ 2.32	17-50	21.28 $\pm$ 0.95	20-23	0.727
BMI	22.40 $\pm$ 3.93	15.24-40.47	23.53 $\pm$ 3.88	20.58-32.03	0.305
Hours spending on social media	3.04 $\pm$ 1.73	1-13	3.85 $\pm$ 2.67	1-8	0.543
Young Score	26.86 $\pm$ 8.15	12-59	29.71 $\pm$ 11.19	16-45	0.569
Bergen Score	20.09 $\pm$ 6.56	6-30	19.71 $\pm$ 3.94	16-28	0.725

p value calculated by \*Mann-Whitney U test

As mentioned in Table 4.9.B., when the EAT-40 cut-off distinction examined based on sexes, it is observed that 85.7% of with impaired eating attitude were women, and 67.7% of women who evaluated as normal. This is not statistically significant ( $p > 0.05$ ). When the EAT-40 cut-off distinction examined according to the BMI classification, 85.7% of those with impaired eating attitudes were in the normal classification, while 14.3% are in the obese class also, this is not statistically significant ( $p > 0.05$ ). When EAT-40 cut-off discrimination is compared with the question ‘‘Where do you live?’’ it is observed that those who show impaired eating attitude live mostly in the home environment (with my family 42.9% and at the student house alone/with

my friends 42.9%; respectively), while the normal ones are mostly in the home environment (with my family 48.2%) and the least is in the dormitory 17.7%, and this is not statistically significant. Compared to the question “Do you think your use of social media affects your eating behavior?” with EAT-40 cut-off discrimination, the answer of yes is higher in both those with impaired eating attitude 57.1% and normal ones 54.2% and difference is not statistically significant ( $p>0.05$ ). When EAT-40 cut-off discrimination is compared with the question “Do the visuals you have seen on social media affect your eating choices?” 100% of those with impaired eating attitude and 72.9% of normal ones answered yes, this difference is not statistically significant ( $p>0.05$ ). Similarly, EAT-40 cut-off discrimination is compared with the question “Have you tried the recipes you've seen on social media?” 100% of those with impaired eating behavior and 69.9% of normal ones answered yes, this difference is not statistically significant ( $p>0.05$ ). No statistically significant difference was found between Young, Bergen scores, and EAT 40 cut-off scores ( $p>0.05$ ).

Table 4.9.B. Examination of qualitative properties according to EAT-40 cut-off points

		Normal <30 (n=502)		Impaired Eating Attitude ≥30 (n=7)		Sig.
		%	n	%	n	p*
Sex	Women (n= 346)	67.7	340	85.7	6	0.286*
	Men (n=163)	32.3	162	14.3	1	
BMI	Underweighth (n=53)	10.6	53	-	-	0.341
	Normal (n=360)	70.5	354	85.7	6	
	Pre-obese (n=72)	14.3	72	-	-	
	Obese (n=24)	4.6	23	14.3	1	
Where do you live?	with my family (n=245 )	48.2	242	42.9	3	0.885
	in dormitory (n=90 )	17.7	89	14.3	1	
	at the student house alone/with my friends (n=174)	34.1	171	42.9	3	
Do you think your use of social media affects your eating behavior?	Yes	54.2	272	57.1	4	0.592*
	No	45.8	230	42.9	3	
Do the visuals you have seen on social media affect your eating choices?	Yes	72.9	366	100	7	0.112*
	No	27.1	136	0	0	
Have you tried the recipes you've seen on social media?	Yes	69.9	351	100	7	0.084*
	No	30.1	151	0	0.0	
Bergen scores frequency according to cut off point	Problematic social media use (≥19)	40.6	204	42.9	3	0.595*
	Non-Problematic social media use (<19)	59.4	298	57.1	4	
Young scores frequency according to cut off points	Acceptable Internet Use (≤30)	71.5	359	57.1	4	0.271
	Problematic Internet Use (>30)	18.5	93	14.3	1	
	Pathological Internet Use (>37)	10	50	28.6	2	

p value calculated by \*Fishers's exact and \*\*Chi-squared tests.

## 5. DISCUSSION

In this study, the effect of social media and internet addiction levels of university students on eating attitudes examined. Whether there is a difference according to impact on social media and their relationships were investigated.

This thesis conducted with 509 university students studying in different faculties with a mean age of  $21.5 \pm 2.32$ . University students sample specifically chosen because studies indicated that people who were born after 1990 are in a high-risk group for addiction to technology and the social media that it brings with it. In the same study, it found that social media addiction is seen more in young people than older people. The reason for this is that young people can adapt to technological developments more quickly. This means that as age increases, people's social media addiction decreases linearly (142).

In this present study, it observed that the mean hours spent on social media were of  $3.1 \pm 1.75$ , and the most commonly used social media platform was Instagram.

Besides, in this present study, women's social media addiction level was found problematic, and their mean score was higher than men, and this difference found to be significant ( $p=0.003$ ). As a result, it is seen that sex has an impact on social media addiction with this study. In 2018, Deniz et al. conducted a study with 473 high school students by using the social media addiction scale (SMAS) to examine social media addiction. Similar to our findings, they observed that women are more dependent on social media than men, and women spend more time with social media (143). Unlike our study, Karasu et al. (2017) found the rate of internet addiction of male students higher than female students in their study of 473 university students (139). Çiftçi et al. (2018) also found a similar result in their study (145). On the contrary of all these findings, some studies indicated no differences between sexes (140,141). In summary, according to studies, there were differences between social media addiction and sex relations.

Bergen social media addiction score mean of the participants is  $20.1 \pm 6.53$ , and it indicates problematic social media use. In another study, it concluded that the university students' social media addictions were at a low level, and the level of occupation and mood regulation was moderate (146). Similar to the results of another study conducted in university students, the social media addiction levels of the students

were said to be less addicted. In addition, the participants observed to have moderate dependence in terms of occupation, mood regulation, repetition behavior in social media, and low level of dependency in conflict behaviors (147). In a study conducted by Tutgun-Unal (2016) with 1034 university students, which are a mean age of 21.6 studying in various faculties in Istanbul, university students' social media addiction levels found to be less addicted (142).

The results of the research are mostly overlapping, and the difference can be thought to be due to the sample difference.

The Young internet addiction score of the group was found to be  $26.9 \pm 8.19$  and indicates acceptable Internet use. There was no relationship between internet addiction and social media addiction. The internet addiction score of women is slightly higher than the men, but this difference was not significant. Men and women use technology for different reasons. While women use it to socialize, communicating with their peers, men use it for online gaming and entertainment reasons (143). Similar result to this study while according to Hardie and Tee (144) (2007), some demographic factors like sex and age are not effective on excessive Internet use, according to research which was done by Cao and Su (2007) for 2620 high school students from China, it was found that Internet addiction was more common among men than women (145).

In this study, the BMI mean of the group was found to be  $22.42 \pm 3.94$ , and the majority of the group was normal according to the BMI classification of WHO (39). When men and women are compared, the BMI of men is higher than women, and this difference is statistically significant ( $p=0.000$ ). When it was examined whether the BMI differed according to the duration of social media usage of the students, there was no relationship between social media addiction and BMI. BMI also was not statistically significant compared to other scale scores. When the literature is examined, it is seen that university students are in the normal range according to the BMI classification. Similar to our findings, Siyez and Uzbař (2009) (146) determined that 19.8% of the youth were underweight, and Ulař et al. (2013) (147) concluded that students' BMI values were within the normal range, 14.6% were pre-obese and obese, 13.2% were weak.

The internet addiction score of those who say that social media changes my eating behavior is higher than those who say that social media does not change my eating behavior, and this difference is statistically significant. ( $p=0.000$ ). Although the internet addiction score, according to the BMI distribution of the group increased from underweight to obese, it was not statistically significant. Similar to this study Yıldırım et al. observed that there was no significant relationship between BMI and Internet addiction, desire to stay online, loss of control. Likewise, Bickham et al. examined the relationship between social media usage, sitting time, and BMI of young adults between the ages of 13 and 15. As a result, there were no associations between sitting to view television and social media usage score, total sitting time or BMI, or other leisure activities. This is in contrast to the assessment of the sitting time caused by computer use, Internet use, and television viewing associated with increased BMI. Contrary to these results, Kim et al. conducted a study on 853 Korean high school students, and they observed that students are high-risk internet users who have irregular diet behaviors due to loss of appetite, frequent snacks consuming, and meal skipping which may lead to imbalance in dietary intake. As a result of all this, weight gain observed (148). Another study in China that investigated the effect of internet addiction on obesity done on 1150 secondary school students. The obesity rates of students were 23.57%, and the rate of internet addiction was 21.23%. Internet addiction of the obese students in the study found as 21.06%. As a result, it is stated that internet addiction is a risk factor for obesity (149). The reason for not establishing a relationship between BMI and the use of social media may be due to the difficulty in determining the exact duration of social media use. Further research is needed to improve establish the relationship between BMI and social media use.

The protocol for treating internet and social media addiction; suggests that you should focus on sports and increase exercise frequency (150).

In this study, the mean of the EAT-40 score determined as  $12.89 \pm 6.49$ . The majority of the group shows a healthy eating attitude. EAT-40 scores of women are higher than men, and this difference is statistically significant ( $p=0.024$ ). Those who say that social media affects my eating behavior have higher EAT-40 scores than those who say it does not affect, and this difference is statistically significant ( $p=0.001$ ). It reported that 22% of girls who enroll in college engage has anorectic or bulimic

behavior. According to Oğur et al. (2016) study, which aimed to determine the susceptibility of 294 university students to eating behavior disorder, EAT-40 scores were high. It revealed that 13.3% (n=39) of the students had a score of  $\geq 30$  and were therefore susceptible to eating behavior disorder. While EAT-40 score of 9.3% (n=27) of students is between 30-40, EAT-40 score of 3.7% (n=12) is between 41-46; EAT-40 score of 1 person (0.3%) was found to be 75. Similar to our study, this study also revealed that the difference between BMI values and age ranges and EAT-40 scores was not significant (151). İlhan et al. (2006) observed that the number of male students who were predisposed to eating behavior disorder was higher than female students, but the difference between EAT-40 scores was not significant (152). In the study of Siyez and Uzbaş (2009), the fact that women scored twice more than EAT-40 scale compared to men is similar to the study conducted (146).

As in the results of our study, previous studies positively related to social media use, Internet addiction, and disordered eating attitudes.

## 6. CONCLUSIONS AND RECOMMENDATIONS

Internet and social media applications that we use in many areas have become vital points of our lives. Especially people on social media create their personal accounts and communicate with the world through this field. Although they have many positive benefits, such technologies bring some problems.

The fact that technology has entered our daily lives so much that the frequency of physical activity decreases, meals are skipped and directed towards fast food consumption, as a result of this, inadequate and unbalanced nutrition has become an essential problem for university students. It is an issue that needs to be investigated.

In this thesis study, BMI value was found within normal limits. However, increasing social media use should be seen as an essential problem.

The limitations of this study are as follows; limited to the answers given to the Bergen Social Media Addiction Scale, Young Internet Addiction Scale, EAT-40, and Personal Information Form. This research reflects the information, perception, and thoughts of the interviewed university students within the timeframe they responded and does not have the opportunity to determine the changes that may occur over time.

In this study, meaningful data was obtained on these subjects, and it tried to contribute to the literature. It is thought that our research would shed light on future studies and further studies needed in this field.

According to the results obtained from the study, young people can be given training about how to use these technologies efficiently before they reach university age. The families of the students should also be made conscious of these problems. In this way, they can help to prevent their children's internet and social media usage before they become addicted. To gain knowledge of social media of university students and to make their behaviors positively affected, awareness-raising activities can be conducted among young people on this subject so that students can use social media for their benefit. In order to develop healthy eating attitudes among young people, nutritional training can be given about not spending meal times in front of the screen, thus improving the quality of life of students. Education and preventive measures related to eating behavior disorder, protection should be provided, and if the disease has occurred, treatment must be provided. Undiagnosed or hidden subclinical eating disorders; It will be beneficial to investigate in young groups with long-sampling and

longitudinal studies and to make screening in risky groups. Also, conferences and seminars must be conducted to inform and raise awareness of young people, families, and educators.

Consequently, today social media is an essential factor that promotes and triggers eating disorders. The type of social media used varies depending on the time spent on these sites and the number of followers. The study results show that; individuals exposed to posts and comments that may lead to eating disorders on the websites used. It believed that especially adolescents are the most affected group from this situation affecting all age groups. For this reason, there is a need to increase awareness about being a conscious social media user.



## 7. REFERENCES

1. Ma X, Chen Q, Pu Y, et al. Skipping breakfast is associated with overweight and obesity: A systematic review and meta-analysis. *Obes Res Clin Pract.* 2020;14(1):1-8. doi:10.1016/j.orcp.2019.12.002
2. Rao WW, Zong QQ, Zhang JW, et al. Obesity increases the risk of depression in children and adolescents: Results from a systematic review and meta-analysis. *J Affect Disord.* 2020;267:78-85. doi:10.1016/j.jad.2020.01.154
3. Obezitenin Nedenleri. <https://hsgm.saglik.gov.tr/tr/obezite/obezitenin-nedenleri.html>. Accessed May 21, 2020.
4. Shields MK, Behrman RE. Children and computer technology: Analysis and recommendations. *Futur Child.* 2000;10(2):4-30. doi:10.2307/1602687
5. Türkiye İstatistik Kurumu, Hanehalkı Bilişim Teknolojileri (BT) Kullanım Araştırması, 2019. <http://www.tuik.gov.tr/PreHaberBultenleri.do?id=30574>. Accessed January 5, 2020.
6. Ermiş E, Doğan E, Erilli NA, Saticı A. Üniversite öğrencilerinin beslenme alışkanlıklarının incelenmesi : Ondokuz Mayıs Üniversitesi örneği. *Spor ve Performans Araştırmaları Derg.* 2015;1(6).
7. Tewatia D. PDF processed with CutePDF evaluation edition [www.CutePDF.com](http://www.CutePDF.com). *October.* 2007;24(October):149-154. doi:10.1016/S0140
8. Sidani JE, Shensa A, Hoffman B, Hanmer J, Primack BA. The Association between Social Media Use and Eating Concerns among US Young Adults. *J Acad Nutr Diet.* 2016;116(9):1465-1472. doi:10.1016/j.jand.2016.03.021
9. Yılmaz E, Özkan S. Üniversite Öğrencilerinin Beslenme Alışkanlıklarının İncelenmesi. *Fırat Sağlık Hizmetleri Derg.* 2007;Cilt:2, Sa.
10. Vançelik S, Önal Gürsel S, Güraksın A, Beyhun E. Üniversite Öğrencilerinin Beslenme Bilgi ve Alışkanlıkları ile İlişkili Faktörler. *TSK koruyucu Hekim Bülteni.* 2007;6(4):242-248.

11. Kazdondur İ. Üniversite Öğrencilerinde Ortoreksiya Nervosa (Sağlıklı Beslenme Takıntısı) Belirtilerinin İncelenmesi. 2010. doi:10.1558/jsrnc.v4il.24
12. Arnett JJ. Adolescence and emerging adulthood: A cultural approach (2nd ed.). *Adolesc Emerg adulthood A Cult approach (2nd ed)*. 2004:91. <http://ovidsp.ovid.com/ovidweb.cgi?T=JS&PAGE=reference&D=psyc3&NEWS=N&AN=2004-14010-000>. Accessed May 5, 2020.
13. Deliens T, Clarys P, De Bourdeaudhuij I, Deforche B. Determinants of eating behaviour in university students: A qualitative study using focus group discussions. *BMC Public Health*. 2014;14(1). doi:10.1186/1471-2458-14-53
14. El-Kassas G, Ziade F. Exploration of the Dietary and Lifestyle Behaviors and Weight Status and Their Self-Perceptions among Health Sciences University Students in North Lebanon. *Biomed Res Int*. 2016;14 pages. doi:<http://dx.doi.org/10.1155/2016/9762396>
15. Aslan D, Gürtan E, Hacim A, Karaca N, Şenol E, Yildirim E. *Cumhuriyet Üniversitesi Tıp Fakültesi Ankara'da Eryaman Sağlık Ocağı Bölgesi'nde Bir Lisenin İkinci Sınıfında Okuyan Kız Öğrencilerin Beslenme Durumlarının ve Bazı Antropometrik Ölçümlerinin Değerlendirmeleri Nutritional Status and Anthropometric Assessme 2011*.
16. Chen H-Y, Yarnal C, Bram B. "Borrowing Happiness from the Future": Exploring College Students' Own Experiences on Health-Related Lifestyles. *J Coll Character*. 2017;18(2):112-129. doi:10.1080/2194587x.2017.1300095
17. Likus W, Milka D, Bajor G, Jachacz-Łopata M, Dorzak B. Dietary habits and physical activity in students from the Medical University of Silesia in Poland. *Rocz Państwowego Zakładu Hig*. 2013;64(4):317-324.
18. Thorpe MG, Kestin M, Riddell LJ, Keast RS, McNaughton SA. Diet quality in young adults and its association with food-related behaviours. *Public Health Nutr*. 2014;17(8):1767-1775. doi:10.1017/S1368980013001924

19. El-Kassas G, Itani L, El Ali Z. Obesity Risk Factors among Beirut Arab University Students in Tripoli- Lebanon. *J Nutr Food Sci.* 2015;05(06):421. doi:10.4172/2155-9600.1000421
20. Von Ah D, Ebert S, Ngamvitroj A, Park N, Kang DH. Predictors of health behaviours in college students. *J Adv Nurs.* 2004;48(5):463-474. doi:10.1111/j.1365-2648.2004.03229.x
21. WHO. Obesity : Preventing and managing the global epidemic. World Health Organization: Technical Report Series. *WHO Tech Rep Ser no 894.* 2000:252. doi:ISBN 92 4 120894 5
22. Popkin BM. *Symposium: Obesity in Developing Countries: Biological and Ecological Factors The Nutrition Transition and Obesity in the Developing World* 1.; 2001. <https://academic.oup.com/jn/article-abstract/131/3/871S/4687031>. Accessed May 5, 2020.
23. World Health Organization. WHO | Global Status Report on NCDs. *WHO.* 2015.
24. World Bank, Bank W, THE WORLD BANK. The Growing Danger of Non-Communicable Diseases: Acting now to reverse course. *World Bank Hum Dev Netw.* 2011;(September):24. <http://documents.worldbank.org/curated/en/2011/09/15512807/growing-danger-non-communicable-diseases-acting-now-reverse-course>. Accessed May 6, 2020.
25. Crombie AP, Ilich JZ, Dutton GR, Panton LB, Abood DA. The freshman weight gain phenomenon revisited. *Nutr Rev.* 2009;67(2):83-94. doi:10.1111/j.1753-4887.2008.00143.x
26. Savcı S, Öztürk M, Arıkan H, İnce Dİ, L. Tokgözoğlu. *Üniversite Öğrencilerinin Fiziksel Aktivite Düzeyleri Physical Activity Levels of University Students.* Vol 34.; 2006.
27. Dalton JC, Crosby PC, Mauk A. From Self to Others: Moral Development as the Art of Making and Sustaining Friendships in College. *J Coll Character.* 2010;11(1). doi:10.2202/1940-1639.1027

28. Arnett JJ. Emerging adulthood: A theory of development from the late teens through the twenties. *Am Psychol.* 2000;55(5):469-480. doi:10.1037/0003-066X.55.5.469
29. Crosby PC, Baxter Magolda MB. Self-Authorship and Identity in College: An Interview with Marcia B. Baxter Magolda. *J Coll Character.* 2006;7(1). doi:10.2202/1940-1639.1496
30. Reifman A, Watson WK. Binge drinking during the first semester of college: Continuation and desistance from high school patterns. *J Am Coll Health Assoc.* 2003;52(2):73-81. doi:10.1080/07448480309595727
31. Leslie E, Owen N, Salmon J, Bauman A, Sallis JF, Lo SK. *Insufficiently Active Australian College Students: Perceived Personal, Social, and Environmental Influences I.* Vol 28.; 1999. <http://www.idealibrary.comon>. Accessed May 6, 2020.
32. World Health Organization. *Coming of Age: From Facts to Action for Adolescent Sexual and Reproductive Health.*; 1997. <http://www.who.int/iris/handle/10665/65895>. Accessed May 6, 2020.
33. Walker, S N; Sechrist, K R; Pender NJ. The Health-Promoting Lifestyle Profile: Development and Psychometric Characteristics. *Nurs Res Publ.* 1987;36(2):76-81.
34. Kayode OO, Alabi QK. Food Consumption Patterns, Physical Activity and Overweight and Obesity among Undergraduates of a Private University in Nigeria. *Clin Nutr Exp.* 2020:1-7. doi:10.1016/j.yclnex.2020.01.001
35. D'innocenzo S, Biagi C, Lanari M. Obesity and the mediterranean diet: A review of evidence of the role and sustainability of the mediterranean diet. *Nutrients.* 2019;11(6). doi:10.3390/nu11061306
36. Story M, Neumark-Sztainer D, French S. Individual and environmental influences on adolescent eating behaviors . *J Am Diet Assoc.* 2002;102(3):40-51.
37. Stuart JHB, Nanette M. *Psychology of Physical Activity: Determinants, Well-Being and Interventions.*; 2007. doi:10.4324/9780203019320

38. Temeloğlu E. İESK e. S. Obezite ve İnflamasyon. *Turkiye Klin J Med Sci.* 2005;25:636-641.
39. WHO/Europe | Nutrition - Body mass index - BMI. 2020. <http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi>. Accessed May 21, 2020.
40. Roger VL, Go AS, Lloyd-Jones DM, et al. Executive summary: Heart disease and stroke statistics-2012 update: A report from the American heart association. *Circulation.* 2012;125(1):188-197. doi:10.1161/CIR.0b013e3182456d46
41. Vella-Zarb RA, Elgar FJ. The “freshman 5”: A meta-analysis of weight gain in the freshman year of college. *J Am Coll Heal.* 2009;58(2):161-166. doi:10.1080/07448480903221392
42. Racette SB, Deusinger SS, Strube MJ, Highstein GR, Deusinger RH. Weight changes, exercise, and dietary patterns during freshman and sophomore years of college. *J Am Coll Heal.* 2005;53(6):245-251. doi:10.3200/JACH.53.6.245-251
43. Papadaki A, Scott JA. The impact on eating habits of temporary translocation from a Mediterranean to a Northern European environment. *Eur J Clin Nutr.* 2002;56(5):455-467. doi:10.1038/sj.ejcn.1601337
44. Wengreen HJ, Moncur C. Change in diet, physical activity, and body weight among young-adults during the transition from high school to college. *Nutr J.* 2009;8(1):1-8. doi:10.1186/1475-2891-8-32
45. Huang TT-K, Harris KJ, Lee RE, Nazir N, Born W, Kaur H. Assessing Overweight, Obesity, Diet and Physical Activity in College Students. *J Am Coll Heal.* 2003;52(2):83-86.
46. Silliman K, Rodas-Fortier K, Neyman M. Survey of Dietary and Exercise Habits and Perceived Barriers to Following a Healthy Lifestyle in a College Population. *Californian J Health Promot.* 2004;2(4):82-91. doi:10.32398/cjhp.v2i4.900

47. DeBate RDG, Topping M, Sargent RG. Racial and gender differences in weight status and dietary practices among college students. *Adolescence*. 2001;36(144):819-833.
48. Butler SM, Black DR, Blue CL, Gretebeck RJ. Change in Diet, Physical Activity and Body Weight in Female College Freshman. *Am J Heal Behav*. 2004;28(1):24-32.
49. Lloyd-Richardson EE, Lucero ML, DiBello JR, Jacobson AE, Wing RR. The relationship between alcohol use, eating habits and weight change in college freshmen. *Eat Behav*. 2008;9(4):504-508. doi:10.1016/j.eatbeh.2008.06.005
50. Deliens T, Clarys P, Van Hecke L, De Bourdeaudhuij I, Deforche B. Changes in weight and body composition during the first semester at university. A prospective explanatory study. *Appetite*. 2013;65:111-116. doi:10.1016/j.appet.2013.01.024
51. Chourdakis M, Tzellos T, Pourzitaki C, Toulis KA, Papazisis G, Kouvelas D. Evaluation of dietary habits and assessment of cardiovascular disease risk factors among Greek university students. *Appetite*. 2011;57(2):377-383. doi:10.1016/j.appet.2011.05.314
52. Rendina D, Campanozzi A, De Filippo G. Methodological approach to the assessment of the obesogenic environment in children and adolescents: A review of the literature. *Nutr Metab Cardiovasc Dis*. 2019;29(6):561-571. doi:10.1016/j.numecd.2019.02.009
53. *Report of the Commission on Ending Childhood Obesity Report by the Director-General ANNEX REPORT OF THE COMMISSION ON ENDING CHILDHOOD OBESITY Goals of the Commission 2015.*
54. Swinburn B, Egger G, Raza F. Dissecting obesogenic environments: The development and application of a framework for identifying and prioritizing environmental interventions for obesity. *Prev Med (Baltim)*. 1999;29(6 I):563-570. doi:10.1006/pmed.1999.0585

55. Gattshall ML, Shoup JA, Marshall JA, Crane LA, Estabrooks PA. Validation of a survey instrument to assess home environments for physical activity and healthy eating in overweight children. *Int J Behav Nutr Phys Act.* 2008;3(5):1-13. doi:10.1186/1479
56. Schrempft S, Van Jaarsveld CHM, Fisher A, Wardle J. The obesogenic quality of the home environment: Associations with diet, physical activity, TV viewing, and BMI in preschool children. *PLoS One.* 2015;10(8):134490. doi:10.1371/journal.pone.0134490
57. Young KS. Internet addiction: The emergence of a new clinical disorder. *Cyberpsychology Behav.* 1998;1(3):237-244. doi:10.1089/cpb.1998.1.237
58. Eliacik K, Bolat N, Koçyiğit C, et al. Internet addiction, sleep and health-related life quality among obese individuals: a comparison study of the growing problems in adolescent health. *Eat Weight Disord.* 2016;21(4):709-717. doi:10.1007/s40519-016-0327-z
59. Brug J, van Lenthe FJ, Kremers SPJ. Revisiting Kurt Lewin. How to Gain Insight into Environmental Correlates of Obesogenic Behaviors. *Am J Prev Med.* 2006;31(6):525-529. doi:10.1016/j.amepre.2006.08.016
60. Egger G, Swinburn B. An “ecological” approach to the obesity pandemic. *Br Med J.* 1997;315(7106):477-480. doi:10.1136/bmj.315.7106.477
61. BA S, I C, JC S, WPT J. Diet, nutrition and the prevention of excess weight gain and obesity. *Public Health Nutr.* 2004;7(1a):123-146. doi:10.1079/phn2003585
62. Morahan-Martin J. Psychological Aspects of Cyberspace : Theory, Research, Applications. *Cambridge Univ Press.* 2008:32-69. <http://eds.b.ebscohost.com.lproxy.yeditepe.edu.tr/eds/ebookviewer/ebook?sid=fe74178c-502a-4f0c-8110-1922239cf89d%40pdc-v-sessmgr02&vid=0&format=EB>. Accessed May 14, 2020.
63. Global Socially-Led Creative Agency - We Are Social. <https://wearesocial.com/>. Published 2019. Accessed May 14, 2020.

64. Iskender M\_, Akin A. Social self-efficacy, academic locus of control, and internet addiction. *Comput Educ.* 54:1101-1106. doi:10.1016/j.compedu.2009.10.014
65. Kwon M, Kim DJ, Cho H, Yang S. The smartphone addiction scale: Development and validation of a short version for adolescents. *PLoS One.* 2013;8(12). doi:10.1371/journal.pone.0083558
66. Johansson A, Götestam KG. Internet addiction: characteristics of a questionnaire and prevalence in Norwegian youth (12-18 years). *Scand J Psychol.* 2004;45(3):223-229. doi:10.1111/j.1467-9450.2004.00398.x
67. Dalbudak E, Evren C. The relationship of Internet addiction severity with Attention Deficit Hyperactivity Disorder symptoms in Turkish University students; impact of personality traits, depression and anxiety. *Compr Psychiatry.* 2014;55(3):497-503. doi:10.1016/j.comppsy.2013.11.018
68. Salicetia F. Internet Addiction Disorder (IAD). *Procedia - Soc Behav Sci.* 2015;191:1372-1376. doi:10.1016/j.sbspro.2015.04.292
69. Griffiths M. A “components” model of addiction within a biopsychosocial framework. *J Subst Use.* 2005;10(4):191-197. doi:10.1080/14659890500114359
70. Kutlu M, Savci M, Demir Y, Aysan F. Turkish adaptation of Young’s Internet Addiction Test-Short Form: a reliability and validity study on university students and adolescents. *Anatol J Psychiatry.* 2015;17(1):69. doi:10.5455/apd.190501
71. Aksu O. Yeni Toplumsal Hareketler Bağlamında Sosyal Medya Kullanımı Analizi: Kadın Dernekleri. *Açıköğretim Uygulamaları ve Araştırmaları Derg.* 2017;3(3):146-159.
72. Casale S, Fioravanti G. Why narcissists are at risk for developing Facebook addiction: The need to be admired and the need to belong. *Addict Behav.* 2018;76:312-318. doi:10.1016/j.addbeh.2017.08.038

73. Valenzuela S, Park N, Kee KF. Is There social capital in a social network site?: Facebook use and college student's life satisfaction, trust, and participation1. *J Comput Commun.* 2009;14(4):875-901. doi:10.1111/j.1083-6101.2009.01474.x
74. Fuchs C. Theorising social media, politics and the state: An introduction. In: *Social Media, Politics and the State: Protests, Revolutions, Riots, Crime and Policing in the Age of Facebook, Twitter and YouTube.* ; 2014:3-38. doi:10.4324/9781315764832
75. Ellison NB, Boyd DM. Sociality Through Social Network Sites. *Oxford Univ Press.* 2015;(01.2013):1-26. doi:10.1093/oxfordhb/9780199589074.013.0008
76. Baruah TD. Effectiveness of Social Media as a Tool of Communication. *Int J Sci Res Publ.* 2012;2(5):1-10. doi:ISSN 2250-3153
77. Kirschner PA, Karpinski AC. Facebook® and academic performance. *Comput Human Behav.* 2010;26(6):1237-1245. doi:10.1016/j.chb.2010.03.024
78. Junco R. The relationship between frequency of Facebook use, participation in Facebook activities, and student engagement. *Comput Educ.* 2012;58(1):162-171. doi:10.1016/j.compedu.2011.08.004
79. Özeltürkay EY, Bozyığıt S, Gülmez M. Instagram ' dan Alışveriş Yapan Tüketicilerin Satın Alma Davranışları : Keşifsel Bir Çalışma \* Shopping From The Instagram : An Exploratory Study. *Marmara Üniversitesi Öneri Derg.* 2017;48(12):175-198. doi:10.14783/maruoneri.vi.331668
80. The Communications Market Report 2015 - Ofcom. <https://www.ofcom.org.uk/research-and-data/multi-sector-research/cmr/cmr15>. Accessed May 15, 2020.
81. Kızılkaya YM. Duygu Analizi ve Sosyal Medya Alanında Uygulama. 2018.
82. Balcı Ş, Koçak MC. Sosyal medya kullanımı ile yaşam doyumu arasındaki ilişki: üniversite öğrencileri üzerinde bir araştırma. 1. Uluslararası İletişimde Yeni Yönelimler Konferansı. In: İstanbul: 1. Uluslararası İletişimde Yeni Yönelimler Konferansı.; 2017:35-45.

83. Kömürçü E. Sosyal Medyanın Y Kuşağı Tüketicilerinin Satın Alma Davranışlarına Etkisi. 2018. doi:10.26449/sssjs.1391
84. Van Den Eijnden RJJM, Lemmens JS, Valkenburg PM. The Social Media Disorder Scale: Validity and psychometric properties. *Comput Human Behav.* 2016;61:478-487. doi:10.1016/j.chb.2016.03.038
85. Riad Mousa Jaradat M-I, Jebreen Atyeh A. *Do Personality Traits Play a Role in Social Media Addiction? Key Considerations for Successful Optimized Model to Avoid Social Networking Sites Addiction: A Developing Country Perspective.* Vol 17.; 2017.
86. Montag C, Bey K, Sha P, et al. Is it meaningful to distinguish between generalized and specific Internet addiction? Evidence from a cross-cultural study from Germany, Sweden, Taiwan and China. *Asia-Pacific Psychiatry.* 2015;7(1):20-26. doi:10.1111/appy.12122
87. Murat KIRIK A. Türkiyedeki Gençlerin Sosyal Medya Bağımlılık Düzeylerine Yönelik Nicel Bir Araştırma. *Int J Sci Cult Sport.* 2015;3(13):108-108. doi:10.14486/intjscs444
88. Andreassen CS, Torbjørn T, Brunborg GS, Pallesen S. Development of a facebook addiction scale. *Psychol Rep.* 2012;110(2):501-517. doi:10.2466/02.09.18.PR0.110.2.501-517
89. Bányai F, Zsila Á, Király O, et al. Problematic social media use: Results from a large-scale nationally representative adolescent sample. *PLoS One.* 2017;12(1):10-14. doi:10.1371/journal.pone.0169839
90. Andreassen CS, Billieux J, Griffiths MD, et al. The relationship between addictive use of social media and video games and symptoms of psychiatric disorders: A large-scale cross-sectional study. *Psychol Addict Behav.* 2016;30(2):252-262. doi:10.1037/adb0000160
91. Giordano S. Eating disorders and the media. *Curr Opin Psychiatry.* 2015;28(6):478-482. doi:10.1097/YCO.0000000000000201

92. Deering S. Eating disorders: Recognition, evaluation, and implications for obstetrician/gynecologists. *Prim Care Update Ob Gyns*. 2001;8(1):31-35. doi:10.1016/S1068-607X(00)00067-6
93. Morton N. *Eating Disorders: Prevalence, Risk Factors and Treatment Options*. Nova Science Publishers, Inc; 2016. <http://eds.b.ebscohost.com.lproxy.yeditepe.edu.tr/eds/ebookviewer/ebook/bmx1YmtfXzE0MDYzMDFFx0FO0?sid=30c2e83f-0e14-4473-acc3-f0f0c3d0b03c@sessionmgr103&vid=5&format=EB&rid=1>. Accessed May 15, 2020.
94. Culbert KM, Racine SE, Klump KL. Research Review: What we have learned about the causes of eating disorders - A synthesis of sociocultural, psychological, and biological research. *J Child Psychol Psychiatry Allied Discip*. 2015;56(11):1141-1164. doi:10.1111/jcpp.12441
95. American Psychiatric Association DSM-V classification. American Psychiatric Pub. <https://www.psychiatry.org/psychiatrists/practice/dsm>. Published 2013. Accessed May 15, 2020.
96. Janout V, Janoutová G. Eating disorders risk groups in the Czech Republic--cross-sectional epidemiologic pilot study. *Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub*. 2004;148(2):189-193. doi:10.5507/bp.2004.035
97. Wijbrand Hoek H, Hoeken van D. Review of the Prevalence and Incidence of Eating Disorders. *Wiley Intersci*. 2003:383-396. doi:10.1002/eat.10222
98. Södersten P, Bergh C, Zandian M. Understanding eating disorders. *Horm Behav*. 2006;50(4):572-578. doi:10.1016/j.yhbeh.2006.06.030
99. ANAD. Eating Disorder Statistics • National Association of Anorexia Nervosa and Associated Disorders. <https://anad.org/education-and-awareness/about-eating-disorders/eating-disorders-statistics/>. Published 2018. Accessed May 15, 2020.
100. Park M, Sun Y, McLaughlin ML. Social Media Propagation of Content Promoting Risky Health Behavior. *Cyberpsychology, Behav Soc Netw*. 2017;20(5):278-285. doi:10.1089/cyber.2016.0698

101. Syed-Abdul S, Fernandez-Luque L, Jian WS, et al. Misleading health-related information promoted through video-based social media: Anorexia on youtube. *J Med Internet Res.* 2013;15(2). doi:10.2196/jmir.2237
102. Oksanen A, Garcia D, Sirola A, et al. Pro-anorexia and anti-pro-anorexia videos on YouTube: Sentiment analysis of user responses. *J Med Internet Res.* 2015;17(11). doi:10.2196/jmir.5007
103. Blechert J, Nickert T, Caffier D, Tuschen-Caffier B. Social comparison and its relation to body dissatisfaction in bulimia nervosa: Evidence from eye movements. *Psychosom Med.* 2009;71(8):907-912. doi:10.1097/PSY.0b013e3181b4434d
104. Stefano SC, Bacaltchuk J, Blay SL, Hay P. Self-help treatments for disorders of recurrent binge eating: A systematic review. *Acta Psychiatr Scand.* 2006;113(6):452-459. doi:10.1111/j.1600-0447.2005.00735.x
105. O’Riordan SS, Zamboanga BL. Aspects of the media and their relevance to bulimic attitudes and tendencies among female college students. *Eat Behav.* 2008;9(2):247-250. doi:10.1016/j.eatbeh.2007.03.004
106. WHO. *Gender and Health Research.*; 2005.
107. Wonderlich SA, Gordon KH, Mitchell JE, Crosby RD, Engel SG. The validity and clinical utility of binge eating disorder. *Int J Eat Disord.* 2009;42(8):687-705. doi:10.1002/eat.20719
108. Dakanalis A, Carrà G, Calogero R, et al. The developmental effects of media-ideal internalization and self-objectification processes on adolescents’ negative body-feelings, dietary restraint, and binge eating. *Eur Child Adolesc Psychiatry.* 2015;24(8):997-1010. doi:10.1007/s00787-014-0649-1
109. Dunn TM, Bratman S. On orthorexia nervosa: A review of the literature and proposed diagnostic criteria. *Eat Behav.* 2016;21:11-17. doi:10.1016/j.eatbeh.2015.12.006
110. Koven NS, Wabry A. The clinical basis of orthorexia nervosa: Emerging perspectives. *Neuropsychiatr Dis Treat.* 2015;11:385-394. doi:10.2147/NDT.S61665

111. Varga M, Thege BK, Dukay-Szabó S, Túry F, van Furth EF. When eating healthy is not healthy: Orthorexia nervosa and its measurement with the ORTO-15 in Hungary. *BMC Psychiatry*. 2014;14(1). doi:10.1186/1471-244X-14-59
112. Turner PG, Lefevre CE. Instagram use is linked to increased symptoms of orthorexia nervosa. *Eat Weight Disord*. 2017;22(2):277-284. doi:10.1007/s40519-017-0364-2
113. Carrotte ER, Vella AM, Lim MSC. Predictors of “liking” three types of health and fitness-related content on social media: A cross-sectional study. *J Med Internet Res*. 2015;17(8). doi:10.2196/jmir.4803
114. Karaokçu T. Sosyal Medya Kullanan ve Kullanmayan Üniversite Öğrencilerinde Öz Saygı Düzeylerinin Belirlenmesi. 2018. doi:10.20961/ge.v4i1.19180
115. Mulder S. The Impact of Social Technology on the Development of Social. *Month*. 2010. www.hartman-group.com. Accessed May 16, 2020.
116. Holland G, Tiggemann M. “Strong beats skinny every time”: Disordered eating and compulsive exercise in women who post fitspiration on Instagram. *Int J Eat Disord*. 2017;50(1):76-79. doi:10.1002/eat.22559
117. Morrison TG, Kalin R, Morrison MA. Body-image evaluation and body-image investment among adolescents: A test of sociocultural and social comparison theories. *Adolescence*. 2004;39(155):571-592.
118. Pittman M, Reich B. Social media and loneliness: Why an Instagram picture may be worth more than a thousand Twitter words. *Comput Human Behav*. 2016;62:155-167. doi:10.1016/j.chb.2016.03.084
119. Fox S, Jones S. *The Social Life of Health Information, 2011 | Pew Research Center*.; 2009. <https://www.pewresearch.org/internet/2011/05/12/the-social-life-of-health-information-2011/>. Accessed May 17, 2020.
120. Tiggemann M, Slater A. NetGirls: The internet, facebook, and body image concern in adolescent girls. *Int J Eat Disord*. 2013;46(6):630-633. doi:10.1002/eat.22141

121. Smith AR, Hames JL, Joiner TE. Status Update: Maladaptive Facebook usage predicts increases in body dissatisfaction and bulimic symptoms. *J Affect Disord.* 2013;149(1-3):235-240. doi:10.1016/j.jad.2013.01.032
122. Mabe AG, Forney KJ, Keel PK. Do you “like” my photo? Facebook use maintains eating disorder risk. *Int J Eat Disord.* 2014;47(5):516-523. doi:10.1002/eat.22254
123. Walker M, Thornton L, De Choudhury M, et al. Facebook Use and Disordered Eating in College-Aged Women. *J Adolesc Heal.* 2015;57(2):157-163. doi:10.1016/j.jadohealth.2015.04.026
124. Vaterlaus JM, Patten E V, Roche C, Young JA. Getting healthy: The perceived influence of social media on young adult health behaviors. *Comput Human Behav.* 2015;45:151-157. doi:10.1016/j.chb.2014.12.013
125. Lup K, Trub L, Rosenthal L. Instagram #Instasad?: Exploring Associations Among Instagram Use, Depressive Symptoms, Negative Social Comparison, and Strangers Followed. *Cyberpsychology, Behav Soc Netw.* 2015;18(5):247-252. doi:10.1089/cyber.2014.0560
126. McCracken M, Jiles R, Blanck HM. Health behaviors of the young adult U.S. population: Behavioral Risk Factor Surveillance System, 2003. *Prev Chronic Dis.* 2007;4(2):1-15.
127. WHO/Europe | Nutrition - Body mass index - BMI. <http://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi>. Published 2020. Accessed March 26, 2020.
128. Demirci İ. The adaptation of the Bergen Social Media Addiction Scale to Turkish and the evaluation its relationships with depression and anxiety symptoms. *Anatol J Psychiatry.* 2019;20(0):1. doi:10.5455/apd.41585
129. Monacis L, de Palo V, Griffiths MD, Sinatra M. Social networking addiction, attachment style, and validation of the Italian version of the Bergen Social Media Addiction Scale. *J Behav Addict.* 2017;6(2):178-186. doi:10.1556/2006.6.2017.023

130. Lin C-Y, Broström A, Griffiths MD, Pakpour AH. Psychometric validation of the Persian Bergen Social Media Addiction Scale using classic test theory and Rasch models. 2017. doi:10.1556/2006.6.2017.071
131. Garner DM, Garfinkel PE. The Eating Attitudes Test: an index of the symptoms of anorexia nervosa. *Psychol Med.* 1979;9:273-279.
132. Savasir I, Erol N. Yeme tutum testi: anoreksia nervosa belirtiler indeksi. *Psikol Derg.* 1989;7(23):19-25.
133. Talwar P. Factorial Analysis of The Eating Attitude Test (EAT-40) among a group of Malaysian University Students. *Malaysian J Psychiatry.* 2011;20(2):1-10. <https://www.mjpsychiatry.org/index.php/mjp/article/view/157>.
134. Button EJ, Whitehouse A. Subclinical anorexia nervosa. *Psychol Med.* 1981;11(3):509-516. doi:10.1017/S003329170005282X
135. Widyanto L, McMurrin M. The psychometric properties of the internet addiction test. *Cyberpsychology Behav.* 2004;7(4):443-450. doi:10.1089/cpb.2004.7.443
136. Young K s. Internet Addiction: A New Clinical Phenomenon and Its Consequences. *Am Behav Sci.* 2004;48:402. doi:10.1177/0002764204270278
137. Pawlikowski M, Altstötter-Gleich C, Brand M. Validation and psychometric properties of a short version of Young's Internet Addiction Test. *Comput Human Behav.* 2013;29(3):1212-1223. doi:10.1016/j.chb.2012.10.014
138. Pwned by the Internet: Explorative research into the causes and consequences of compulsive internet use. [https://www.researchgate.net/publication/241860660\\_Pwned\\_by\\_the\\_Internet\\_Explorative\\_research\\_into\\_the\\_causes\\_and\\_consequences\\_of\\_compulsive\\_in\\_ternet\\_use](https://www.researchgate.net/publication/241860660_Pwned_by_the_Internet_Explorative_research_into_the_causes_and_consequences_of_compulsive_in_ternet_use). Accessed March 29, 2020.
139. Karasu F. Üniversite Öğrencilerinin İnternet Bağımlılığı İle Sosyal Destek Arasındaki İlişkinin İncelenmesi. *Sos Bilim Derg.* 2017;7(14):372-386. doi:10.31834/kilissbd.345142

140. Öğrencilerinin Sosyal Medya Bağımlılığının Farklı Değişkenler Açısından İncelenmesi Ü, Demir Y, Kumcağız H, Demir Fırat Üniversitesi Y, Fakültesi E, Mayıs Üniversitesi O. *Türk Psikolojik Danışma ve Rehberlik Dergisi Investigating the Effects of Several Variables on University Students' Social Media Addiction Hatice Kumcağız (Sorumlu Yazar)*. Vol 9.; 2019.
141. Alkan H, Doğan B. *A Research of The Relationship Between High School Students' Social Media Usage and Their Well-Being 1 ARTICLE IN FO ABSTRACT*.; 2018. www.ijere.com. Accessed May 23, 2020.
142. Tutgun-Ünal A. Sosyal Medya Bağımlılığı: Üniversite Öğrencileri Üzerine Bir Çalışma. 2015.
143. Kuss DJ, Griffiths MD. Online social networking and addiction-A review of the psychological literature. *Int J Environ Res Public Health*. 2011;8(9):3528-3552. doi:10.3390/ijerph8093528
144. Hardie E, Tee MY. Excessive Internet use: The role of personality, loneliness and social support networks in internet addiction. *Aust J Emerg Technol Soc*. 2007;5(1):34-47.
145. Cao F, Su L. Internet addiction among Chinese adolescents: Prevalence and psychological features. *Child Care Health Dev*. 2007;33(3):275-281. doi:10.1111/j.1365-2214.2006.00715.x
146. Siyez Müge D, Baş Uz A. Bir grup üniversite öğrencisinin anoreksik yeme tutumları ile aile yapısı arasındaki ilişki. *Yeni Symp Psikiyatr nöroloji ve davranış Bilim Derg*. 2009;47(1):19.
147. Ulaş B, Uncu F, Üner S. Sağlık Yüksekokulu Öğrencilerinde Olası Yeme Bozukluğu Sıklığı ve Etkileyen Faktörler ( Prevalence and Affecting Factors of Potential Easting Disorders Among Students of Health Higher Education). *İnönü Üniversitesi Sağlık Bilim Derg*. 2013;2(January 2013):15-22.
148. Kim Y, Park JY, Kim SB, Jung IK, Lim YS, Kim JH. The effects of Internet addiction on the lifestyle and dietary behavior of Korean adolescents. *Nutr Res Pract*. 2010;4(1):51-57. doi:10.4162/nrp.2010.4.1.51

149. Li M, Deng Y, Ren Y, Guo S, He X. Obesity status of middle school students in Xiangtan and its relationship with Internet addiction. *Obesity*. 2014;22(2):482-487. doi:10.1002/oby.20595
150. Arısoy Ö. *İnternet Bağımlılığı ve Tedavisi* -. Vol 1.; 2009. www.cappsy.org/archives/vol1/. Accessed May 23, 2020.
151. Oğur S, Aksoy A. Üniversite Öğrencilerinin Yeme Davranışı Bozukluğuna Yatkınlıkları: Bitlis Eren Üniversitesi Örneği. *Bitlis Eren Üniversitesi Fen Bilim Derg*. 2016;5(1):14-26. doi:10.17798/beufen.60370
152. İlhan MN, Özkan S, Aksakal N, Aslan S, Durukan E, Maral I. Bir tıp fakültesi öğrencilerinde olası yeme bozukluğu sıklığı [Prevalence of potential eating disorders among the students of a medical school]. *Türkiye’de Psikiyatr*. 2006;8(3):151-155.  
<https://trdizin.gov.tr/publication/paper/detail/TnpNNE16UTA=?> Accessed May 23, 2020.

## 8. APPENDIXES

### 8.1. Appendix 1 (Informed Consent Form)

#### **BİLGİLENDİRİLMİŞ GÖNÜLLÜ OLUR FORMU**

**ÇALIŞMANIN ADI:** Üniversite Öğrencilerinde Sosyal Medya Kullanımının Yeme Tutumu Üzerindeki Etkisinin İncelenmesi

Aşağıda bilgileri yer almakta olan bir araştırma çalışmasına katılmanız istenmektedir. Çalışmaya katılıp katılmama kararı tamamen size aittir. Katılmak isteyip istemediğinize karar vermeden önce araştırmanın neden yapıldığını, bilgilerinizin nasıl kullanılacağını, çalışmanın neleri içerdiğini, olası yararları ve risklerini ya da rahatsızlık verebilecek yönlerini anlamanız önemlidir. Lütfen aşağıdaki bilgileri dikkatlice okumak için zaman ayırınız. Eğer çalışmaya katılma kararı verirsiniz, **Çalışmaya Katılma Onayı Formu**'nu imzalayınız. Çalışmadan herhangi bir zamanda ayrılmakta özgürsünüz. Çalışmaya katıldığınız için size herhangi bir ödeme yapılmayacak ya da sizden herhangi bir maddi katkı/malzeme katkısı istenmeyecektir

#### **ÇALIŞMANIN KONUSU VE AMACI :**

- Bu araştırma ile Yeditepe Üniversitesi'nde öğrenim gören öğrencilerin sosyal medya kullanım sıklığının belirlenmesi ve sosyal medya kullanım alışkanlıklarının yeme tutumları üzerindeki etkilerinin araştırılması amaçlanmıştır.

#### **ÇALIŞMADA YER ALMAMIN YARARLARI NELERDİR?**

Araştırmadan elde edilecek bulgular doğrultusunda; öğrencilerin sosyal medya alışkanlıklarının yeme davranışları ile ilişkilendirilmesi dahilinde, üniversite öğrencilerinin sağlık açısından risk altında olup olmadıkları tespit edilecektir. Risk saptandığı takdirde gençlerin sosyal medyadan doğru bilgileri alması ve fiziksel aktivitelerinin artırılması hakkında bilinçlendirilmesi aktivitelerinin planlanması için bir ön ayak olacaktır. Farkında olmadan sosyal medyada uzun saatler geçirilmesi yaşamın bir parçası haline gelmiş ve normal kabul edilmeye başlanmıştır. Ancak aşırı sosyal medya kullanımının bireyler üzerindeki olumsuz etkilerinin sıklıkla vurgulanması bireylerde bu konuyla ilgili farkındalık oluşturulması açısından önemlidir.

#### **ÇALIŞMAYA KATILMALI MIYIM?**

Bu çalışmada yer alıp almamak tamamen size bağlıdır. Şu anda bu formu imzalarsanız bile istediğiniz herhangi bir zamanda bir neden göstermeksizin çalışmayı bırakmakta özgürsünüz.

#### **KİŞİSEL BİLGİLERİM NASIL KULLANILACAK?**

Çalışmayı yürüten araştırmacı kişisel bilgilerinizi, araştırmayı ve istatistiksel analizleri yürütmek için kullanacaktır ancak kimlik bilgileriniz gizli tutulacaktır. Yalnızca gereği halinde, sizinle ilgili bilgileri etik kurullar ya da resmi makamlar inceleyebilir. Çalışmanın sonunda, kendi sonuçlarımızla ilgili bilgi istemeye hakkınız vardır. Çalışma sonuçları çalışma bitiminde tıbbi literatürde yayınlanabilecektir ancak kimliğiniz açıklanmayacaktır.

#### **SORU VE PROBLEMLER İÇİN BASVURULACAK KİŞİLER :**

ADI : Melis KEKÜLLÜOĞLU

GÖREVİ : Yardımcı Araştırmacı

TELEFON : 05453077047

#### **ÇALIŞMAYA KATILMA ONAYI**

Yukarıdaki bilgileri ilgili araştırmacı ile ayrıntılı olarak tartıştım ve kendisi bütün sorularımı cevapladı. Bu bilgilendirilmiş olur belgesini okudum ve anladım. Bu araştırmaya katılmayı kabul ediyorum ve bu onay belgesini kendi hür irademle imzalıyorum. Bu onay, ilgili hiçbir kanun ve yönetmeliği geçersiz kılmaz. Araştırmacı, saklamam için bu belgenin bir kopyasını çalışma sırasında dikkat edeceğim noktaları da içerecek şekilde bana teslim etmiştir.

Gönüllü Adı Soyadı:		Tarih ve İmza:
Telefon:		

## 8.2. Appendix 2 (Scales)

### 1) DEMOGRAFİK BİLGİLER

1) Yaş: .....

Cinsiyet: .....

2) Öğrenim gördüğünüz bölüm: .....

3) Boy: ..... cm,

Kilo: ..... kg,

BKİ.....kg/m<sup>2</sup>

4) Nerede yaşıyorsunuz? 1. Ailemle birlikte evde 2. Yurtta 3. Arkadaşlarımla birlikte/yalnız öğrenci evinde

5) En sık kullandığınız sosyal medya platformu hangisidir

1.YouTube

2.Instagram

3.Facebook

4. Twitter

5.Diğer[.....]

6) Günde ortalama kaç saatinizi sosyal medya kullanarak geçiriyorsunuz .....saat

7) Sizce sosyal medya kullanımı yeme davranışınızı etkiliyor mu?

1. Evet 2. Hayır

8) Sosyal medya üzerinde görmüş olduğunuz görseller yeme seçimlerinizi etkiliyor mu?

1. Evet 2. Hayır

9) Sosyal medya üzerinden görmüş olduğunuz tarifleri uyguladınız mı?

1. Evet 2. Hayır

### 2) BESİN SEÇİMİ VE BESLENME ALIŞKANLIKLARI

1) Yiyeceklerinizi tercih ederken EN ÇOK nelere dikkat edersiniz?

( ) Pişirme yönteminin sağlıklı olup olmadığına

( ) Az yağlı olmasına

( ) Doyurucu olmasına

( ) Kolay hazırlanmasına

( ) Düşük kalorili olmasına

( ) Dengeli ve yeterli bir içeriğe sahip olmasına

( ) Ekonomik olmasına

( ) Katkı maddesi içermemesine

( ) Lezzetli olmasına

### 3) BERGEN SOSYAL MEDYA BAĞIMLILIĞI ÖLÇEĞİ

**AÇIKLAMA:** Son bir yılınızı düşünerek sosyal medya (Facebook, Instagram, Twitter, vb.) kullanımınız hakkındaki aşağıdaki durumları ne sıklıkla yaşadığınızı belirtiniz.

	<b>Oldukça Sık</b>	<b>Sıkça</b>	<b>Bazen</b>	<b>Nadir</b>	<b>Çok Nadir</b>
Sosyal medyayı düşünerek ya da sosyal medya kullanmayı planlayarak çok fazla zaman harcadınız mı?					
Sosyal medyayı giderek daha fazla kullanma arzusu hissettiniz mi?					
Sosyal medyayı kişisel sorunlarınızı unutmak için kullandınız mı?					
Sosyal medya kullanmayı bırakma denemeleriniz başarısızlıkla sonuçlandı mı?					
Sosyal medya kullanmanız yasaklansaydı rahatsız ve sıkıntılı olur muydunuz?					
Sosyal medyayı çok fazla kullanmanız işlerinizi/çalışmalarınızı olumsuz etkiledi mi?					

**4)YEME TUTUM TESTİ (YTT-40)****Skor:**

**AÇIKLAMA:** Aşağıda yeme tutumunuzu sorgulayan bazı sorular bulacaksınız. Her soruya sizi en iyi tanımlayan yanıtı işaretleyiniz.

	Daima	Çok sık	Sık sık	Bazen	Nadiren	Hiçbir Zaman
Başkalarıyla birlikte yemek yemekten hoşlanırım,						
Başkaları için yemek pişiririm, ama pişirdiğim yemeği yemem,						
Yemekten önce sıkıntılı olurum,						
Şişmanlamaktan ödüm kopar,						
Acıktığımda yemek yememeğe çalışırım,						
Aklım fikrim yemektir,						
Yemek yemeği durduramadığım zamanlar olur,						
Yiyeceğimi küçük küçük parçalara bölerim,						
Yediğim yiyeceğin kalorisini bilirim,						
Ekmek, patates, pirinç gibi yüksek kalorili yiyeceklerden kaçınırım,						
Yemeklerden sonra şişkinlik hissederim,						
Ailem fazla yememi bekler,						
Yemek yedikten sonra kusarım,						
Yemek yedikten sonra aşırı suçluluk duyarım,						
Tek düşüncem daha zayıf olmaktır,						
Aldığım kalorileri yakmak için yorulana dek egzersiz yaparım,						
Günde birkaç kere tartılırım,						
Vücudumu saran dar elbiselerden hoşlanırım,						
Et yemekten hoşlanırım,						
Sabahları erken uyanırım,						
Günlerce aynı yemeği yerim,						
Egzersiz yaptığımda harcadığım kalorileri hesaplarım,						
Adetlerim düzenlidir,						
Başkaları çok zayıf olduğumu düşünür,						
Şişmanlama (vücudumun yağ toplayacağı) düşüncesi zihnimi meşgul eder,						
Yemeklerimi yemek başkalarınınkinden daha uzun sürer,						
Lokantada yemek yemeyi severim,						
Müşhil kullanırım,						

	<b>Daima</b>	<b>Çok sık</b>	<b>Sık sık</b>	<b>Bazen</b>	<b>Nadiren</b>	<b>Hiçbir Zaman</b>
Şekerli yiyeceklerden kaçınırım,						
Diyet (perhiz) yemekleri yerim,						
Yaşamımı yiyeceğin kontrol ettiğini düşünürüm,						
Yiyecek konusunda kendimi denetleyebilirim,						
Yemek konusunda başkalarının bana baskı yaptığını hissedirim,						
Yiyeceklerle ilgili düşünceler çok zamanımı alır,						
Kabızlıktan yakınırım,						
Tatlı yedikten sonra rahatsız olurum,						
Perhiz yaparım,						
Midemin boş olmasından hoşlanırım,						
Şekerli, yağlı yiyecekleri denemekten hoşlanırım,						
Yemeklerden sonra içimden kusmak gelir,						

### 5) YOUNG İNTERNET BAĞIMLILIĞI TESTİ - KISA FORMU (YİBT-KF)

**AÇIKLAMA:** Lütfen aşağıdaki sorularda belirtilen durumları hangi sıklıkta yaşadığınızı belirtiniz. Lütfen her soru için sadece bir seçeneği işaretleyiniz ve hiçbir soruyu boş bırakmayınız.

	Hiçbir zaman	Nadiren	Bazen	Sıklıkla	Her zaman
1. Hangi sıklıkta planladığınızdan daha fazla internette kalırsınız?					
2. Hangi sıklıkta ailenizle ilgili işleri ihmal ederek internette daha fazla zaman harcarsınız?					
3. Okul veya ders ile ilgili çalışmalarınız hangi sıklıkta internette harcadığınız süre yüzünden zarar görmektedir?					
4. Birileri internette ne yaptığınızı sorduğunda hangi sıklıkta sır gibi saklar veya savunmaya geçersiniz?					
5. Birileri siz internette iken canınızı sıkarsa hangi sıklıkta onları tersler, onlara bağırır ve öfkeli davranırsınız?					
6. Hangi sıklıkta gece internette harcadığınız süre yüzünden uykusuz kalırsınız?					
7. İnternete bağlı değilken hangi sıklıkta internetle avunur veya internete bağlı olduğunuz hayalini kurarsınız?					
8. İnternette iken hangi sıklıkta kendinizi 'birkaç dakika daha' derken bulursunuz?					
9. Hangi sıklıkta internette harcadığınız zamanı azaltmak için uğraşırsınız ve başarısız olursunuz?					
10. Ne kadar süre internette olduğunuzu hangi sıklıkta saklamaya çalışırsınız?					
11. Hangi sıklıkta başkalarıyla dışarı çıkmak yerine internette daha fazla zaman harcamayı tercih edersiniz?					
12. İnternete bağlanamadığınızda hangi sıklıkta kendinizi bunalımda, karamsar ve sinirli hissedip, internete bağlandığınızda bu şikâyetlerinizin hemen geçtiğini görürsünüz?					

### 8.3. Appendix 3 (Permits About Thesis)

**T.C.**  
**YEDİTEPE ÜNİVERSİTESİ**  
**Sağlık Bilimleri Fakültesi**  
**Beslenme ve Diyetetik Bölümü**

**Bölüm Kurulu Kararları**

<b>Toplantı tarihi</b>	<b>Toplantı sayısı</b>	<b>Karar sayısı</b>
<b>09.04.2019</b>	<b>13</b>	<b>1</b>

09.04..2019 Salı günü Prof. Dr. B. Serdar ÖZTEZCAN, Dr. Öğr. Üyesi İrem KAYA CEBİOĞLU, Dr. Öğr. Üyesi Hülya DEMİR, Öğr. Gör. Gözde DUMLU BİLGİN'in katılımı ile yapılan bölüm kurulu toplantısında aşağıdaki kararlar alınmıştır.

Karar 1.

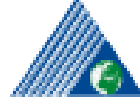
“Üniversite Öğrencilerinde Sosyal Medya Kullanımının Yeme Tutumu Üzerindeki Etkisinin İncelenmesi” konulu akademik çalışmanın Dr. Öğr. Üyesi İrem KAYA CEBİOĞLU mentörlüğünde Melis KEKÜLLÜOĞLU tarafından Sağlık Bilimleri Fakültesi Beslenme ve Diyetetik Bölümünde yürütülmesine ve protokolün incelenmesine, Etik kurulun onayına sunulmasına ilişkin Dekanlık Makamına arzına oy birliği ile karar verilmiştir.

Prof. Dr. B. Serdar ÖZTEZCAN  
Beslenme ve Diyetetik Bölüm Başkanı

Dr. Öğr. Üyesi İrem KAYA CEBİOĞLU  
Üye

Dr. Öğr. Üyesi Hülya DEMİR  
Üye

Öğr. Gör. Gözde DUMLU BİLGİN  
Üye



T.C. YEDİTEPE ÜNİVERSİTESİ

Sayı : 50532705-302.14.01-E.267  
Konu : Melis Keküllüoğlu Tez Çalışması Uygunluđu

### DAĐITIM YERLERİNE

İlgi : Sađlık Bilimleri Fakóltesi Dekanliđının 02.04.2019 tarihli ve 59759231-044-E.37 sayılı yazısı

Sađlık Bilimleri Fakóltesi Beslenme ve Diyetetik Bölümü lisansüstü bursiyer öđrenci Melis KEKÜLLÜOĐLU'nun Dr. Öđretim Üyesi İrem KAYA CEBİOĐLU danıřmanlıđında yürüteceđi "Üniversite Öđrencilerinde Sosyal Medya Kullanımının Yeme Tutumu Üzerindeki Etkisinin İncelenmesi" adlı tez çalışması için Yeditepe Üniversitesi lisans öđrencilerinden oluřan örneklem ile gönüllülük esasına dayalı olarak yürütölmesi Rektörlük tarafından uygun bulunmuřtur. Çalışmanın yürütölmesi için geređini bilgilerinize rica ederim.

Prof. Dr. Ahmet AYDIN  
Rektör Yardımcısı

DAĐITIM :  
Sađlık Bilimleri Fakóltesi  
Genel Sekreterlik

**NOT : BELGENİN ASLI ELEKTRONİK İMZALIDIR.**



Belge Takip Adresi: İstiklal Mah. Kayışdađı Cad. 326A 26 Ağustos Yerleđimi  
34733 Ataşehir - İstanbul  
Yeditepe Üniversitesi 26 Ağustos Yerleđimi, İstiklal Mahallesi Kayışdađı Caddesi 34733 Ataşehir / İstanbul  
T. +90 216 578 00 00 www.yeditepe.edu.tr F. +90 216 578 02 99

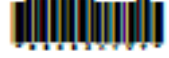
İlgi İçin: Meral DENİZLİ  
Telefon No: (0216) 578 00 00

## 2.5 Appendix 4 Ethics Committee Approval Certificate

Evrak Tarih ve Sayısı: 08/05/2019-3565



T.C.  
BEZMİALEM VAKIF ÜNİVERSİTESİ REKTÖRLÜĞÜ  
Girişimsel Olmayan Araştırmalar Etik Kurulu



Sayı : 34022451-050.05.04-  
Konu : Etik Kurul Kararı

Sayın Dr. Öğr. Üyesi İrem KAYA CEBİOĞLU

16.04.2019 tarihinde yapılan Girişimsel Olmayan Araştırmalar Etik Kurulu toplantısında "Üniversite Öğrencilerinde Sosyal Medya Kullanımının Yeme Tutumunu Üzerindeki Etkisinin İncelenmesi" başlıklı başvurunuz değerlendirilmiş olup karar yazısı ektedir.  
Bilgilerinize.

**e-İmzadır**  
Prof.Dr. İsmail MERAL  
Başkan

08/05/2019 Sek. V.

Bilgihan BAŞTUĞ

Mevcut Elektronik İmzalar

İsmail Moral - [Bilgi İçin Doğrulamak İçin : https://bys.bezmialem.edu.tr/en/Veriler/Dogrula/VEJAYU9](https://bys.bezmialem.edu.tr/en/Veriler/Dogrula/VEJAYU9)

Adres: Bezmialem Vakıf Üniversitesi Adnan Menderes Bulvarı (Vatan Caddesi) Fatih / İstanbul  
Telefon: 0 (212) 523 22 88 Faks: 0 (212) 533 23 26  
e-Posta: info@bezmialem.edu.tr Elektronik Ağ: www.bezmialem.edu.tr

Bilgi için: Bilgihan BAŞTUĞ (Etik Kurulu)  
Guzen POLAT (Vekâletiyile)  
Uzman: Sekreter



Bu belge 5070 sayılı Elektronik İmza Kanununun 5. Maddesi gereğince güvenli elektronik imza ile imzalanmıştır.

**BEZMİALEM VAKIF ÜNİVERSİTESİ GİRİŞİMSEL OLMAYAN KLİNİK ARAŞTIRMALAR ETİK KURULU (2011-KAEK-42)  
KARAR FORMU**

ARAŞTIRMANIN AÇIK ADI	Üniversite Öğrencilerinde Sosyal Medya Kullanımının Yeme Tutumu Üzerindeki Etkisinin İncelenmesi
-----------------------	--

16.04.2019

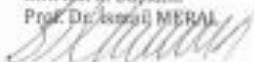
ETİK KURUL BİLGİLERİ	ETİK KURULUN ADI	Bezmialem Vakıf Üniversitesi Girişimsel Olmayan Araştırmalar Etik Kurulu
	AÇIK ADRESİ	Adnan Menderes Bulvarı Vatan Caddesi 34093 Fatih/İstanbul
	TELEFON	(0212) 533 22 88 - 3238
	FAKS	(0212) 533 23 26
	E-POSTA	egul@bvb.bezmialem.edu.tr

BAŞVURU BİLGİLERİ	KOORDİNATÖR/SORUMLU ARAŞTIRMACI UNVANI/ADU/SOYADI	Dr. Öğr. Üyesi İsmail KAYA-CEBİOĞLU			
	KOORDİNATÖR/SORUMLU ARAŞTIRMACININ UZMANLIK ALANI	Beslenme ve Diyetetik			
	ARAŞTIRMAYA KATILAN MERKEZLER	TEK MERKEZ <input checked="" type="checkbox"/>	ÇOK MERKEZLİ <input type="checkbox"/>	ULUSAL <input type="checkbox"/>	ULUSLARARASI <input type="checkbox"/>

DEĞERLENDİRİLEN BELGELER	Belge Adı	Tarih	Varsayın Numarası		
		ARAŞTIRMA PROTOKOLÜ	-	-	Gerekli Değil <input type="checkbox"/>
	BİLGİLENDİRİLMİŞ GÖNÜLLÜ OLUR FORMU	-	-	Gerekli Değil <input type="checkbox"/>	Var <input checked="" type="checkbox"/>
KARAR BİLGİLERİ	Karar No:08/049	Tarih: 16.04.2019			
	YÜRÜRLÜĞÜNDE Dr. Öğr. Üyesi İsmail KAYA-CEBİOĞLU'nun yaptığı "Üniversite Öğrencilerinde Sosyal Medya Kullanımının Yeme Tutumu Üzerindeki Etkisinin İncelenmesi" Girişimsel Olmayan Araştırmalar Etik Kurulu tarafından değerlendirilmiş ve etik açıdan uygun bulunmuştur.				

Sayfa 1 / 2

Etik Kurul Başkanı  
Prof. Dr. İsmail MEBAL



**BEZMİALEM VAKIF ÜNİVERSİTESİ GİRİŞİMSSEL OLMAYAN KLİNİK ARAŞTIRMALAR ETİK KURULU (2011-KAEK-42)  
KARAR FORMU**

ARAŞTIRMANIN AÇIK ADI	Üniversite Öğrencilerinde Sosyal Medya Kullanımının Yeterli Tutarı Üzerindeki Etkisinin İncelenmesi
-----------------------	---

<b>BEZMİALEM VAKIF ÜNİVERSİTESİ GİRİŞİMSSEL OLMAYAN ARAŞTIRMALAR ETİK KURULU</b>	
ETİK KURULUN ÇALIŞMA ESASI	İlaç ve Biyolojik Ürünlerin Klinik Araştırmaları Hakkında Yönetmelik, İyi Klinik Uygulamalar Kılavuzu
BAŞKANIN UNVANI / ADI / SOYADI:	Prof. Dr. İsmail MERAL

Unvanı/Adı/Soyadı	Uzmanlık Alanı	Kurumu	Araştırma ile ilgili		Katkılar *		İmza
			E	H	E	H	
Prof. Dr. İsmail MERAL	Fizyoloji	Bezmialem Vakıf Üniversitesi Tıp Fakültesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Prof. Dr. Ömer SOYSAL	Göğüs Cerrahisi	Bezmialem Vakıf Üniversitesi Tıp Fakültesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Prof. Dr. Nuran YILDIRIM	Tıp Tarihi ve Etik	Bezmialem Vakıf Üniversitesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Prof. Dr. Tüekinzat AŞTI	Hemşirelik Bölümü	Bezmialem Vakıf Üniversitesi Sağlık Bilimleri Fakültesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Prof. Dr. Semra ÖZÇELİK	Tıp Eğitimi ve Bilişimi	Bezmialem Vakıf Üniversitesi Tıp Fakültesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Prof. Dr. Tecmen AYDIN	Fiziksel Tıp ve Rehabilitasyon	Bezmialem Vakıf Üniversitesi Tıp Fakültesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Doç. Dr. Fahri AKBAS	Tabii Biyoloji	Bezmialem Vakıf Üniversitesi Tıp Fakültesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Doç. Dr. Binur AYDOĞAN TEMEL	Eczacılık	Bezmialem Vakıf Üniversitesi Eczacılık Fakültesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Doç. Dr. Aclan ÖZDER	Aile Hekimliği	Bezmialem Vakıf Üniversitesi Tıp Fakültesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Doç. Dr. Nazmiye DÖNMEZ	Restoratif Diş Tedavisi	Bezmialem Vakıf Üniversitesi Diş Hekimliği Fakültesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Doç. Dr. Nur BÜYÜKPINARBASILI	Tıbbi Patoloji	Bezmialem Vakıf Üniversitesi Tıp Fakültesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Av. Mustafa Fırat ALKAYA	Hukuk	Bezmialem Vakıf Üniversitesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Eda BAYRAKTAR	Sivil Üye	Bezmialem Vakıf Üniversitesi	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

\* : Toplantıda Bulunmuş

**Karar:**  Onaylandı  Reddedildi

Sayfa 2 / 2

Etik Kurulu Başkanı

Prof. Dr. İsmail MERAL

## 8.5. Appendix 5 Curriculum Vitae

### Personal Information

<b>Name</b>	Melis	<b>Surname</b>	Keküllüoğlu
<b>Place of Birth</b>	Niğde	<b>Date of Birth</b>	03.10.1993
<b>Nationality</b>	T.C.	<b>Telephone</b>	5453077047
<b>E-mail</b>	melis.kekulluoglu@yeditepe.edu.tr		

### Education Status

<b>Degree</b>	<b>Department</b>	<b>Name of the School</b>	<b>Year of Graduation</b>
<b>Postgraduate</b>	Department of Nutrition and Dietetics	Yeditepe University	2015-Now
<b>Undergraduate</b>	Department of Food Engineering	Abant İzzet Baysal University	2011-2015
<b>High School</b>		Bilecik Anatolian High School	2011-2008

<b>Foreign Languages</b>	<b>Language Scores</b>
<b>English (YÖKDİL)</b>	73,75
<b>English (YDS)</b>	65,00

### Computer Knowledge

<b>Program</b>	<b>Usage</b>
<b>Microsoft Office</b>	Very good
<b>AutoCAD</b>	Moderate
<b>SPSS</b>	Moderate

### Others (Projects / Certificates / Awards)

<b>Tübitak - 2209-A University Students Domestic Research Projects Support Program-(Process of Shalgam Water with Pulse Electric Current).</b>	Project Leader
--	----------------