T.C.
YEDİTEPE UNIVERSITY
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INVESTIGATION OF MINDFUL EATING ON HEALTHY NUTRITION AND BODY MASS INDEX IN WOMEN AGED 18-65 YEARS WHO APPLIED TO A PRIVATE CLINIC IN LEVENT

MASTER THESIS

DAMLA TÜRKAY

Istanbul, 2023

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APPROVAL

This thesis has been deemed by the jury in accordance with the relevant articles of Yeditepe University Graduate Education and Examinations Regulation and has been approved by Administrative Board of Institute with decision dated 30th of January 2023.

Prof. Dr. Bayram YILMAZ

Director of Institute of Health Sciences

DECLARATION

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

10.12.2022

DAMLA TÜRKAY

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ABBREVIATIONS

ANOVA	Analysis of Variance
ALA	Alpha-Linolenic Acid
ASHN	Attitude Scale for Healthy Nutrition
BMI	Body Mass Index
BN	Bad Nutrition
CINAHL	Cumulated Index to Nursing and Allied Health Literature
CONT	Control Group
CRP	C-reactive Protein
DHA	Docosahexaenoic Acid
EAT-26	Eating Attitudes Test-26
EMBASE	Excerpta Medica Database
EPA	Eicosapentaenoic Acid
ETN	Emotion Towards Nutrition
GI	Glycemic Index
IE	Intuitive Eating
IL-6	Interleukin-6
KON	Knowledge on Nutrition
LA	Linoleic Acid
MBI	Mindful Based Interventions
MBHP	Mindfulness-Based Health Promotion
MBSR	Mindful Eating, Mindfulness-Based Stress Reduction
MB-EAT	Mindfulness-Based Eating Awareness Training
ME	mindful eating
MEAL	Mindful Eating And Living
MEQ	Mindful Eating Questionnaire
MM	Mindfulness Meditation
NCSS	Number Cruncher Statistical System
OATD	Open Access Theses and Dissertations
PN	Positive Nutrition
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
SBWP	Standard Behavioral Weight Loss Programs
TAU	Treatment As Usual

WC	Waist Circumference
WHO	World Health Organization
WHR	Waist-Hip Ratio

ABSTACT

Türkay, D. (2022). Investigation of Mindful Eating on Healthy Nutrition and Body Mass Index in Women Aged 18-65 Years Who Applied to a Private Clinic in Levent. Yeditepe University, Institute of Health Sciences, Department of Nutrition and Dietetics, MSc Thesis, Istanbul.

Nowadays, many weight loss methods have developed in addition to the classic calorie-restrictive diets. Classical weight loss methods are not always very effective in terms of permanent weight loss. Obesity is a serious health problem that continues to increase and brings many chronic diseases along with it. The relationship between eating behavior and weight gain and obesity has been investigated for a long time. Calorie-restrictive treatments used in the therapy of obesity cannot be sustainable in the long term. Therefore, different interventions are needed in addition to calorie-restrictive practices. Mindfulness is currently being discussed as a permanent and effective weight loss method. Research on the use of mindfulness in addition to traditional calorie-restricting weight loss procedures is showing positive results. Mindfulness is defined as "awareness that arises in the present moment, non-judgmentally, by paying attention". When "Mindfulness" is reflected in eating behaviors, it is defined as "Eating with Consciousness or "Mindful Eating". Although mindfulness practices are used for many health conditions, it plays an important role in eating disorders and weight management, especially by providing portion control within the scope of mindful eating.

In this cross-sectional study, it is objected to interpret the correlation between mindful eating behavior, healthy eating habits and body mass index (BMI). This research was conducted among female individuals between the ages of 18-65 who applied to a private clinic in Levent. One hundred ninety woman have participated in the study. (51.6% (n=98) 18-30 years old, 12.6% (n=24) 31-40 years old, 18.9% (n=36) 41-50 years old and 16.8% (n=32) 51-65 years old). An online questionnaire (which includes Attitude Scale for Healthy Nutrition (ASHN), Mindful Eating Questionnaire (MEQ) and Sociodemographic data form) was applied to compare the healthy nutritional habits and the mindful eating patterns of the individuals participating in the study and to determine sociodemographic information such as age, weight, height, education level, income status. According to the data obtained from the study, there was a statistically significant negative correlation between BMI and total mindful eating scores ($p<0.05$). A

statistically significant moderate correlation was found between the total score of the Attitude Scale for Healthy Nutrition (ASHN) and the total score of Mindful Eating Questionnaire (MEQ) (Mindful Eating Questionnaire scores increase as the Healthy Eating Attitude Scale score increases) (r=0.381; p=0.001; p<0, 01).

Keywords: Nutrition, Mindfulness, Mindful Eating, Obesity, Body Mass Index.

TÜRKÇE ÖZET

Türkay, D. (2022). Levent'te Özel Bir Kliniğe Başvuran 18-65 Yaş Arası Kadınlarda Yeme Farkındalığının Sağlıklı Beslenme ve Beden Kütle İndeksi Üzerine İncelenmesi. Yeditepe Üniversitesi Sağlık Bilimleri Enstitüsü Beslenme ve Diyetetik Anabilim Dalı Yüksek Lisans Tezi, İstanbul.

Günümüzde klasik kalori kısıtlayıcı diyetlere ek olarak birçok kilo verme yöntemi geliştirilmiştir. Klasik kilo verme yöntemleri kalıcı kilo verme konusunda her zaman çok etkili olmamaktadır. Obezite artarak devam eden ve birçok kronik hastalığı beraberinde getiren ciddi bir sağlık sorunudur. Yeme davranışı ile kilo alımı ve obezite arasındaki ilişki uzun süredir araştırılmaktadır. Obezite tedavisinde kullanılan kalori kısıtlayıcı tedaviler uzun vadede sürdürülebilir olamamaktadır. Bu nedenle kalori kısıtlayıcı uygulamalara ek olarak farklı müdahalelere ihtiyaç vardır. Mindfulness şu sıralar kalıcı ve etkili bir kilo verme yöntemi olarak tartışılmaktadır. Geleneksel kalori kısıtlayıcı kilo verme prosedürlerine ek olarak bilinçli farkındalığın kullanımına ilişkin araştırmalar olumlu sonuçlar vermektedir. Bilinçli farkındalık, "şimdiki anda, yargılamadan, dikkat vererek ortaya çıkan farkındalık" olarak tanımlanmıştır. "Bilinçli Farkındalık" yeme davranışlarına yansıdığında ise "Bilinçli Yeme" ya da "Yeme Farkındalığı" olarak tanımlanmaktadır. Bilinçli farkındalık uygulamaları birçok sağlık durumu için kullanılsa da özellikle yeme farkındalığı kapsamında porsiyon kontrolü sağlayarak yeme bozuklukları ve kilo yönetiminde önemli rol oynamaktadır.

Bu kesitsel çalışmada bilinçli yeme davranışı, sağlıklı beslenme alışkanlıkları ve beden kütle indeksi (BKİ) arasındaki ilişkinin yorumlanması amaçlanmaktadır. Bu araştırma, Levent'te özel bir kliniğe başvuran 18-65 yaş arası kadın bireyler arasında yapılmıştır. Araştırmaya yüz doksan kadın katılmıştır. (%51,6 (n=98) 18-30 yaş, %12,6 (n=24) 31-40 yaş, %18,9 (n=36) 41-50 yaş ve % 16,8 (n=32) 51-65 yaş). Araştırmaya katılan bireylerin sağlıklı beslenme alışkanlıklarını ve bilinçli yeme örüntülerini karşılaştırmak ve sosyodemografik özelliklerini belirlemek için (Sağlıklı Beslenmeye ilişkin Tutum Ölçeği (SBİTÖ), Yeme Farkındalığı Ölçeği (YFÖ-30) ve Sosyodemografik veri formunu (Yaş, kilo, boy, eğitim düzeyi, gelir durumu gibi bilgiler içeren) çevrimiçi bir anket uygulanmıştır. Çalışmadan elde edilen verilere göre, BKİ ile toplam yeme farkındalığı puanları arasında istatistiksel olarak anlamlı bir negatif korelasyon

bulunmuştur ($p<0,05$). SBİTÖ toplam puanı ile YFÖ-30 toplam puanı arasında istatistiksel olarak anlamlı orta düzeyde bir korelasyon bulunmuştur.

Anahtar Kelimeler: Beslenme, Bilinçli Farkındalık, Yeme Farkındalığı , Obezite, Beden Kütle İndeksi.

1. INTRODUCTION AND PURPOSE

1.1 Definition and Importance of the Problem

Nutrition is a behavior that should be done consciously in order to take the nutrients needed by the body in sufficient quantities and at appropriate times in order to protect and develop health and improve the quality of life. Adequate and balanced nutrition; helps to reduce the risk of chronic diseases, to prevent protein-energy malnutrition, to prevent vitamin-mineral deficiencies and to minimize nutrition-related health problems (1). Nutrition is emotionally and psychologically satisfying and pleasurable action for human beings, and it must be done consciously to contribute to health. In order to protect and maintain health, food choices must be done in conscious, because excessive or insufficient nutrition, unbalanced food intake cause many diseases such as obesity, diabetes, cardiovascular diseases and cancer (2).

Obesity is an important public health problem on a global scale. It is increasing day by day in both developed and developing countries (3). According to 2021 data, the obesity rate in Turkey is 32.10% (4). Obesity is a serious medical condition because it is linked with poorer mental health consequences and low quality of life (5). Problematic eating behaviours such as binge and emotional eating, have been associated with obesity (6). Psychological characteristics of the person, including emotional and cognitive factors, can affect eating habits and weight control. This can be seen not only in overweight and obese individuals, but also in individuals with ideal body weight. Cognitive restriction can negatively affect an individual's eating behavior and body weight. When people cannot cope with daily stress and follow various diet programs for a while, wrong eating habits may occur (7).

The main purpose of obesity treatment is to protect health by normalizing the feeling of hunger and satiety. In addition to standard treatment methods such as limiting energy intake, increasing physical activity, and lifestyle changes; behavioral therapy, mindfulness studies and increasing mindful eating are alternative methods applied in recent years.

“Mindless eating” is connected to enhance in food intake across the last several decades. Mindless eating happens when the act of eating is not consciously followed; termination of eating relies on striking external environmental food cues rather than internal cues that signal satiety. Large bowls, eating with too many people, watching TV while eating are other causes of mindless eating. These factors may come up with weight gain across time (8). On the other hand, mindful eating is a way of eating that focuses on the food that will be consumed at that moment without being affected by environmental factors and judging food choices, by realizing how and why eating behavior occurs rather than what is eaten, internalizing the concept of physical hunger and being aware of the effects of emotions and thoughts. In mindful eating, the focal issue is one's full awareness of eating, including the taste and texture of the food. Mindful eating can generally slow down the eating rate, reduce food cravings, help to control weight, and thus play an active role in maintaining body weight control (7).

The basis of the concept of mindful eating comes from the term mindfulness. Kabat-Zinn expressed the concept of 'mindfulness' as 'an awareness that involves consciously paying attention to the present moment' (9). Accoring to Kabat-Zinn; functional definition of mindfulness is: “the awareness that appears through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment.” (10).

Instead of traditional and calorie-restricting diets, mindful eating training plays a more active role in weight control and weight maintenance (11). Moreover, the calorie restriction can cause binge eating behavior in some people (12).

1.2. Purpose of the Research

In this study, it is objected to interpret the correlation between mindful eating behavior, healthy eating habits and body mass index (BMI). This research was conducted among the female individuals between the ages of 18-65 who applied to a private clinic in Levent. This is a cross-sectional study.

In today's world, where obesity and being overweight have increased considerably, it is understood that calorie-restricted diets that are applied for a certain period of time and that do not focus on changing the lifestyle do not work anymore. Although excess weight is lost for a certain period, its permanence is controversial. For

this reason, alternative methods to lose weight and eat healthy are being thought. One of these methods can be mindful eating. As it provides mindfulness of nutritional feelings and habits without being judged, mindful eating is considered to ensure a constant solution in the cure of obesity and overweight.

1.3. Hypotheses of the Research

H0: There is a significant relationship between having mindful eating behaviours and healthy eating attitudes. Individuals who eat mindfully have healthy eating attitudes.

H1: There is a significant relationship between having mindful eating behaviours and being in normal BMI ranges. BMI values of individuals who eat mindfully are in the normal range.

H2: There is a significant relationship between healthy eating attitudes and being in the normal BMI range. BMI values of individuals with healthy eating attitudes are normal.

2. GENERAL INFORMATION:

2.1 Nutrition

According to WHO, “nutrition is a critical part of health and development. Improved infant, child and maternal health, stronger immune systems, safer pregnancy and childbirth, lower risk of non-communicable diseases (such as diabetes and cardiovascular disease), and longevity are connected with better nutrition.” Malnutrition, in every way, produces important dangers to human health. Today the world, especially in low- and middle-income countries faces a double burden of malnutrition that includes both undernutrition and overweight (13).

Adequate and balanced nutrition is the basis of health. Nutrition is not to suppress the feeling of hunger, to fill the stomach or to eat what you want. Turkey Republic General Directorate of Public Health says that “nutrition; it is a behavior that should be done consciously in order to take the nutrients needed by the body in sufficient quantities and at the appropriate times in order to protect and develop health and improve the quality of life.” When nutrients cannot be taken at the level that the body needs, malnutrition occurs (14).

Definition of nutrition according to Turkey Nutrition Guide; “nutrition is the use of nutrients in the body by consuming nutrients that provide bioactive components and nutrients necessary for the maintenance of life, growth and development, improvement, protection and development of health, improvement of life quality and productivity.” “Nutrition” is not just the consumption of food. “Nutrition also includes taking pleasure while eating, socializing, and activities performed according to traditions and customs. Food variety is the foundation of a healthy diet (15).

2.1.1. Healthy Nutrients Elements

Macronutrients

Foods are plant and animal tissues that are edible in the daily diet and contain essential nutrients for life when they are eaten. Foods contain nutrients that are necessary for the body. Food consists of building blocks called “nutrients”. Macronutrients are the name given to those that are taken in large amounts by the daily diet in the body. Although their functions are very important, those that are needed and

taken in small amounts are called "micronutrients". Carbohydrates, fats and proteins are macronutrients. Vitamins and minerals are micronutrients. Water is essential for life and is considered as a nutrient.

Energy is provided by macronutrients for the functioning of body organs and maintaining a normal temperature. Carbohydrates, which are macronutrients, are the main energy source and 1 gram provides 4 kcal of energy. 1 gram of fat provides 9 kcal of energy. It is the nutrient that gives the highest energy among the macronutrients. Proteins form the building blocks of the body and are used in the last step for energy. 1 g of protein provides 4 kcal of energy.

Carbohydrates

Carbohydrates are the most economical and fastest source of energy for the body. In emergency situations, it regulates blood sugar and meets energy needs. Simple carbohydrates contains only one and at most two molecules of sugar. Single-molecule sugars are glucose, fructose (fruit sugar), and galactose (milk sugar). Those containing two molecules of sugars are sucrose (table sugar), lactose (milk and its products), and maltose (some vegetables and malt).

Complex carbohydrates contain starch and dietary fiber. Starch is found in many plant foods. Cereals (wheat, rye, oats, rice, barley and millet), legumes (dried beans, lentils, chickpeas) and root vegetables (potatoes) contain starch. Vegetables and fruits, whole grains and legumes contain fiber. It is recommended that 45-60% of the daily dietary energy comes from carbohydrates (15).

Simple carbohdydrates such as glucose or fructose are rapidly absorbed from the gastrointestinal tract. Intake of simple carbohydrates raises blood glucose levels quickly. The glucose that passes into the blood after being digested in the intestines is taken from the blood by the hormone insulin and transmitted to the target tissues. If carbohydrates are taken more than necessary, the excess carbohydrates are converted into fat. This conversion can raise the blood fat concentration and cause heart disease (16).

Glycemic Index is a feature of the food, a sign or percentage showing a standard of carbohydrate foods. High GI (glycemic index) foods are rapidly digested, absorbed

and metabolized. In contrast, those that are slowly broken down, absorbed and metabolized are considered low GI foods (17).

Simple carbohydrates pass through the intestinal tract quickly and are digested rapidly. They mix with the blood stream faster and release insulin hormone quickly. For this reason, their glycemic index, (that is their potential to increase blood sugar) is high. Healthy carbohydrates are generally those with a low glycemic index. Examples of healthy carbohydrates include legumes, whole grain bread, whole grain rice, whole grain pasta, vegetables and fruits (18).

Proteins

An average of 16% of the adult human body is composed of protein. The amount of protein storage in the body is very little, the largest part of it consists of cells that work and perform specific duties (15).

Proteins are broken down into amino acids in the digestive tract, which forms the building blocks. The human body is needed 20 amino acids. 9 are called “essential” (isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, valine and histidine). They must be acquired from dietary proteins because the body can not synthesize them itself. “Biologically complete” proteins include all the essential amino acids in quantities matching with the human needs (19).

The aminoacids are transported through the blood to the liver and other tissues and organs. They combine again in a certain order and take place in tissue and organ structures. Some of them are stored in the spare amino acid pool in the liver. Proteins are used for growth and development and regeneration of cells in tissues and organs. They are also essential elements for hormones and enzymes involved in the regulation of the immune system and processes in the body. It is recommended that 10-20% of the energy in the daily diet comes from proteins (15).

Proteins are broadly spread in nature. Animal foods such as egg, meat, poultry, fish, milk, yogurt and cheese imply high-grade protein. Moreover, plants are also considerable source of proteins. It is a complete protein, equal in quality to most animal protein (19).

Fats

Fats occur 15-20% of the adult human organism on average. The body fat rate in men and women is 25% and 15%, respectively. The building blocks of fats are fatty acids. Fats are absorbed by breaking down into fatty acids in the digestive tract. Some of the broken down fats are used for energy, while some are used for storage. Some are also used in the production of certain hormones and cholesterol, which are effective in the regular functioning of the body. If the energy is taken daily from foods is more than the energy is spent daily, the fat rate in our body increases. Body fat is the main energy store and this store is used up when not enough energy is taken. Subcutaneous fat regulates body temperature. Fat-soluble (soluble) vitamins and some chemical structures that are important for the body are taken or transported with fat.

It is recommended that 20-35% of daily dietary energy comes from fats and trans fatty acid intake should be less than 1% of energy. 10% of the energy from total fat comes from saturated fats (fat found in animal foods), 12-15% from monounsaturated fats (olive oil, hazelnut oil) and 7-10% should come from polyunsaturated fats (corn, soybean, sunflower containing n-6 fatty acids and fish, fish oil, walnut, flaxseed containing n-3 fatty acids). In total fat intake, 4% of the energy should be provided from omega-6 (LA: linoleic acid) and 0.5% omega-3 (ALA: alpha linolenic acid) fatty acids. Daily EPA + DHA intake is recommended as 250 mg per day for adults. Sources of healthy fats include olive oil, fish oil, ghee, eggs and avocado (15).

Micronutrients

Vitamins and trace elements (minerals) classify as the micronutrients that have usually been identified as essential dietary components. Vitamins are divided into two groups. The fat-soluble vitamins (vitamins A, D, E, and K), and the water-soluble vitamins. The biochemical role of water soluble vitamins (B group and C) is to function as coenzyme precursors in metabolic actions. The trace elements behave as cofactors for some antioxidant enzymes (20).

Some B group vitamins and vitamin C are involved in energy metabolism, blood production and immune system in the body. Vitamin D is necessary for bone formation. Vitamins A, E and C prevent damage to body cells and reduce the effects of some

harmful substances (as antioxidants). Folic acid, vitamins B6, B12 and C are involved in blood formation.

An average of 6% of the adult human body consists of minerals. Minerals such as calcium, phosphorus and magnesium are included in the skeleton and tooth structure. Minerals such as iron and cobalt are important for blood formation and zinc is important for the immune system (15).

2.2. Body Mass Index

Nowadays, obesity is an extremely common disease. A simple calculation is required to diagnose obesity or to understand the link between height and weight. The number that shows the relationship between height and weight is called “Body Mass Index” (BMI) (21).

BMI is calculated by person’s weight in kilograms divided by the square of height in meters. BMI does not identify the body fatness or health of an individual. It only shows weight categories that may cause to health problems.

If your BMI is less than 18.5, it shows the underweight range.

If your BMI is 18.5 to <25, shows the healthy weight range.

If your BMI is 25.0 to <30, it shows the overweight range.

If your BMI is 30.0 or higher, it shows the obesity range.

Obesity is frequently subdivided into categories:

Class 1: BMI of 30 to < 35

Class 2: BMI of 35 to < 40

Class 3: BMI of 40 or higher. Class 3 obesity is sometimes categorized as “severe” obesity (21).

2.3. Mindfulness

Although mindfulness has attracted the attention of many researchers, especially in the western world, in recent years, it has a history of approximately 2500 years in the

land of its birth. The origin of the concept is the word "Sati", which derives from the Pali language adopted by the Buddha's teachings, and this concept corresponds to the word memory (22).

The term “mindfulness” is used to refer to a number of different practices. However, mindfulness has been conceptualized in different ways. While mindful eating was previously a subset of mindfulness, it has been seen to have distinguishable features. Kabat-Zinn defines mindfulness as “awareness that arises in the present moment, non-judgmentally, by paying attention”. This definition encompasses two main ideas: paying attention to current experience and also taking a non-judgmental stance on that experience (23). According to Bishop and Shapiro, mindfulness is often identified as a feeling of being fully present and alive in the moment. Attentional skills are constantly required to maintain awareness of existing experience. It is emphasized that paying attention to present experience requires attention regulation as stated by Bishop and Shapiro (24).

The word mindfulness can be used to describe 3 main elements:
1. A theoretical structure (awareness, mindfulness),
2. Practice mindfulness (like meditation)
3. A psychological process (being mindful)

The main definition of mindfulness is “moment-by-moment awareness”. The other definitions include “keeping one’s consciousness alive to the present reality”. Mindful moments contain the following items:

Nonconceptual. Mindfulness is awareness without assimilation in our thought processes.

Nonverbal. The practice of mindfulness cannot be understood in words, because awareness occurs before words appear in the mind.

Exploratory. Mindful awareness is always looking into delicate levels of perception.

Present-focused. Mindfulness is in the present moment on all occagriions. Ideas about our experience are one step far from the present moment.

Participant observation. Mindfulness is experiencing the mind and body more intimately.

Nonjudgmental. Awareness cannot happen freely if we would like our experience to be other than it is.

Intentional. Mindfulness always covers an intention to direct attention somewhere. Taking back attention to the present moment gives mindfulness permanency over time.

Liberating. Every moment of mindful awareness ensures freedom from conditioned agony (25).

2.3.1 Mindfulness Skills

Developing mindfulness skills includes at least 3 basic skills.
These are;

Focused Attention (or Concentration)

The concept of concentration described here is different from concentrating on a conceptual or creative task. It is not about focused application of analytical or artistic skills or thinking about a problem; rather, it has to do with an attentive open interest in the experiences that arise in consciousness and take place moment by moment.
Non-judgmental observation occurs when focused attention and concentration develops (26).

Non-Judgmental Observation

Nonjudgmental observation can be helpful to see how the mind creates the feeling of pain as it resists various sensory experiences and the thoughts and images that arise. Another benefit of developing the skill of non-judgmental observation is that it increases our ability to appreciate the richness of the present moment (26).

While the individual is busy with the sensory experience part of the meditation, the capacity to enjoy the experiences increases for the rest of the day. By enriching his daily life in depth, he tends to experience the senses of taste, touch, sight, feeling and smell more vividly (26).

Compassionate Acceptance

Concentration and mindfulness go together to build attention and awareness. But during the course of these practices, people often become overwhelmed by the intensity of what is revealed or tend to criticize themselves. At such times there is a greater need for acceptance. Loving kindness, self-compassion, and serenity techniques can be

helpful in these situations to calm the individual and increase their strength to endure any experience (26).

It can also be helpful to think of and use these 3 core skills as different ways of reinforcing the 3 components of mindfulness practices (consciously accepting present moment experiences). Concentration practices help to stay connected to the present moment; non-judgmental observation allows to broaden and deepen awareness of what is happening in the moment, while the practices of loving kindness and compassion enable us to welcome whatever is emerging in consciousness (26).

In most of the nutrition programs applied in the treatment of obesity, weight loss is targeted by calorie restriction. Generally, within one year after weight loss, about half of the lost weight is regained, and in general, 80% of individuals return to their initial weight within three to five years, or even exceed their initial weight. Failure to continue the success of calorie-restricted diet treatments for a long time may cause overeating or stressful behaviors in some people. In this respect, different interventions that can be alternatives to traditional weight loss and restrictive nutrition programs are needed (27). It is thought that the concept of mindful eating can provide a permanent solution in the treatment of obesity, as it allows to be aware of the emotions and habits related to nutrition without judgment (28).

2.4 Mindful Eating

When “Mindfulness” is reflected in eating behaviors, it is defined as “Eating with Consciousness” or “Mindful Eating”. Although mindfulness practices are used for many health conditions, it plays an important role in eating disorders and weight management, especially by providing portion control within the scope of mindful eating (9).

Although limited studies have researched the relationship between mindfulness, eating behaviours and weight-status among non-clinical populations, building up mindfulness is a tactic that have been implemented successfully to cure of eating disorders. Early findings from cross-sectional studies propose that mindfulness, and the psychological and behavioral processes it eases, may positively affect eating behaviours connected to energy consumption (29).

Mindful eating is paying attention to the food, purposely, moment by moment, without judgment. It is an approach to food that focuses on individuals emotional awareness of the food and their practice of the food. It has nothing to do with calories, carbohydrates, fat or protein. Although it is very likely that those who internalize mindful eating manner will lose weight, the aim of mindful eating is not to lose weight. The target is to aid individuals enjoy the moment and the food and support their complete presence for the eating experience (30).

2.4.1 Practicing Mindful Eating

Get a raisin (or another textured dried fruit or food) and put it in front of you (30).
Take a few deep breaths and relax (30).
Look at the raisin and take it on your hand (30).
Feel its weight (30).
Look into its surface—the multiple ridges, shiny areas, dull parts; deeply examine this object as if looking at it for the first time (30).
Smell this object and notice your reaction to it (30).
Roll the raisin between your fingers and listen to hear what sound it creates. Notice its stickness (30).
Realize what you are feeling about this object (30).
Put the raisin between your lips and just hold it there for a few moments. Try to notice what happens inside you (30).
Let it roll into your mouth, but do not chew yet, just roll it around. Is there a flavor? Do you secrete saliva? (30).
Then bite, just once. What do you notice? (30).
Slowly begin to masticate, noticing what each bite brings (30).
Chew the raisin until it is fully became liquid before you ingest (30).
Close your eyes after ingesting for a few moments to realize the outcome of what you just experienced (30).

The steps written above are mindful eating practice, which is an important meditation in mindfulness. Awareness of the raisin is a great example of mindful eating experience. Focusing on sensory observations such as sight, sound, smell, touch, and taste provides full awareness of the food in the moment (30).

According to a literature review by Warren et al. on the role of mindfulness, mindful eating and intuitive eating in changing eating behaviours studied in 2017; higher mindfulness levels have been associated with reduced emotional eating (31).

According to a study of bariatric patient groups, in one of the group greater mindfulness was associated with fewer binges and emotional eating. Levin et al. conducted this study in 2014 and analyzed the connection of particular mindfulness facets to a variety of problematic eating behaviors identified through interviews in a sample of 820 patients requesting bariatric surgery. Especially acting with awareness, was connected with less binge and emotional eating. To be more mindful was also linked, even though less coherently, with less habitual overeating and snacking (32).

Ouwens et al. conducted an observational study with the patients who are the candidates for bariatric surgery and demonstrated that mindfulness was positively associated with restrained eating behaviour. Mindfulness was connected with less emotional and external eating. Morbid obese patients who were applicants for bariatric surgery ($N = 335$; 78.8% female) filled the Dutch Eating Behaviour Questionnaire and the Freiburg Mindfulness Inventory and the Hospital Anxiety and Depression Scale. Moreover their applicable demographic and medical data were collected. The results of this study are; the dependent variables (three eating behaviour styles: restrained, emotional, external) showed that mindfulness was positively linked with restrained eating behaviour ($Beta = .28$, $p \leq .001$), and negatively linked with emotional ($Beta = -.22$, $p \leq .001$) and external ($Beta = -.32$, $p \leq .001$) eating behaviours. These results are independent from sex, age, educational level, BMI and effective symptoms (33).

According to the results of Katerman et al, it was used the PRISMA method for systematic reviews. The researchers determined emotional eating, binge eating and/or weight change by reviewing 14 studies that searched mindfulness meditation as the basic intervention. General results of the studies propose that mindfulness meditation successfully declines binge eating and emotional eating in individuals managing in this behavior (34).

In Systematic review and meta-analysis of Artiles et al., researchers have done randomized controlled trials on weight loss programs based on mindful or intuitive

eating. Results were analyzed using meta-regressions. 10 studies were included in this research. Considerable weight loss was found with impact of mindful/intuitive eating strategies compared with non intervention controls (−0.348 kg, 95% CI: −0.591 to −0.105, P = 0.005). Nevertheless there was no difference compared with traditional diet programs (P = 0.99). Decrease of BMI (−0.137 kg/m2, 95% CI: −0.365 to 0.091, P = 0.240) or waist circumference (−0.358 cm, 95% CI: −0.916 to 0.200, P = 0.209) were not statistically noteworthy. The result of the research is mindful/intuitive eating could be a practical approach to weight control (35).

According to the review of Dunn et al., the aim was to examine the effect of mindful eating on weight management. As a result, there is potent support for the inclusion of mindful eating as a part of weight management plans. Moreover, mindful eating helps to provide serious advantages to the treatment of obesity and overweight (36).

According to the pilot study of Carpenter et al., the feasibility and efficacy of combining mindfulness practice into a phone-based weight loss program to increase results in individuals who have high levels of emotional eating were evaluated. In this study, the mindfulness weight loss program (n = 50) or the standard behavioral weight loss program (n = 25) were randomized to 75 overweight and obese participants (92% female, aged 26 to 68). The weight loss amounts were not notably different between the intervention and control groups at 6 months. Intervention participants (mindfulness weight loss program) had remarkably better scores at six month follow-up on mindful eating, binge eating, experiential avoidance and one mindfulness subscale. Improvements on several measures predicted more weight loss in the intervention group was seen in the exploratory analyses. The results of this plot study showed that combining mindfulness into a brief phone-based behavioral weight loss program was feasible and acceptable to participants, but did not make greater weight loss on average, in spite of hypothesized changes in mindful eating (37).

The aim of the randomized controlled retrospective trial conducted by Salvo et al. is to assess and compare the feasibility and efficacy of two mindfulness-based interventions (MBIs) addressing overweight and obesity in primary care patients: a general program called Mindfulness-Based Health Promotion (MBHP) and a targeted mindful eating protocol called Mindfulness-Based Eating Awareness Training. (MB-

EAT). Case groups are MBHP and MB-EAT. The control group is the treatment as usual (TAU). Although the results of the study have not been published yet, this clinical trial is predicted to result in more effective mindfulness-based interventions as a complementary treatment in primary care for people with overweight and obesity according to the recent literature (38).

The meta-analysis of Mercado et al. studied randomized controlled trials comparing the effect of Mindfulness-Based Interventions with control groups mainly encouraging either dietary or exercise-based behavioural change in individuals with overweight/obesity and/or binge eating disorder. In the study PRISMA method was used. The researchers systematically reviewed relevant articles in Medline, Psychinfo and EMBASE. As a result Mindfulness Based Interventions were more efficient than control in promoting mindfulness scores and reducing binge eating disorder symptoms from pre-to post-treatment. However, they were no more efficient than control in decreasing body weight which might be bound to variability in the period of interventions. These results focus on the power of Mindfulness-Based Interventions to develop obesity-related behaviours compared to lifestyle interventions, but their short-term weight loss effects are not clear (39).

In the systematic review and meta-analysis of Carrière et al., wide effect-size analysis to measure the impact of mindfulness-based interventions on weight loss and eating behaviours was done. Data was determined through a systematic review of studies published in journals or a thesis in PsychINFO, PubMed, CINAHL, Web of Science, Medline and Scopus, ProQuest or OATD from the first available date to March 10, 2017. 18 publications were included in the total. Mean weight loss for mindfulness-based interventions at post-treatment was 3 and 3.5 kg at follow-up. In pre-post comparisons, effect-size predictions propose that mindfulness-based interventions are quite efficacious for weight loss and mostly efficacious in decreasing obesity-related eating behaviours. Results suggest that mindfulness-based interventions are efficacious in losing weight and developing obesity-related eating behaviours among individuals with overweight and obesity (40).

In the randomized controlled trial of Spadaro et al., a 6-month standard behavioral weight loss programs (SBWP) only (n=24) or standard behavioral weight loss programs and mindfulness meditation (SBWP+MM) (n=22) randomly appointed to

46 adults at a university-based physical activity and weight management research center in a US city. Participants were informed to reduce intake (1200-1500 kcal/day), raise physical activity (300 min/wk), and join weekly SBWP or SBWP+MM sessions. SBWP+MM had the same SBWP lessons with extra MM education. As a result, weight loss was better in SBWP+MM over SBWP. Eating behaviors (p=0.02) and dietary restriction (p=0.02) developed notably in SBWP+MM, compared to SBWP. MM increased weight loss by 2.8 kg greater amelorations in eating behaviors and dietary restriction (41).

The objective of the systematic review and meta-analysis conducted by Ruffault et al. was to make a broad quantitative analysis of the impact of mindfulness education interventions on weight loss and health behaviours in adults with overweight and obesity utilizing meta-analytic technics. 12 studies were included in the analysis. They were randomised controlled trials researching, the impacts of any kind of mindfulness training on weight loss, impulsive eating, binge eating, or physical activity participation in adults with overweight and obesity. Random effects meta-analysis showe that mindfulness education had no major impact on weight loss. However mindfulness education had generally negative effect on impulsive eating and binge eating, and a positive effect on physical activity grades. Outcomes propose that mindfulness education has short-term utilities on health-related behaviours (42).

The aim of the meta-analysis conducted by Rogers et al. was to assess the effect of mindfulness-based interventions on psychological and physical health outcomes in overweight or obese adults. The researchers searched 14 electronic databases for randomized controlled trials and prospective cohort studies that fulfilled suitable standards.15 studies were specified for evaluating post-treatment results of mindfulness-based interventions in 560 individuals. The average weight loss was 4.2 kg. All impacts were major for improving eating behaviours, middle for depression, anxiety and eating attitudes and little for BMI and metacognition results. As a result of this study mindfulness-based interventions can be both physically and psychologically helpful for overweight or obese adults (43).

A randomized controlled trial conducted by Smith et al. aimed to examine the impacts of a mindful eating intervention on health-related outcomes. Post-menopausal 38 women were randomized to a 6-week mindful eating and living (MEAL) intervention

or an active control group (CONT). The active control group was consisting of nutritional counseling, goal setting, and group support. In the beginning there were assessments of BMI, weight, waist-hip ratio (WHR), binge eating, interleukin-6 (IL-6) and C-reactive protein (CRP) and then four follow-up periods up to 1 year. As a result, the MEAL group had declines in weight, BMI, WHR, binge eating, IL-6, and CRP, and the CONT group had declines in weight, BMI, and binge eating. The declines in IL-6 and CRP were better for the MEAL than the CONT group (44).

In the randomized controlled trial of Mason et al., alterations in mindful eating as a possible mechanism underlying the impacts of a mindfulness-based intervention for weight loss on eating sugary foods and fasting glucose levels were measured. The researchers randomized 194 obese people from 5.5-month diet-exercise program with or without mindfulness training. According to the active control group, the mindfulness group, proved rises in mindful eating and protection of fasting glucose from initial to 12-month evaluation. Reduced eating of sugary products and fasting glucose grades among mindfulness group participants were connected with rises in mindful eating but this connection was not statistically meaningful among active control group participants (45).

In the review of Keck-Kester et al., the researchers' aim was to clarify how mindfulness interventions may affect obesity rates and obesity-related complications and show the present status of proof for the mindfulness interventions: Mindful Eating, Mindfulness-Based Stress Reduction (MBSR), Yoga, Spirituality, and Dialectical Behavior Therapy. As a result, there are few studies that have indicated positive results concerning balancing or reducing BMI, but they are narrow usually to MBSR, Mindful Eating, and particular kinds of yoga. Treating the psychologic and physiologic comorbidities linked with obesity, like reducing rates of anxiety and depression, and developing blood cholesterol and glucose levels have been shown in the other studies more promising. In conclusion, mindfulness interventions are a logical supplementation to a holistic treatment program for children with obesity (46).

In the study of Schnepper et al. Participants were randomized to either intervention (n = 23) or waitlist group (n = 23) to examine the action of a 4-session mindfulness and prolonged chewing intervention. During the 8 weeks of intervention, significant Group × Measurement time interactions showed that BMI and inconvenient

eating manners (food cravings, emotional and external eating) decreased and intuitive eating increased in the intervention group. After a 4-week follow up, weight loss in the intervention group was preserved. As a result, a combination of mindfulness and a specific chewing education that improves awareness of satiety severely affected energy intake and related eating behaviors (47).

The goal of the study conducted by Grinnell et al. is to establish whether mindfulness is linked with physical and behavioral measurements in first semester college students. Participants were both male and female (n=75) from the University of Rhode Island. The participants completed online questionnaires and their height, weight, waist circumference (WC), and blood pressure were assessed. Independent t- tests and Pearson correlations were used for analysis. As a result, the more mindful group had a lower WC than the less mindful group. Correlations were observed between mindfulness and weight-related behaviors (48).

The objective of the systematic review conducted by Grider et al. is improving understanding of the effect of mindful eating (ME) and intuitive eating (IE) interventions on dietary intake. The choice of literature is made from PubMed, CINAHL (Cumulative Index to Nursing and Allied Health Literature), and PsycINFO databases were searched for studies published between January 1980 and November 2019. Studies meeting the following criteria were included: randomized trial design in which 1 group was an intervention with an ME or IE part and there was at least 1 control comparison group. There were 13 studies in total. Recorded participants were healthy weight or overweight or obese and reported not having an eating disorder or other health conditions. They were at least 18 years of age and the results of energy intake or diet quality were presented at baseline and after the intervention. In conclusion, little evidence shows that ME and IE interventions impact energy intake and diet quality. Further research using study designs of high particularity are required (49).

The aim of the study conducted by Demirbas et al.is evaluation the connection between mindful eating and BMI and body composition in adults. The total participant number in this cross-sectional analytical study was 446. Analyzes of the heights, weights, and waist circumferences of the participants were done and bioelectrical impedance analyses were made. A sociodemographic data form arranged by the researchers and the Turkish version of the Mindful Eating Questionnaire (MEQ) were

applied to the volunteers. As a total result of the study, mindful eating was lower in women with overweight and obesity than that in women with normal weight (50).

3. MATERIALS and METHODS

3.1 Type and Pattern of the Study

The study researched the impact of mindful eating on healthy eating behaviours and BMI. It is a descriptive and cross-sectional study.

3.2. Place and Time of the Study

The study was conducted between December 2021-September 2022 in individuals who applied to a private Clinic on the European side of (Levent) Istanbul. The clinic's name is Therapy Art Center.

3.3. Participants of the Study

The sample consisted of participants who live in Turkey, women (N=190), from the ages 18 to 65 who applied to a private Clinic on the European side of (Levent) Istanbul.

3.4. General Plan of the Study

The individuals participating in the study were informed about the study before the survey. In order to determine the socio-demographic characteristics of individuals (age, weight, height, income status, etc.), the sociodemographic data form was created by the researcher and added to the questionnaire. Attitude Scale for Healthy Nutrition (ASHN) was used to determine the healthy eating attitudes of the participants. The Mindful Eating Questionnaire (MEQ) was applied to measure the mindful eating levels of the individuals participating in the study. Validity and reliability studies of both scales have been made and they have validity and reliability in Turkey (9, 51). BMI was calculated from the height and weight data in the sociodemographic data form.

3.5. Inclusion Criteria for the Study

Inclusion criteria for the research has been defined as follows:

1) Applying to the private Clinic on the European side of (Levent) Istanbul.

2) Being 18-65 years old

3) Being woman

4) Voluntarily participate in the study

3.6. Criteria not Included In The Study

Exclusion criteria in the research:

1) Being under the age of 18 and over age of 65.
2) Being man

3.7. Data Collection Tools

The questionnaire consisted of 3 stages: socio-demographic data form, (age, weight, height, education level, profession and income status) Attitude Scale for Healthy Nutrition (ASHN) and The Mindful Eating Questionnaire (MEQ) were used in the questionnaire.

3.7.1 Questionnaires

The Mindful Eating Questionnaire (MEQ)

Originally the Mindful Eating Questionnaire (MEQ) was developed by Framson et al. in 2009 using seven various convenient samples of adults, with the inclusion of people at a yoga studio, fitness centers, and weight loss programs to find out the relationship of mindful eating with obesity and yoga practice. (28) Tayfur and Köse et al. carried out Turkish validity and reliability study of the scale in 2017. The adapted Turkish scale has 30 questions. In the scale there are five-point Likert scale (1: none, 2: rarely, 3: sometimes, 4: often, 5: always) and 7 sub-dimensions (disinhibition, emotional eating, eating control, focus, eating discipline, mindfulness, interference) (9).

Scoring Directives:

Number of sub-dimensions and items: 7 sub-dimensions and 30 items

1. Eating Without Thinking (Disinhibition) (5 items): 4, 14, 17, 20, 26
2. Emotional Eating (5 items): 21, 22, 23, 28, 30
3. Eating Control (4 items): 3, 6, 27, 29
4. Awareness/Focus (5 items): 8, 9, 12, 13 15

5. Eating Discipline (4 items): 1, 18, 24, 25
6. Conscious Nutrition (Mindful Eating) (5 items): 2, 7, 11, 16, 19
7. Interference (Influenced by external factors) (2 items): 5, 10

Reverse items of the scale: There are 20 reverse items on the scale. Questions 1, 7, 9, 11, 13, 15, 18, 24, 25 and 27 are scored straight. The remaining questions are scored in reverse. {Reverse Scoring (1=5, 2=4, 3=3, 4=2, 5=1)}

Evaluation of the Scale:

The high score obtained from each sub-dimension of the scale indicates that the individual has the characteristic evaluated by the relevant sub-dimension. The scale also gives a total mindful eating score. While scoring the scale, the average of the sub-dimensions and the total score are taken.

Sub-dimension contents of (MEQ) are showed below:

1. Disinhibition: It means that an individual can not quit eating even when full. It covers refrain, amount and timing.
2. Emotional eating: It contains eating in reaction to unfavourable emotions, eating for emotional hunger, feeling good and satisfaction.
3. Eating control: It contains the elements to set the eating rate and manage the eating function.
4. Focus: It involves taking breaks from other activities and thoughts while eating.
5. Eating discipline: It involves planning, preparing, equalizing, keeping, ordering and timing.
6. Mindfulness: Physical hunger-satiety awareness, calorie and
nutritional value data, healthy nutrition knowledge, and habit mindfulness.
7. Interference: It is in the form of dealing with external sensory factors such as smell, image, sound etc.

YFÖ-30 scale (MEQ for Turkish People) is a valid and reliable measurement tool for the Turkish sample in assessing mindful eating according to the study of Tayfur and Köse (9).

Attitude Scale for Healthy Nutrition (ASHN)

Attitude Scale for Healthy Nutrition (ASHN): The Validity and Reliability Study was conducted by Tekkurşun Demir and Cicioğlu with 573 university students between the years 2018-2019. This scale consists of 21 questions (51).

Evaluation of the Scale:

The ratings of the positive items on the scale are “Strongly Disagree”, “Disagree”, “I am undecided”, “Agree”, “Strongly Agree”. Positive attitude items; 1, 2, 3, 4 and 5 negative attitude items were scored as 5, 4, 3, 2 and 1.

Positive items: 1st, 2nd, 3rd, 4th, 5th, 12th, 13th, 14th, 15th, 16th items.

Negative items: It consists of 6th, 7th, 8th, 9th, 10th, 11th, 17th, 18th, 19th, 20th and 21st items.

ASHN has a structure consisting of 21 items and 4 factors. These factors were named as Knowledge on Nutrition (KON), Emotion Towards Nutrition (ETN), Positive Nutrition (PN) and Bad Nutrition (BN).

Knowledge on Nutrition (KON): 1., 2., 3., 4., 5.

Emotion Toward Nutrition (ETN): 6th, 7th, 8th, 9th, 10th, 11.

Positive Nutrition (PN): 12th, 13th, 14th, 15th, 16th.

Bad Nutrition (BN): It consists of 17th, 18th, 19th, 20th and 21st items.

The internal consistency coefficients of the scale are 0.90 for the Knowledge on Nutrition (KON) factor, 0.84 for the Emotion Towards Nutrition (ETN) factor, 0.75 for the Positive Nutrition (PN) factor, and 0.83 for the Bad Nutrition (BN) factor. (According to experts, if the internal consistency coefficient is between 0.80 and 1, the scale has high reliability.)

As a result of confirmatory factor analysis, it was proven that the scale had sufficient fit indices. The reliability of the scale was examined by internal consistency coefficient and test-retest method, and it was determined that the calculated reliability coefficients were within acceptable limits. As a result of the item analysis, it was revealed that all of the items in the scale were distinctive. As a result, it has been determined that the ASHN is a valid and reliable measurement tool (51).

3.8. Statistical Analysis

Statistical Reviews

NCSS (Number Cruncher Statistical System) 2020 (Kaysville, Utah, USA) program was used for statistical analysis. While evaluating the study data, descriptive statistical methods (mean, standard deviation, median, frequency, ratio) as well as Shapiro Wilk test and box plot graphics were used for the compliance of the variables with the normal distribution.

The Oneway ANOVA test was done for the comparison of the normally distributed variables between groups, and the Bonferroni test was used to determine the group that caused the difference. The Kruskal Wallis test was used for the comparison of the parameters that did not show normal distribution, and the Dunn test was used to determine the group that caused the difference. Pearson correlation analysis was used to evaluate the relations between variables. Fisher-Freeman-Halton exact test was used to compare qualitative data. Statistical significance was accepted as $p<0.05$ (52)

r	Interpretation
0.00 — 0.19	Very Weak
0.20 — 0.39	Weak
0.40 — 0.59	Middle
0.60 — 0.79	Strong
0.80 — 1.00	Very Strong

The evaluation of Cronbach's Alpha coefficient is made according to the following criteria:

$0,0 \leq \alpha < 0,40$; the scale is unreliable.

$0,40 \leq \alpha < 0,60$; the scale is low-confidence.

$0,60 \leq \alpha < 0,80$; it is quite reliable

$0,80 \leq \alpha < 1,00$; the scale is highly reliable (53.

3.9. Study Limitations

The sample size could not be raised due to the restricted time for research application is the main limitation of the study.

3.10. Ethical Dimension

“Ethics Committee Approval” dated 27/05/2021 numbered 2021/05-28 was receivedfrom the Clinical Research Ethics Committee of Yeditepe University for this research.

4. RESULTS

The research was conducted between September 2021 and September 2022 at the Therapy Art Center with a total of 190 participants. (51.6% (n=98) 18-30 years old, 12.6% (n=24) 31-40 years old, 18.9% (n=36) 41-50 years old and % 16.8 (n=32) 51-65 years old).

Table 1: Distribution of Descriptive Features

		n (%)
Age	**18 – 30**	98 (51,6)
	31 – 40	24 (12,6)
	41 – 50	36 (18,9)
	51 - 65	32 (16,8)
Weight	*Mean±Sd*	61,87±11,43
	Median (Min-Max)	60 (42-105)
Height	*Mean±Sd*	165,06±5,91
	Median (Min-Max)	165 (150-195)
BMI	**Underweight (16,00 - 18,50)**	21 (11,1)
	Normal (18,51 – 25,00)	120 (63,2)
	Overweight (25,01 – 30,00)	38 (20,0)
	Obese (30,01 – 40,00)	11 (5,8)
	Mean±Sd	22,72±4,14
	Median (Min-Max)	21,80 (16,49-39,04)
Education Level	**High School and Below**	19 (10,0)

	University	133 (70,0)
	Postgraduate	38 (20,0)
Occupation Status	**Unemployed**	46 (24,2)
	Retired	20 (10,5)
	Worker	73 (38,4)
	Civil Servant	28 (14,7)
	Student	23 (12,1)
Income Status	**Income Less Than Expenses**	49 (25,8)
	Income Equal to Expense	84 (44,2)
	Income More Than Expenses	57 (30,0)

The weight of the participants ranged from 42 to 105 kg, with an average of 61.87±11.43. The height of the participants ranged from 150 to 195 cm, with an average of 165.06±5.91.

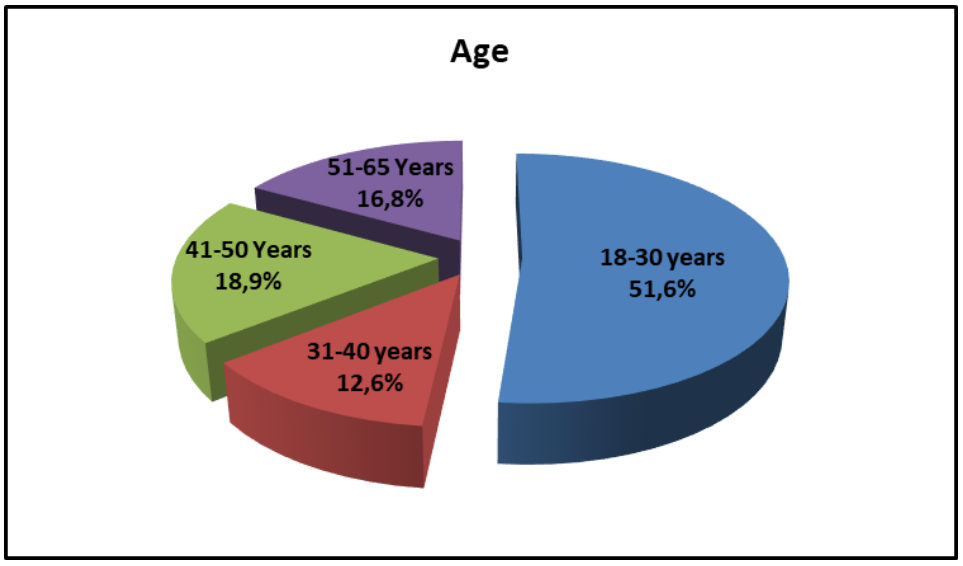

Figure 1: Distribution of Age Groups

When the BMI values of the participants were examined; 11.1% (n=21) were underweight, 63.2% (n=120) were normal, 20% (n=38) were overweight, and 5.8% (n=11) were obese.

BMI values ranged from 16.49 to 39.04, with a mean of 22.72±4.14. When the educational status of the participants was examined; it was seen that 10.0% (n=19) received high school or below, 70.0% (n=133) university level, 20.0% (n=38) postgraduate.

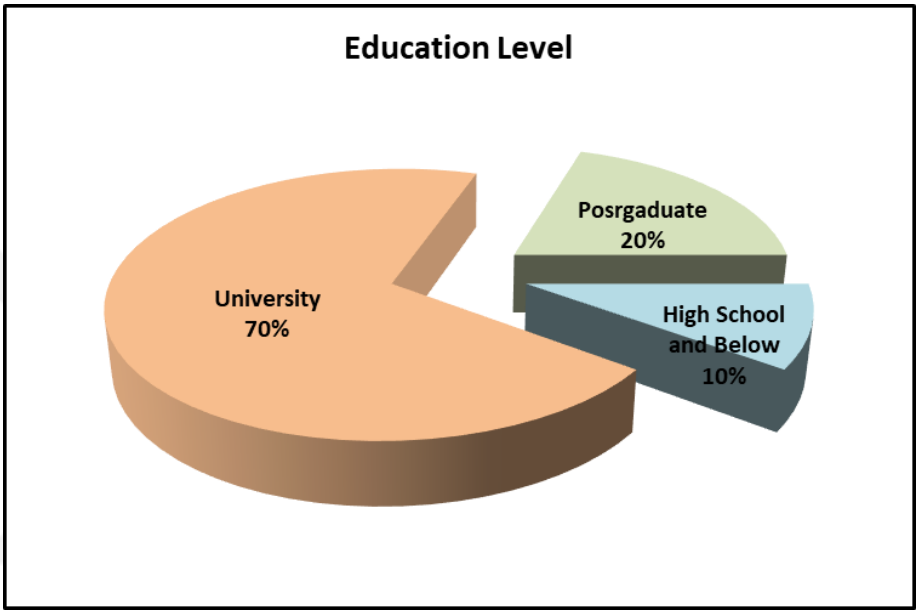

Figure 2: Distribution of Education Levels

When the occupational status of the participants was examined; 24.2% (n=46) were unemployed, 10.5% (n=20) retired, 38.4% (n=73) workers, 14.7% (n=28) civil servants and 12.1% (n=23) students.

When the income status of the participants was examined; it was observed that 25.8% (n=49) income is less than their expenses, 44.2% (n=84) income is equal to their expenses, 30.0% (n=57) income is more than their expenses.

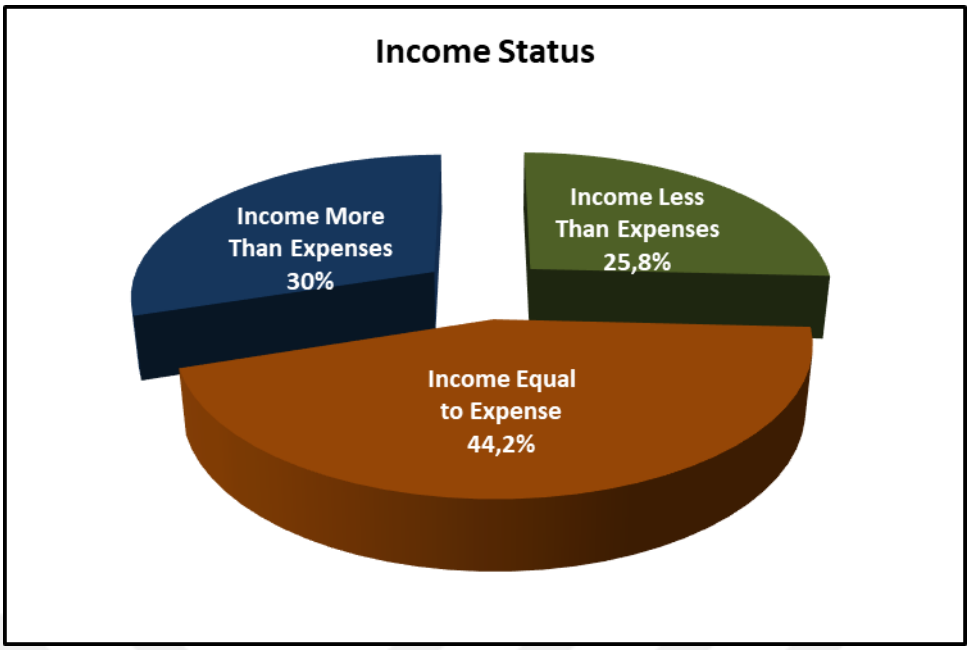

Figure 3: Distribution of Income Status

Table 2: Comparison of Descriptive Characteristics by Age Groups

		18 – 30 (n=98)	31 – 40 (n=24)	41 – 50 (n=36)	51 – 65 (n=32)	*p*
BMI	**Underweight**	20 (20,4)	1 (4,2)	0 (0,0)	0 (0,0)	*[a]0,001***
	Normal	61 (62,2)	19 (79,2)	23 (63,9)	17 (53,1)	
	Overweight	12 (12,2)	4 (16,7)	12 (33,3)	10 (31,3)	
	Obese	5 (5,1)	0 (0,0)	1 (2,8)	5 (15,6)	
Education Level	**High School and Below**	2 (2,0)	2 (8,3)	9 (25,0)	6 (18,8)	*[a]0,001***
	University	83 (84,7)	15 (62,5)	16 (44,4)	19 (59,4)	
	Postgraduate	13 (13,3)	7 (29,2)	11 (30,6)	7 (21,9)	
Profession Status	**Unemployed**	27 (27,6)	6 (25,0)	10 (27,8)	3 (9,4)	*[a]0,001***
	Retired	0 (0,0)	0 (0,0)	2 (5,6)	18 (56,3)	
	Worker	44 (44,9)	11 (45,8)	17 (47,2)	1 (3,1)	
	Civil Servant	6 (6,1)	6 (25,0)	6 (16,7)	10 (31,3)	
	Student	21 (21,4)	1 (4,2)	1 (2,8)	0 (0,0)	
Income Status	**Income Less Than Expenses**	32 (32,7)	3 (12,5)	10 (27,8)	4 (12,5)	*[a]0,132*
	Income Equal to Expense	40 (40,8)	15 (62,5)	14 (38,9)	15 (46,9)	
	Income More Than Expenses	26 (26,5)	6 (25,0)	12 (33,3)	13 (40,6)	

[a]Fisher Freeman Halton Test **p<0,05* ***p<0,01*

BMI values of the participants differ statistically significantly according to age groups (p=0.001; p<0.01). As a result of the pairwise comparisons made to find the source of the difference; The rate of being underweight in the 18-30 age group is significantly higher than in the 41-50 and 51-65 age groups. The rate of being normal in the 31-40 age group is significantly higher than in the 51-65 age group. The prevalence of the 41-50 age group is significantly higher than in the 18-30 and 31-40 age group. Likewise, the rate of being overweight in the 51-65 age group is significantly higher than in the 18-30 and 31-40 age group.

According to age groups, the educational status of the participants differed statistically significantly (p=0.001; p<0.01). As a result of the pairwise comparisons

made to find the source of the difference; The rate of having a high school or lower education level in the 41-50 age group is significantly higher than the 18-30 and 31-40 age group. Likewise, the 51-65 age group has a higher education level of high school and below, compared to the 18-30 and 31-40 age groups. The level of university education in the 18-30 age group is significantly higher than the 31-40, 41-50 and 51-65 age group. The rate of having a graduate education level of the 41-50 age group is significantly higher than the 18-30 age group.

Professional status of the participants differs statistically significantly according to age groups ($p=0.001$; $p<0.01$). As a result of the pairwise comparisons made to find the source of the difference; The rate of being unemployed in the 18-30 age group is significantly higher than in the 51-65 age group. The retirement rate of the 51-65 age group is significantly higher than the 18-30, 31-40 and 41-50 age group. The rate of being a worker in the 18-30, 31-40 and 41-50 age group is significantly higher than the 51-65 age group. The rate of being civil servants in the 31-40 and 51-65 age groups is significantly higher than the 18-30 age group. The rate of being a student in the 18-30 age group is significantly higher than those in the 31-40, 41-50 and 51-65 age groups.

According to age groups, the income status of the participants does not show a statistically significant difference ($p>0.05$).

Table 3: Distribution of Responses to the Attitude Scale towards Healthy Eating Questionnaire

	Strongly Disagree		Disagree		Undecided		Agree		Strongly Agree	
	n	%	n	%	n	%	n	%	n	%
I know the benefits of healthy eating.	12	6,3	4	2,1	4	2,1	59	31,1	111	58,4
I know which foods contain protein.	10	5,3	3	1,6	22	11,6	88	46,3	67	35,3
I know which foods contain carbohydrates.	10	5,3	4	2,1	14	7,4	93	48,9	69	36,3

I know which foods contain vitamins/minerals.	8	4,2	10	5,3	30	15,8	81	42,6	61	32,1
I know what healthy foods are.	10	5,3	3	1,6	8	4,2	88	46,3	81	42,6
I am happy when I consume sugary foods (chocolate, cake, biscuit, etc.).	12	6,3	32	16,8	44	23,2	56	29,5	46	24,2
I enjoy eating fastfood products (hamburger, pizza, etc.).	18	9,5	31	16,3	31	16,3	70	36,8	40	21,1
I enjoy eating delicatessen products (salami, sausage, sausage, etc.).	40	21,1	48	25,3	41	21,6	38	20,0	23	12,1
I like to eat fried foods.	28	14,7	35	18,4	38	20,0	60	31,6	29	15,3
I don't like to eat fruit.	99	52,1	49	25,8	15	7,9	14	7,4	13	6,8
I am happy when I consume sorbet desserts (baklava, künefe, etc.).	42	22,1	33	17,4	41	21,6	34	17,9	40	21,1
I eat main meals (breakfast-lunch and dinner) regularly.	15	7,9	32	16,8	43	22,6	49	25,8	51	26,8
I drink at least 1.5 liters of water a day.	19	10,0	29	15,3	26	13,7	41	21,6	75	39,5
I eat vegetables at least 3 times a week.	15	7,9	21	11,1	22	11,6	60	31,6	72	37,9
I consume fruit regularly.	23	12,1	32	16,8	44	23,2	48	25,3	43	22,6
I eat protein-containing foods (meat, milk, eggs, etc.) every day.	7	3,7	13	6,8	34	17,9	70	36,8	66	34,7
I skip main meals.	58	30,5	58	30,5	43	22,6	22	11,6	9	4,7
I eat junk food (chips, chocolate, biscuits, etc.) every day.	74	38,9	61	32,1	28	14,7	18	9,5	9	4,7
I drink at least 1 glass of acidic/carbonated beverages every day.	106	55,8	53	27,9	6	3,2	9	4,7	16	8,4

I'm fed up.	74	38,9	55	28,9	36	18,9	18	9,5	7	3,7
I usually spend my main meal with foods such as cake and biscuits.	117	61,6	47	24,7	12	6,3	8	4,2	6	3,2

The distribution of the participants' responses to the Attitude Scale towards Healthy Eating was shown in Table 3.

Table 4: Internal Consistency of Sub-Dimensions of the Attitude Scale towards Healthy Eating

	Number of questions			***Cronbach's Alpha***
Nutritional Information	**5**	*Mean±Sd*	20,59±4,71	***0,958***
		Median (Min-Max)	21 (5-25)	
Emotion towards Nutrition	**6**	*Mean±Sd*	18,27±5,06	***0,729***
		Median (Min-Max)	18 (6-29)	
Positive Nutrition	**5**	*Mean±Sd*	18,14±4,60	***0,777***
		Median (Min-Max)	19 (5-25)	
Bad Nutrition	**5**	*Mean±Sd*	20,06±4,20	***0,792***
		Median (Min-Max)	21 (5-25)	
Sum	**21**	*Mean±Sd*	77,07±12,42	***0,848***
		Median (Min-Max)	79 (30-101)	

The scores of the participants in the "Knowledge About Nutrition" sub-dimension of the Attitude Scale towards Healthy Eating ranged from 5 to 25, with an average of 20.59±4.71. The internal consistency of the scale sub-dimension is a=0.958.

The scores of the participants in the Attitude Scale for Healthy Nutrition (ASHN) "Emotion towards Nutrition" sub-dimension ranged from 6 to 29, with an average of 18.27±4.06. The internal consistency of the scale sub-dimension is a=0.729.

The scores of the participants in the "Positive Nutrition" sub-dimension of the Attitude Scale towards Healthy Eating ranged from 5 to 25, with an average of 18.14±4.60. The internal consistency of the scale sub-dimension is a=0.777.

The scores of the participants in the "Bad Nutrition" sub-dimension of the Attitude Scale towards Healthy Eating ranged from 5 to 25, with an average of 20.06±4.20. The internal consistency of the scale sub-dimension is a=0.792.

The total scores of the participants from the Attitude Scale for Healthy Nutrition (ASHN) ranged from 30 to 101, with an average of 77.07±12.42. The internal consistency of the scale was a=0.848; Accordingly, it can be said that the scale is highly reliable.

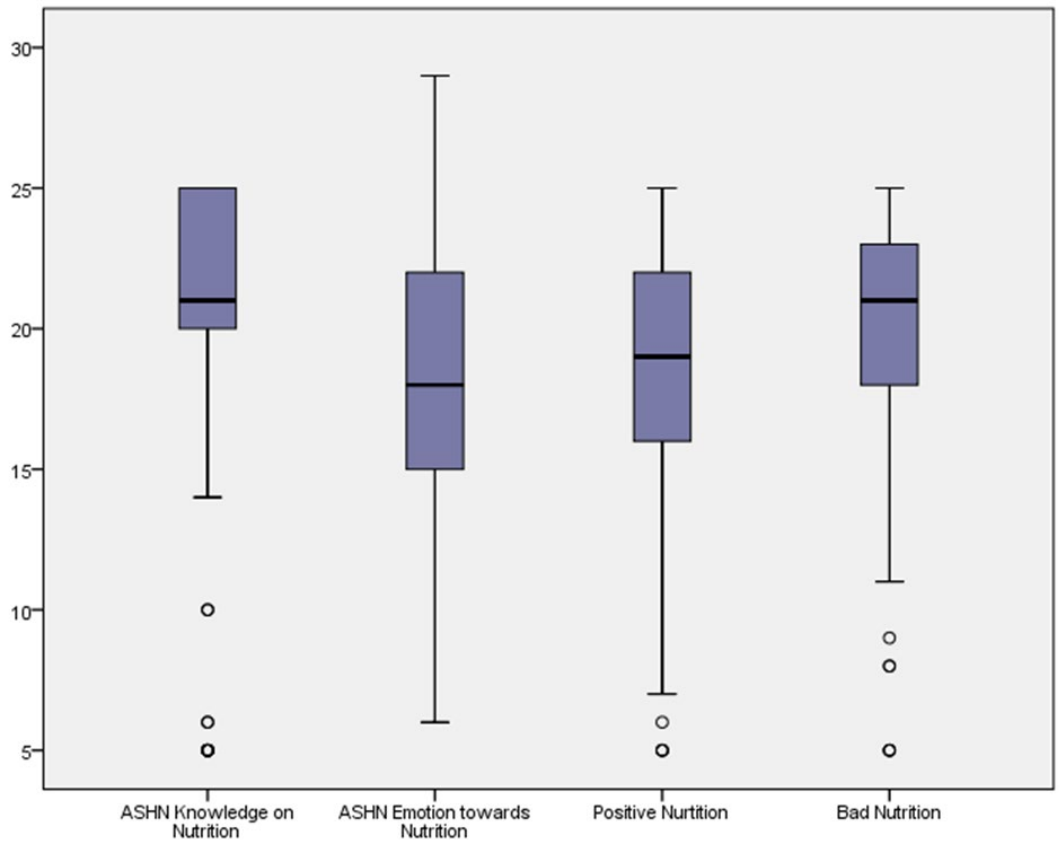

Figure 4: Distribution of Sub-Dimensions of the Attitude Scale towards Healthy Eating

Table 5: Comparison of Attitudes Towards Healthy Eating According to Age Groups

		18 – 30 (n=98)	31 – 40 (n=24)	41 – 50 (n=36)	51 – 65 (n=32)	*p*
Nutritional Information	*Mean±Sd*	20,68±4,52	19,91±5,19	20,27±4,45	21,18±5,30	***[b]0,414***
	Median (Min-Max)	21 (5-25)	21 (5-25)	21 (5-25)	23,50 (5-25)	
Emotion towards Nutrition	*Mean±Sd*	16,22±4,52	19,33±5,73	20,80±4,29	20,90±4,26	***[a]0,001***
	Median (Min-Max)	16 (6-27)	18,50 (10-28)	20,50 (11-29)	20 (11-28)	
Positive Nutrition	*Mean±Sd*	17,20±4,15	18,45±4,88	19,11±5,10	19,68±4,62	***[a]0,023****
	Median (Min-Max)	17 (5-25)	19 (5-25)	20 (7-25)	21 (6-25)	
Bad Nutrition	*Mean±Sd*	18,69±4,43	21,45±3,06	22,13±3,22	20,90±3,80	***[a]0,001****
	Median (Min-Max)	19 (5-25)	22 (11-25)	23 (12-25)	21 (8-25)	
Total ASHN	*Mean±Sd*	72,80±11,84	79,16±9,82	82,33±11,12	82,68±12,86	***[a]0,001****
	Median (Min-Max)	73 (30-95)	82 (57-97)	84,50 (56-101)	85,50 (55-99)	

[a]Oneway ANOVA test *[b]Kruskal-Wallis Test* **p<0,05* ***p<0,01*

According to age groups, the scores of the participants in the Attitude Scale towards Healthy Eating "Knowledge About Nutrition" sub-dimension did not show a statistically significant difference (p>0.05).

Emotion towards Nutrition

According to age groups, the scores of the participants in the Attitude Scale towards Healthy Nutrition "Emotion towards Nutrition" sub-dimension show a statistically significant difference ($p=0.001$; $p<0.01$). As a result of the bilateral researches made to find the source of the difference; The scores of the 18-30 age group were significantly lower than the scores of the 31-40 age group, 41-50 age group, and 51-65 age group ($p=0.021$; $p=0.001$; $p=0.001$; $p<0.05$). There was no significant difference between other age groups ($p>0.05$).

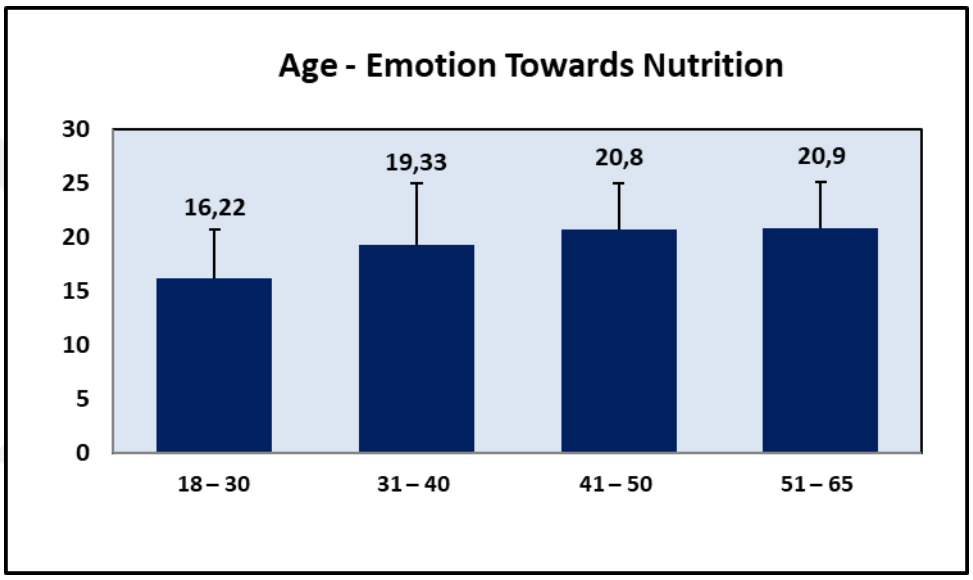

Figure 5: Distribution of Emotional Scores for Nutrition by Age Groups

Positive Nutrition

According to age groups, the scores of the participants in the "Positive Nutrition" sub-dimension of the Attitude Scale towards Healthy Nutrition show a statistically significant difference ($p=0.023$; $p<0.05$). As a result of the bilateral researches made to find the source of the difference; The scores of the 51-65 age group were also significantly higher than the scores of the 18-30 age group ($p=0.046$; $p<0.01$). There was no significant difference between other age groups ($p>0.05$).

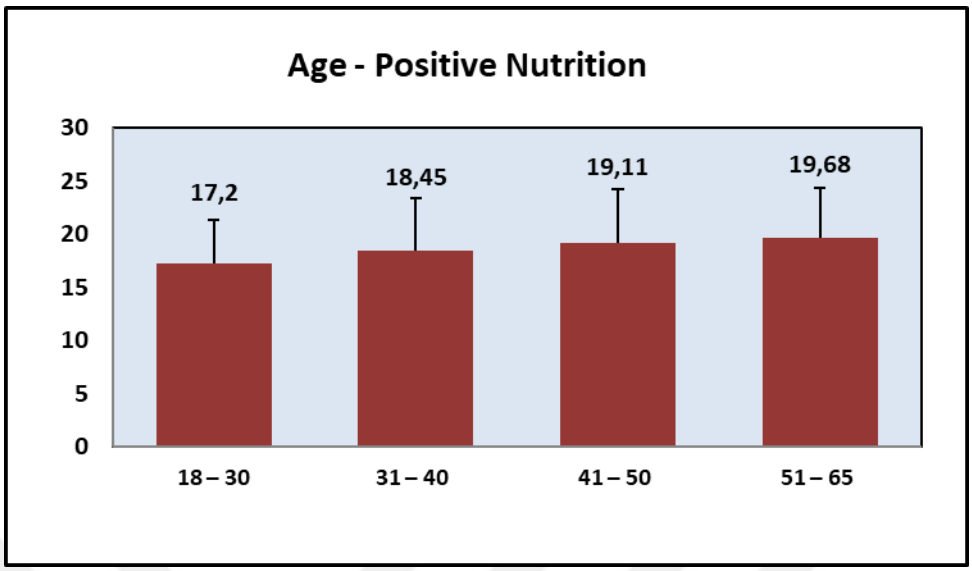

Figure 6: Distribution of Positive Nutrition Scores by Age Groups

Bad Nutrition

According to age groups, the scores of the participants in the "Bad Nutrition" sub-dimension of the Attitude Scale towards Healthy Eating show a statistically significant difference ($p=0.001$; $p<0.01$). As a result of the bilateral researches made to find the source of the difference; The scores of the 31-40 age group were significantly higher than the 18-30 age group ($p=0.015$; $p<0.05$). The scores of the 41-50 age group were significantly higher than the scores of the 18-30 age group ($p=0.001$; $p<0.01$). Likewise, the scores of the 51-65 age group are significantly higher than the scores of the 18-30 age group ($p=0.041$; $p<0.05$). There was no significant difference between other age groups ($p>0.05$).

Figure 7: Distribution of Bad nutrition Scores by Age Groups

Attitude Scale for Healthy Nutrition (ASHN) Total Score

According to age groups, the scores of the participants from the Attitude Scale towards Healthy Nutrition differ statistically significantly ($p=0.001$; $p<0.01$). As a result of the bilateral researches made to find the source of the difference; The scores of the 41-50 age group were significantly higher than the scores of the 18-30 age group ($p=0.001$; $p<0.01$). Likewise, the scores of the 51-65 age group were significantly higher than the scores of the 18-30 age group ($p=0.001$; $p<0.01$). There was no significant difference between other age groups ($p>0.05$).

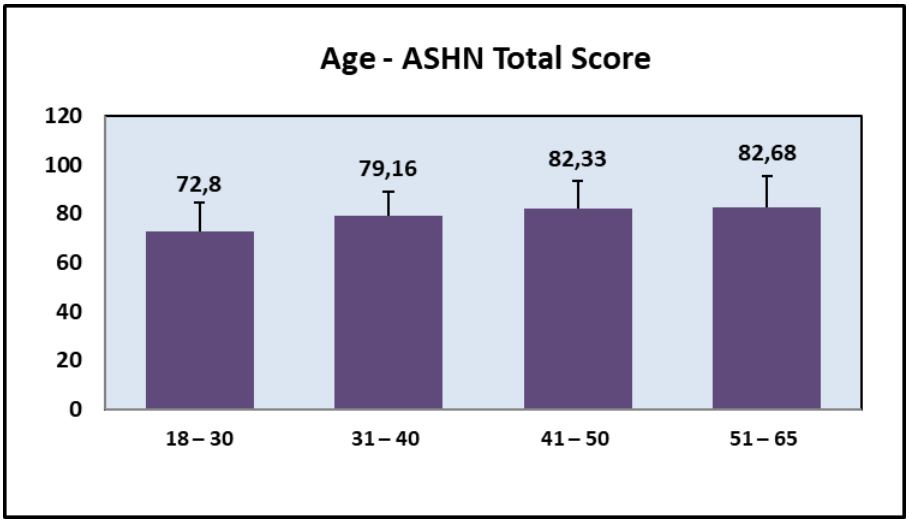

Figure 8: Distribution of Total Scores of the Attitude Scale for Healthy Nutrition (ASHN) by Age Groups

Table 6: Comparison of Attitudes Towards Healthy Eating According to BMI Groups

		Underweight (n=21)	Normal (n=120)	Overweight (n=38)	Obese (n=11)	*p*
Nutritional Information	*Mean±Sd*	20,76±4,91	20,40±4,85	20,60±4,64	22,27±2,72	***[b]0,749***
	Median (Min-Maks)	22 (5-25)	21 (5-25)	21 (5-25)	21 (18-25)	
Emotion towards Nutrition	*Mean±Sd*	16,42±4,44	18,30±5,39	19,18±4,37	18,27±4,10	***[b]0,305***
	Median (Min-Maks)	17 (6-24)	17 (8-29)	19 (9-26)	19 (11-23)	
Positive Nutrition	*Mean±Sd*	17,47±4,66	18,02±4,54	18,57±4,97	19,18±3,94	***[b]0,568***
	Median (Min-Maks)	17 (8-25)	19 (5-25)	20 (6-25)	19 (13-25)	
Bad Nutrition	*Mean±Sd*	18,71±5,19	20,13±4,22	21,13±3,32	18,27±3,84	***[b]0,072***
	Median (Min-Maks)	19 (5-25)	21 (5-25)	21,50 (12-25)	19 (12-25)	
Sum ASHN	*Mean±Sd*	73,38±12,44	76,87±12,75	79,50±11,79	78,00±10,28	***[b]0,386***
	Median (Min-Maks)	75 (48-93)	78,50 (30-101)	81 (56-99)	80 (62-92)	

[b]Kruskal-Wallis Test **p<0,05* ***p<0,01*

According to BMI groups, the sub-dimensions of the Attitude Scale towards Healthy Nutrition of the participants "Attitude towards nutrition", "Emotion towards nutrition", "Positive nutrition", "Bad nutrition" and "ASHN total" scores do not show a statistically significant difference (p>0.05).

Table 7: Comparison of Attitudes Towards Healthy Eating According to Economic Status Groups

		Income Less Than Expenses (n=49)	Income Equal to Expense (n=84)	Income More Than Expenses (n=57)	*p*
Nutritional Information	*Mean±Sd*	21,04±4,06	20,28±5,22	20,66±4,47	***[a]0,668***
	Median (Min-Maks)	21 (5-25)	21 (5-25)	21 (5-25)	
Emotion towards Nutrition	*Mean±Sd*	18,10±5,98	18,22±4,71	18,49±4,76	***[a]0,920***
	Median (Min-Maks)	18 (6-28)	18 (9-29)	18 (8-28)	
Positive Nutrition	*Mean±Sd*	17,81±4,36	18,26±4,64	18,24±4,80	***[a]0,849***
	Median (Min-Maks)	18 (5-25)	19 (5-25)	19 (6-25)	
Bad Nutrition	*Mean±Sd*	19,59±4,34	19,55±4,57	21,22±3,23	***[a]0,044****
	Median (Min-Maks)	20 (5-25)	20 (5-25)	22 (12-25)	
Sum ASHN	*Mean±Sd*	76,55±12,25	76,33±13,17	78,63±11,49	***[a]0,530***
	Median (Min-Maks)	76 (48-99)	79 (30-98)	80 (52-101)	

[a]Oneway ANOVA test **p<0,05*

A significant difference was found between the Bad Nutrition scores of the Attitude Scale towards Healthy Nutrition sub-dimensions of the participants according to the income status groups (p=0.044; p<0.05); When the significance was examined, the malnutrition score of those whose income is higher than their expenditure is significantly higher than those whose income is equal to expenditure (p=0.041, p<0.05), no difference was found between the other groups (p>0.05).

"Attitude towards nutrition", "emotion towards nutrition", "Positive nutrition" and "ASHN total" scores do not show a statistically significant difference according to income status ($p>0.05$).

Table 8: Distribution of Responses to the Mindful Eating Questionnaire

	Never		Rarely		Sometimes		Often		Always	
	n	%	n	%	n	%	n	%	n	%
I know about the calories of foods.	26	13,7	37	19,5	60	31,6	43	22,6	24	12,6
I can't have my main meal without bread.	57	30,0	45	23,7	53	27,9	24	12,6	11	5,8
I swallow my bites without chewing.	92	48,4	42	22,1	43	22,6	11	5,8	2	1,1
When I eat one of my favorite foods, I do not realize that I am full.	36	18,9	55	28,9	59	31,1	28	14,7	12	6,3
I can't imagine a life without fast food.	82	43,2	45	23,7	36	18,9	16	8,4	11	5,8
People around me say I eat too fast.	80	42,1	36	18,9	26	13,7	32	16,8	16	8,4
I avoid eating foods that cause gas.	27	14,2	48	25,3	60	31,6	38	20,0	17	8,9
I enjoy the look and smell of food before I eat it.	6	3,2	10	5,3	46	24,2	62	32,6	66	34,7
I can remember what I ate last night.	10	5,3	5	2,6	29	15,3	55	28,9	91	47,9
When something is offered, I eat it without thinking.	30	15,8	63	33,2	69	36,3	25	13,2	3	1,6
I stay away from high-calorie foods.	31	16,3	45	23,7	71	37,4	31	16,3	12	6,3
I prefer to eat foods with high protein content.	4	2,1	27	14,2	82	43,2	53	27,9	24	12,6
I notice subtle flavors in the foods I eat.	7	3,7	13	6,8	55	28,9	66	34,7	49	25,8
When I realize that I am very hungry all of a sudden, I am ready to eat whatever I can find.	31	16,3	50	26,3	57	30,0	33	17,4	19	10,0
I savor every bite I eat.	1	0,5	20	10,5	61	32,1	67	35,3	41	21,6
I diet often.	70	36,8	45	23,7	37	19,5	19	10,0	19	10,0

Even if I'm full, a food tempts me.	29	15,3	32	16,8	63	33,2	34	17,9	32	16,8
My meal times are fixed.	32	16,8	31	16,3	52	27,4	43	22,6	32	16,8
I use a spoon instead of a fork when eating.	91	47,9	49	25,8	36	18,9	7	3,7	7	3,7
I eat until I can't eat any more at one meal.	69	36,3	72	37,9	30	15,8	13	6,8	6	3,2
I can't stop eating when there's ice cream, cookies or chips somewhere in the house.	66	34,7	41	21,6	40	21,1	30	15,8	13	6,8
When I get depressed, the first thing that comes to my mind is food.	76	40,0	41	21,6	39	20,5	17	8,9	17	8,9
I eat when I'm bored.	51	26,8	52	27,4	43	22,6	26	13,7	18	9,5
I eat healthy.	7	3,7	19	10,0	67	35,3	70	36,8	27	14,2
If the food is too hot, I wait for it to cool down a bit.	13	6,8	25	13,2	46	24,2	61	32,1	45	23,7
I snack without realizing I'm eating.	63	33,2	65	34,2	40	21,1	15	7,9	7	3,7
I eat small bites.	9	4,7	34	17,9	70	36,8	41	21,6	36	18,9
I eat junk food when I feel stressed.	55	28,9	49	25,8	50	26,3	16	8,4	20	10,5
I put it on autopilot while eating.	79	41,6	44	23,2	40	21,1	16	8,4	11	5,8
I eat chocolate to be happy.	46	24,2	43	22,6	50	26,3	28	14,7	23	12,1

The distribution of the participants' responses to the Mindful Eating Questionnaire is as in Table 8.

Table 9: General Distribution of Mindful Eating Questionnaire Sub-Dimensions and Cronbach's Alpha (Internal Consistency) measurements

	Number of questions			***Cronbach's Alpha***
Eating Without Thinking	**5**	*Mean±Sd*	17,39±3,97	***0,724***
		Median (Min-Maks)	17,50 (5-25)	
Emotional Eating	**5**	*Mean±Sd*	17,71±5,06	***0,841***
		Median (Min-Maks)	18 (5-25)	
Eating Control	**4**	*Mean±Sd*	14,98±3,46	***0,707***
		Median (Min-Maks)	15 (4-20)	
Awareness	**5**	*Mean±Sd*	16,25±1,88	***0,570***
		Median (Min-Maks)	16 (11-21)	
Eating Discipline	**4**	*Mean±Sd*	13,07±3,06	***0,540***
		Median (Min-Maks)	13 (5-20)	
Conscious Nutrition	**5**	*Mean±Sd*	16,49±2,67	***0,033***
		Median (Min-Maks)	17 (8-22)	
interference	**2**	*Mean±Sd*	7,38±1,80	***0,526***
		Median (Min-Maks)	8 (2-10)	
Total	**30**	*Mean±Sd*	103,75±13,83	***0,814***
		Median (Min-Maks)	106 (61-134)	

The scores of the participants in the "Eating Without Thinking" sub-dimension of the Mindful Eating Questionnaire ranged from 5 to 25, with an average of 17.39±3.97. The internal consistency of the scale sub-dimension is a=0.724.

The scores of the participants in the "Emotional Eating" sub-dimension of the Mindful Eating Questionnaire ranged from 5 to 25, with an average of 17.71±5.06. The internal consistency of the scale sub-dimension is a=0.841.

The scores of the participants in the "Eating Control" sub-dimension of the Mindful Eating Questionnaire ranged from 4 to 20, with an average of 14.98±3.46. The internal consistency of the scale sub-dimension is a=0.707.

The scores of the participants in the "Awareness" sub-dimension of the Mindful Eating Questionnaire ranged from 11 to 21, with an average of 16.25±1.88. The internal consistency of the scale sub-dimension is a=0.570.

The scores of the participants in the "Eating Discipline" sub-dimension of the Mindful Eating Questionnaire ranged from 5 to 20, with an average of 13.07±3.06. The internal consistency of the scale sub-dimension is a=0.540.

The scores of the participants in the “Not Conscious Eating” sub-dimension of the Mindful Eating Questionnaire ranged from 8 to 22, with an average of 16.49±2.67. The internal consistency of the scale sub-dimension is a=0.033.

The scores of the participants in the "Interference" sub-dimension of the Mindful Eating Questionnaire ranged from 2 to 10, with an average of 7.38±1.80. The internal consistency of the scale sub-dimension is a=0.526.

The total scores of the participants from the Mindful Eating Questionnaire ranged from 61 to 134, with an average of 103.75±13.83. Internal consistency of the scale was a=0.814; Accordingly, it can be said that the scale is highly reliable.

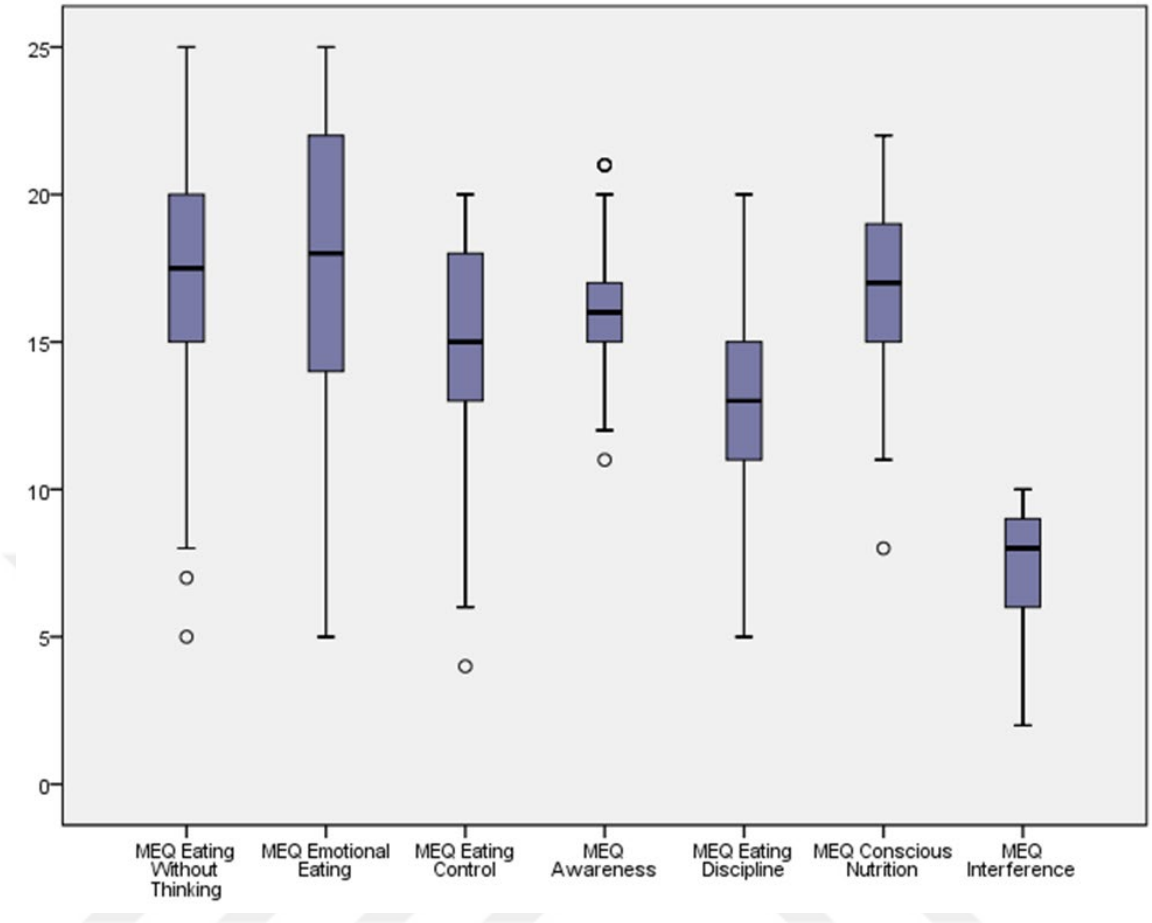

Figure 9: Distribution of Mindful Eating Questionnaire Sub-Dimensions

Table 10: Comparison of Mindful Eating Questionnaire by Age Groups

		18 – 30 (n=98)	31 – 40 (n=24)	41 – 50 (n=36)	51 – 65 (n=32)	*p*
Eating Without Thinking	*Mean±Sd*	16,58±4,02	19,00±4,03	18,36±3,80	17,59±3,46	[b]***0,016*** *
	Median (Min-Max)	16 (5-25)	19 (8-25)	18 (12-25)	18 (9-24)	
Emotional Eating	*Mean±Sd*	16,96±5,35	18,29±3,77	18,91±5,27	18,18±4,54	[b]***0,226***
	Median (Min-Max)	17 (5-25)	18 (11-23)	20 (7-25)	19 (10-25)	
Eating Control	*Mean±Sd*	14,85±3,56	16,75±2,52	15,08±3,04	13,96±3,85	[b]***0,031*** *
	Median (Min-Max)	15 (4-20)	17 (12-20)	15 (8-20)	13,50 (7-20)	
Awareness	*Mean±Sd*	15,98±1,81	16,41±1,76	16,41±1,96	16,75±2,01	[b]***0,305***
	Median (Min-Max)	16 (12-21)	16 (14-21)	16 (11-21)	17 (13-21)	
Eating Discipline	*Mean±Sd*	12,46±2,99	13,25±2,78	13,69±3,17	14,12±3,03	[b]***0,008*** **
	Median (Min-Max)	12,50 (5-20)	14 (8-18)	14 (6-19)	14,50 (5-19)	
Conscious Nutrition	*Mean±Sd*	16,34±2,71	17,66±2,27	17,55±2,62	17,53±2,55	[b]***0,035*** *
	Median (Min-Max)	17 (8-22)	18 (14-22)	18 (12-22)	17 (13-22)	
interference	*Mean±Sd*	6,81±1,87	7,79±1,58	7,97±1,68	8,15±1,29	[b]***0,001*** **
	Median (Min-Max)	7 (2-10)	8 (4-10)	8 (4-10)	8 (6-10)	

MEQ Total	*Mean±Sd*	100,03±13,81	109,16±10,97	108,00±13,04	106,31±13,92	***[b]0,003****
	Median (Min-Max)	100,50 (61-125)	109 (88-128)	108,50 (85-127)	107 (75-134)	

[b]Kruskal-Wallis Test **p<0,05* ***p<0,01*

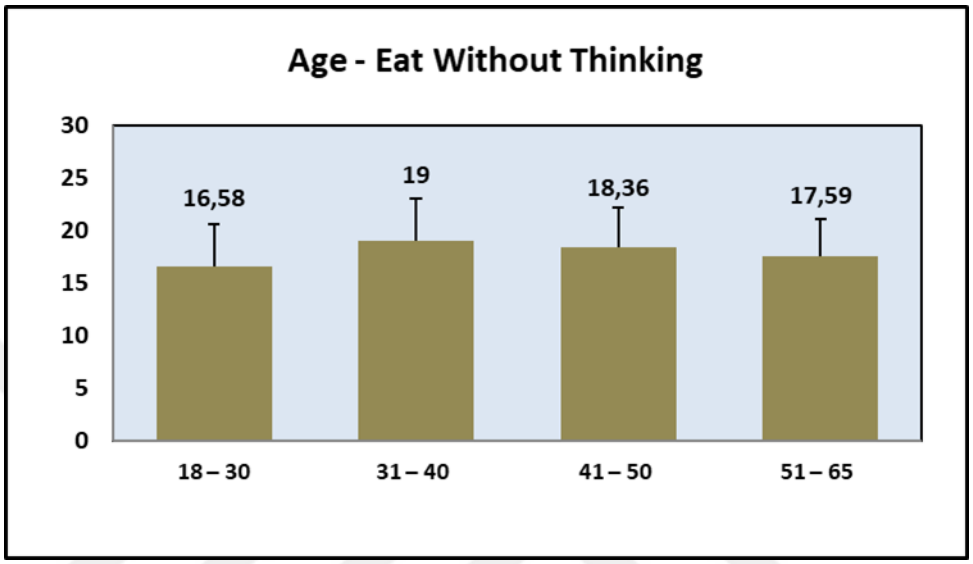

Figure 10: Distribution of Eating Without thinking Scores by Age Groups

Eating Without Thinking

According to age groups, the scores of the participants in the Mindful Eating Questionnaire "Eating Without Thinking" sub-dimension show a statistically significant difference (p=0.017; p<0.05). As a result of the bilateral researches made to find the source of the difference; The scores of the 31-40 age group were significantly higher than the 18-30 age group (p=0.033; p<0.05).

Eating Control

According to age groups, the scores of the participants in the Mindful Eating Questionnaire "Eating Control" sub-dimension show a statistically significant difference (p=0.031; p<0.05). As a result of the bilateral researches made to find the source of the difference; The scores of the 31-40 age group were significantly higher than the 51-65 age group (p=0.020; p<0.05).

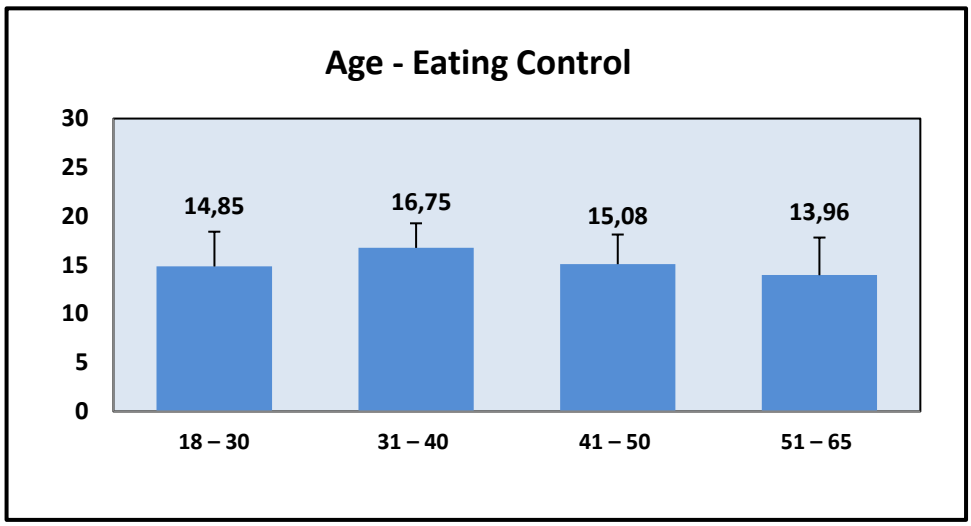

Figure 11: Distribution of Eating Control Scores by Age Groups

Eating Discipline

According to age groups, the scores of the participants in the "Eating Discipline" sub-dimension of the Mindful Eating Questionnaire show a statistically significant difference ($p=0.008$; $p<0.01$). As a result of the bilateral researches made to find the source of the difference; The scores of the 51-65 age group were significantly higher than the 18-30 age group ($p=0.015$; $p<0.05$).

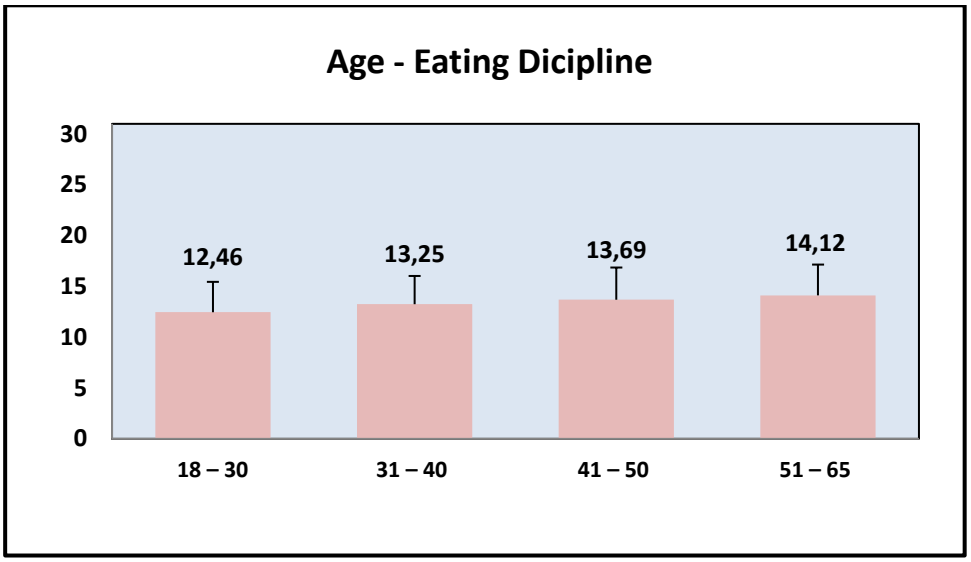

Figure 12: Distribution of Eating Discipline Scores by Age Groups

Conscious Eating

According to age groups, the scores of the participants in the "Conscious Eating" sub-dimension of the Mindful Eating Questionnaire show a statistically significant difference ($p=0.035$; $p<0.05$). As a result of the bilateral researches made to find the source of the difference; The scores of the 31-40 age group were significantly higher than the 18-30 age group ($p=0.043$; $p<0.05$).

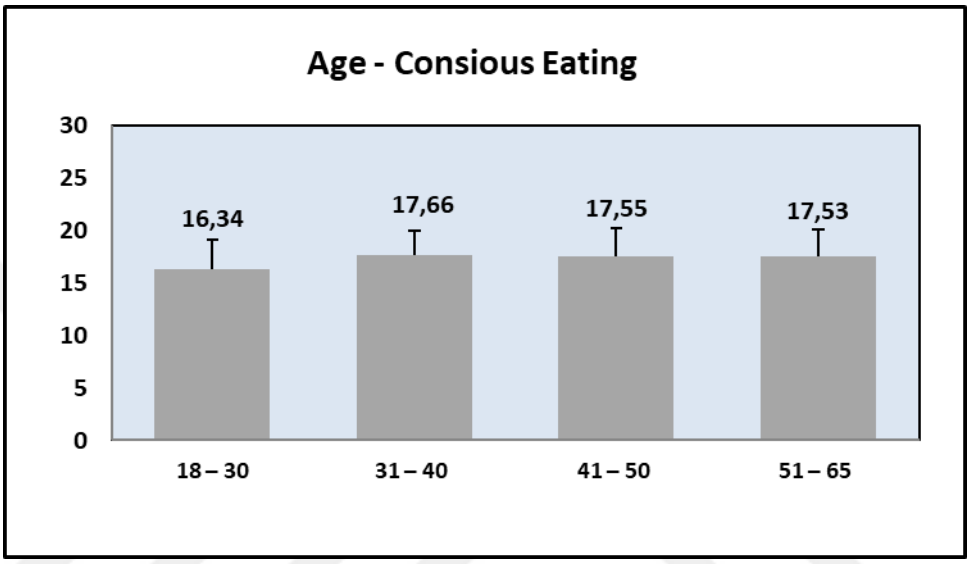

Figure 13: Conscious Eating Scores Distribution by Age Groups

Interference

According to agee groups, the scores of the participants in the "Interference" sub-dimension of the Mindful Eating Questionnaire show a statistically significant difference ($p=0.001$; $p<0.01$). As a result of the bilateral researches made to find the source of the difference; The scores of those in the 41-50 age group were significantly higher than those in the 18-30 age group ($p=0.009$; $p<0.01$). Likewise, the scores of the 51-65 age group were significantly higher than the 18-30 age group ($p=0.002$; $p<0.01$).

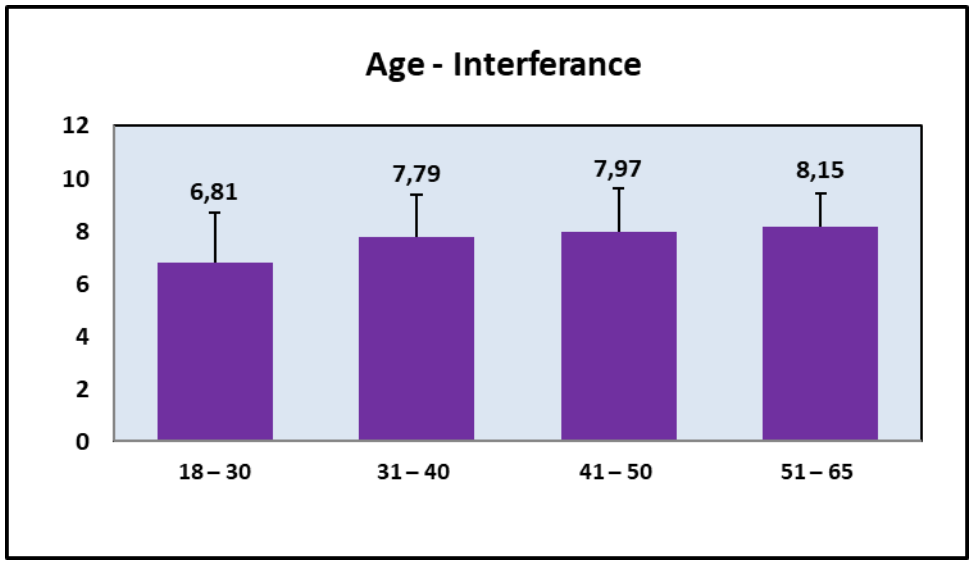

Figure 14: Distribution of Interference Scores by Age Groups

MEQ Total Score

According to age groups, the total scores of the participants from the Mindful Eating Questionnaire differ statistically significantly ($p=0.003$; $p<0.01$). As a result of the bilateral researches made to find the source of the difference; The scores of the 31-40 age group were significantly higher than the 18-30 age group ($p=0.030$; $p<0.05$). Likewise, the scores of those in the 41-50 age group were also significantly higher than those in the 18-30 age group ($p=0.022$; $p<0.05$).

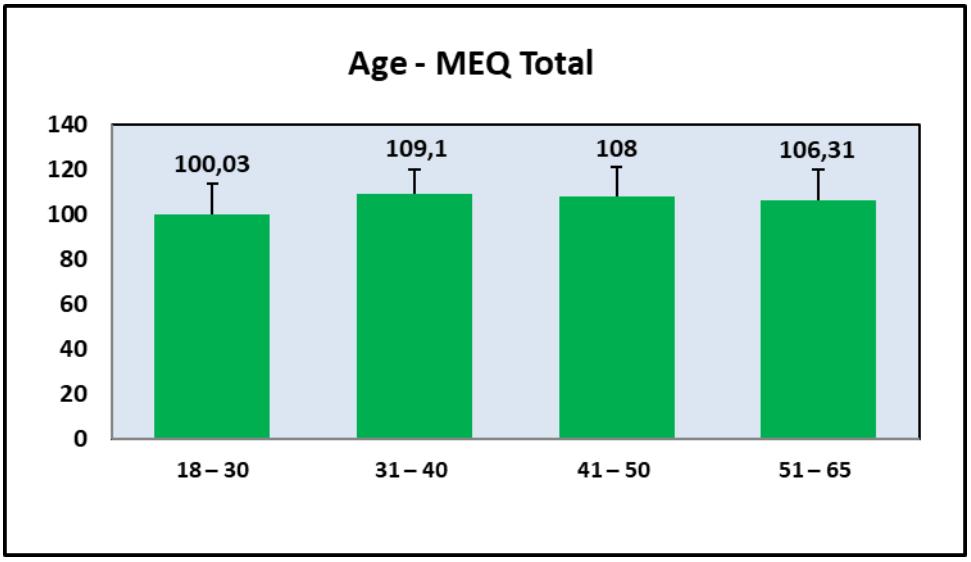

Figure 15: Distribution of Mindful Eating Questionnaire Total Scores by Age Groups

According to age groups, the scores of the participants in the Mindful Eating Questionnaire "Emotional Eating" and "Mindfulness" sub-dimensions do not show a statistically significant difference (p>0.05).

Table 11: Comparison of Mindful Eating Questionnaire by BMI Groups

		Underweight (n=21)	Normal (n=120)	Overweight (n=38)	Obese (n=11)	*p*
Eating Without Thinking	*Mean±Sd*	18,85±3,32	17,56±4,00	17,00±4,06	14,09±2,66	[b]***0,005****
	Median (Min-Max)	20 (13-25)	18 (5-25)	17 (11-25)	15 (9-18)	
Emotional Eating	*Mean±Sd*	19,66±4,39	18,01±4,83	17,18±5,35	12,45±4,63	[b]***0,003****
	Median (Min-Max)	19 (10-25)	18,50 (6-25)	17,50 (5-25)	13 (6-21)	
Eating Control	*Mean±Sd*	16,52±2,42	15,11±3,31	14,31±3,94	13,00±4,04	[b]***0,057***
	Median (Min-Max)	17 (11-20)	15 (4-20)	14,50 (6-20)	15 (7-19)	
Awareness	*Mean±Sd*	16,09±1,86	16,28±1,85	16,39±1,96	15,62±2,05	[b]***0,713***
	Median (Min-Max)	16 (13-21)	16 (11-21)	16 (12-21)	16 (13-20)	
Eating Discipline	*Mean±Sd*	12,52±3,74	13,08±2,96	13,23±3,28	13,54±2,01	[b]***0,760***
	Median (Min-Max)	12 (5-20)	13 (6-19)	13,50 (5-19)	13 (11-18)	
	Mean±Sd	17,19±2,69	17,04±2,52	16,71±3,02	16,18±3,12	[b]***0,827***

Conscious Nutrition	*Median (Min-Max)*	17 (13-21)	17 (11-22)	17 (8-22)	17 (13-20)	
Interference	*Mean±Sd*	7,38±1,59	7,40±1,91	7,50±1,72	6,81±1,25	***[b]0,523***
	Median (Min-Max)	7 (5-10)	8 (2-10)	7 (4-10)	6 (6-9)	
MEQ Total	*Mean±Sd*	108,23±9,40	104,50±13,25	102,34±16,00	91,81±13,73	***[b]0,021****
	Median (Min-Max)	108 (87-124)	106 (61-133)	102 (70-134)	95 (70-114)	

[b]Kruskal-Wallis Test **p<0,05* ***p<0,01*

Eating Without Thinking

According to BMI groups, the scores of the participants in the Mindful Eating Questionnaire "Eating without Thinking" sub-dimension show a statistically significant difference (p=0.005; p<0.01). As a result of the bilateral researches made to find the source of the difference; the scores of the underweight group were significantly higher than the scores of the obese group (p=0.004; p<0.01). Likewise, the scores of the normal group were significantly higher than the scores of the obese group. (p=0.018; p<0.05).

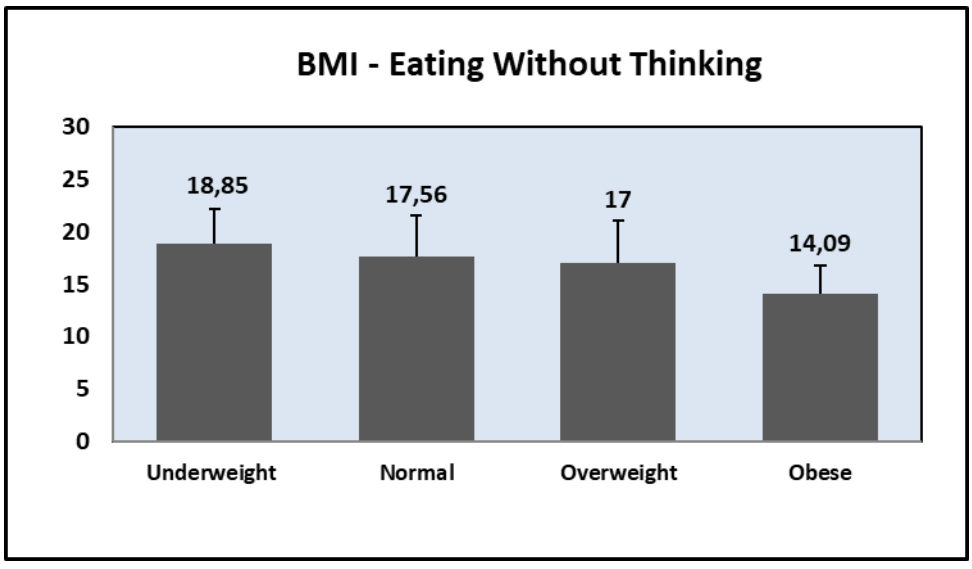

Figure 16: Distribution of Eating without Thinking Scores by BMI Groups

Emotional Eating

According to BMI groups, the scores of the participants in the Mindful Eating Questionnaire "Emotional Eating" sub-dimension show a statistically significant difference ($p=0.003$; $p<0.01$). As a result of the bilateral researches made to find the source of the difference; the scores of the underweight group were significantly higher than the scores of the obese group ($p=0.002$; $p<0.01$). Likewise, the scores of the normal group were significantly higher than the scores of the obese group ($p=0.007$; $p<0.01$).

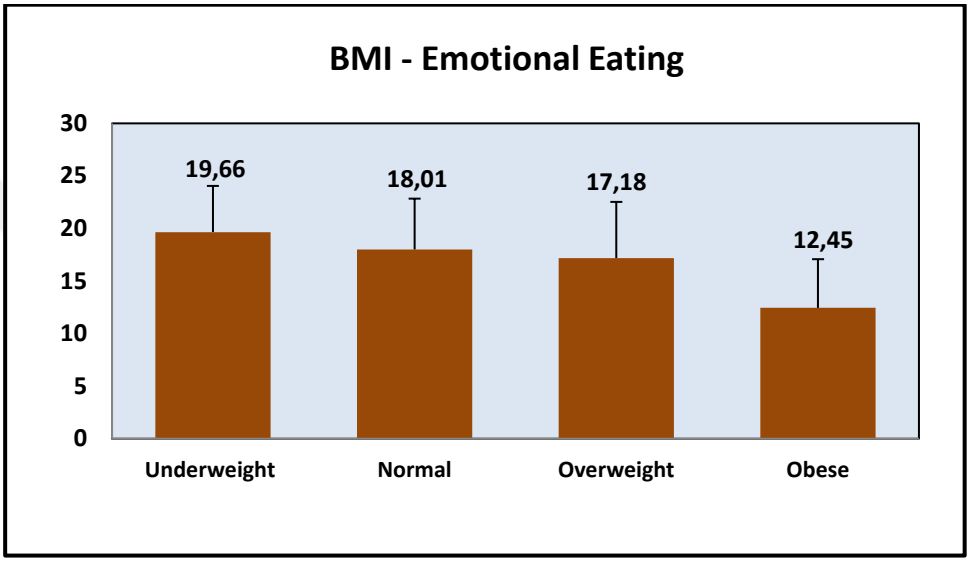

Figure 17: Emotional Eating Scores Distribution by BMI Groups

MEQ Total Score

According to BMI groups, the total scores of the participants from the Mindful Eating Questionnaire show a statistically significant difference ($p=0.021$; $p<0.05$). As a result of the bilateral researches made to find the source of the difference; the scores of the underweight group were significantly higher than the scores of the obese group ($p=0.018$; $p<0.05$). Likewise, the scores of the normal group were significantly higher than the scores of the obese group ($p=0.046$; $p<0.05$).

Table 12: Comparison of the Mindful Eating Questionnaire by Economic Status Groups

			Income Less Than Expenses (n=49)	Income Equals Expenses (n=84)	Income More Than Expenses (n=57)	*p*
Eating Without Thinking	*Mean±Sd*		16,93±3,71	17,52±4,14	17,59±3,95	***[a]0,646***
	Median (Min-Max)		17 (5-25)	18 (8-25)	18 (7-25)	
Emotional Eating	*Mean±Sd*		17,85±4,60	17,58±5,58	17,77±4,70	***[a]0,951***
	Median (Min-Max)		18 (7-25)	18 (5-25)	18 (6-25)	
Eating Control	*Mean±Sd*		14,48±3,67	14,97±3,22	15,43±3,63	***[a]0,375***
	Median (Min-Max)		15 (4-20)	15 (6-20)	17 (6-20)	
Awareness	*Mean±Sd*		15,69±1,87	16,52±1,70	16,33±2,06	***[a]0,045****
	Median (Min-Max)		16 (11-20)	16 (13,21)	16 (12-21)	
Eating Discipline	*Mean±Sd*		12,28±3,04	13,20±3,11	13,57±2,91	***[a]0,084***
	Median (Min-Max)		13 (5-19)	13 (5-20)	14 (6-19)	
Conscious Nutrition	*Mean±Sd*		16,89±3,00	16,77±2,61	17,22±2,47	***[a]0,609***
	Median (Min-Max)		17 (8-22)	17 (11-22)	17 (11-22)	
Interference	*Mean±Sd*		7,16±1,84	7,19±1,69	7,85±1,87	***[a]0,059***
	Median (Min-Max)		7 (3-10)	7 (2-10)	8 (2-10)	

MEQ Total	*Mean±Sd*	101,32±13,71	103,77±14,09	105,80±13,43	***[a]0,252***
	Median (Min-Max)	100 (61-127)	106,50 (70-134)	108 (65-128)	

[a]Oneway ANOVA test **p<0,05*

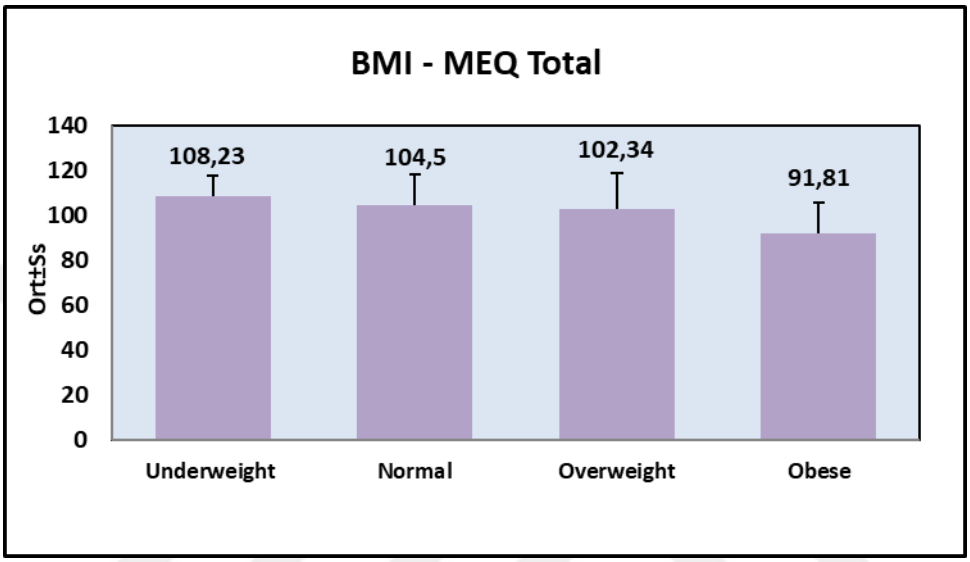

Figure 18: Distribution of Mindful Eating Questionnaire Total Scores by BMI Groups

According to BMI groups, the sub-dimensions of "Eating Control", "Awareness", "Eating Discipline", "Conscious Nutrition" and "Interference" do not show a statistically significant difference (p>0.05).

According to income status groups, the sub-dimensions of the the Mindful Eating Questionnaire of the participants, "Eating without thinking", "Emotional Eating", "Eating control", "Eating discipline", "Conscious nutrition", "Interference" and "MEQ total" scores do not show a statistically significant difference. (p>0.05).

Significance was found between “Awareness” scores according to income status (p=0.045; p<0.05); When the significance was examined, the awareness score of those whose income is equal to expenses was found to be significantly higher than those whose income is less than expenses (p=0.042, p<0.05); No significant difference was found between other income groups (p>0.05).

Table 13: The Relationship between the Attitude Scale for Healthy Nutrition and the Mindful Eating Questionnaire

		Attitude Scale for Healthy Nutrition
Mindful Eating Questionnaire	r	0,381
	p	***0,001*****

r: Pearson Correlation Test **p<0,05 **p<0,01*

A statistically significant moderate correlation was found between the total score of the Attitude Scale for Healthy Nutrition and the the total score of Mindful Eating Questionnaire (Mindful Eating Questionnaire scores increase as the Healthy Eating Attitude Scale score increases) (r=0.381; p=0.001; p<0, 01).

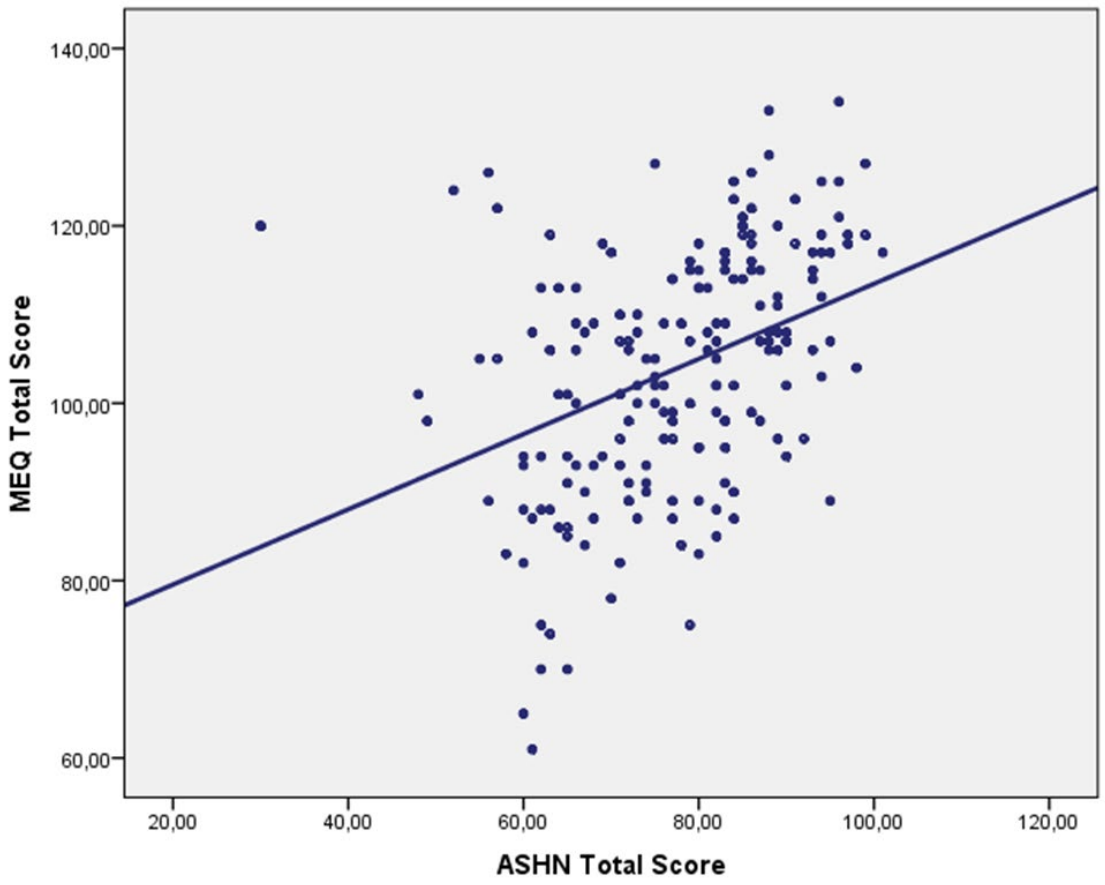

Figure 19: The Relationship between : The Relationship between the Attitude Scale for Healthy Nutrition and the Mindful Eating Questionnaire

5. DISCUSSION AND CONCLUSION

Obesity is a public health problem that is increasing constantly in Turkey, as it is around the world, and it is a condition that reduces the quality of life (3). Along with this situation, disorders in eating behavior are frequently encountered and known caused by psychological factors (6). In the treatment of obesity, it is essential to bring the feeling of hunger and satiety to normal limits. In this direction, the concepts of mindful eating and mindfulness for therapeutic purposes have been frequently examined in recent years (54).

Mindful eating is basically based on neutralizing the external factors that affect the eating behavior and feeling of hunger and satiety, and eating in line with the internal hunger signals. The focus is on perceiving the physical feeling of hunger, hence the focus is on senses such as smell, texture, and taste during eating. It is recognized that mindful eating reduces the speed of eating, is effective against excessive appetite and craving, and also has a positive effect on weight control (8). The purpose of this study was to investigate these two hypotheses which are:

1. Do individuals with mindful eating behaviours have healthy eating attitudes?
2. Are individuals with mindful eating within the normal BMI ranges?

Our study was conducted with 190 female volunteers aged between 18-65 years who applied to a clinic in Levent, a district on the European side of Istanbul. 51.6% of these individuals were between the ages of 18-30, 12.6% were 31-40, 18.9% are 41-50, and 16.8% were 51-65 years old.. The weight of the participants was calculated to be between 42 to 105 kg, with an average of 61.87±11.43. The height of the participants was measured to be from 150 to 195 cm, with an average of 165.06±5.91. BMI values of the participants were calculated as: 11.1% (n=21) underweight, 63.2% (n=120) normal, 20% (n=38) overweight, and 5.8% (n=11) obese. BMI values of the participants ranged from 16.49 to 39.04, and have an average of 22.72±4.14.

The Attitude Scale for Healthy Nutrition (ASHN) scale was used to evaluate healthy eating, and the MEQ scale was used to measure the level of mindful eating. There are various studies on the reliability of these scales in Turkey, and they are considered to be reliable (51, 55). In a study about the reliability of the Turkish MEQ scale, it was calculated that it has a cronbach alpha value of 0.733 (9). In our study,

MEQ's and ASHN's internal consistencies were calculated with cronbach alpha as 0.814 and 0.848. Thus, it can be said that they are highly reliable. Our findings from this study showed that MEQ's consistency values of the sub-dimensions of mindful eating have the mean of 0.814, with the highest consistencies of eating without thinking (a=0,724), emotional eating (a=0,841), eating control (a=0,707) with the average scores of "disinhibition" 17,39±3,97, "emotional eating " 17,71±5,06 and "eating control." 14,98±3,46. The lowest consistency score belonged to the sub-dimension "conscious nutrition" a=0,033, with the average score of 16,49±2,67. In our study, it was recognized that eating discipline and interference results raised gradually to higher values with age. In a study conducted with undergraduate university students, the results showed that there was also a relation between higher eating discipline and older age in a smaller age gap (from 18 to 26) (56). Similarly, in Durukan and Gül's study, people of different generations had different perspectives on mindful eating, and the youngest generation (Z generation) had the lowest value of eating discipline between the generations that participated, and raised gradually with age (57). Among the findings of a research on mindful eating of university students, conducted with students between the ages of 18-46: As the age of the students increases, MEQ scores, that is, their mindful eating , increase significantly. (58)

The mean MEQ results of the BMI groups were 108.23 for the underweight, 104.5 for the normal weight, 102.34 for the overweight and 91.81 for the obese, respectively. In accordance with one of the hypotheses of the study, "individuals with high mindful eatig are in the normal BMI range", it was seen that underweight and normal weight individuals have higher values of mindful eating than obese individuals. In a study with a sample of university students which inspected the relationship of MEQ scores and BMI, it was observed that there was a significant negative relation between these two values, similar to the outcome of this study (59). In another study which investigated the relations of mindful eating with BMI and body compositions, it was seen that women who scored higher on MEQ had lower BMI values (60). According to the results of an intervention study conducted among 37 adolescent women; At the end of 6 weeks, BMI increased by 0.7 kg/m2 in individuals who were given nutrition and exercise information, and BMI decreased by 1.1 kg/m2 in the group that received mindful eating intervention (61). Among the findings of a Research on Mindful Eating of University Students, conducted with students between the ages of 18-46: While the

students body weight and BMI values increase, the risk of eating disorders increases ($r=0.112$, $p<0.05$ and $r=0.139$, $p<0.05$), and mindful eating decreases (58). In the study of Framson et al., as the BMI value increases, the MEQ score decreases in parallel (28). In the study conducted by Mason et al., the MEQ score was found to be lower in participants with a high BMI value, as well as a decreased emotional eating score (45). According to the results of a study investigating the effect of eating awareness on weight control; there was strong support for the implication of mindful eating as a part of weight management programs. Furthermore, mindful eating aids to provide important advantages to the treatment of obesity and overweight (36). In Durukan and Gül's study, BMI values were inversely associated with MEQ scores (57). In a study which was researched the relation of grazing with BMI, self-compassion, mindfulness and mindful eating in a student population, a significant negative relationship between BMI and mindful eating was found. (62) When the current literature is compared, results supporting our hypothesis that "individuals with low BMI have higher mindful eating" were found. In our study, the MEQ total scores of the underweight and normal BMI groups and the scores in the 2 sub-dimensions (eating without thinking and emotional eating) were found significantly different. The MEQ scores increased as the weight decreased and the BMI decreased. As a result, according to the findings of the study, mindful eating increased as BMI decreased.

According to BMI groups, the sub-dimensions of the Attitude Scale towards Healthy Nutrition of the participants "Attitude towards nutrition", "Emotion towards nutrition", "Positive nutrition", "Bad nutrition" and "ASHN total" scores do not show a statistically significant difference. As a result of the study, there is no relationship between BMI and healthy eating attitude. Among the results of a study using the ASHN scale by Özenoğlu et al. in 2021; When the BMI variable and ASHN total score averages are compared, there is no statistically significant difference between them. (63) According to the results of the study of the Evaluation of the Relationship between Health Literacy and Healthy Eating Attitudes in Obesity conducted by Çın Aslı et al.; it has been observed that individuals with obesity (high BMI: BMI>30) have low health literacy levels and high attitudes towards healthy eating. (64)

Attitude Scale for Healthy Nutrition and Mindful Eating Questionnaire were found to be statistically moderately correlated, hence it can be said that the MEQ scores

increase as the ASHN score increases (r=0.381; p=0.001; p<0, 01). This result is in line with our hypothesis which assumes that there is a significant relationship between having mindful eating behaviours and healthy eating attitudes, since these two questionnaires are used to determine the conditions of these attitudes and behaviours. Since the originality of the study is to combine and compare these two scales, (MEQ and ASHN) there is no exact comparison of these two in the literature. In a review conducted in 2015 showed that mindfulness meditations that specifically focus on eating may be highly beneficial in supporting better eating behaviours, and help in weight management (54). In a study which investigated mindfulness, self-compassion, and mindful eating in relation to fat and sugar consumption, a negative relationship was found between fat and sugar consumption and mindful eating (65). The current studies provide convergent evidence, across diverse measures, that mindfulness encourages healthier eating through reduced calorie consumption (66).

Conclusion:

In conclusion, the findings obtained from our study show;

A moderate correlation was observed between the two scales supporting the result, which is the first hypothesis, that individuals with mindful eating have more healthy eating attitudes. Although there is no comparison of these two scales in the current literature, there are many studies showing that mindful eating and healthy eating behaviours have a positive correlation.

As our second hypothesis, the findings of the research match with this hypothesis that as the mindful eating increases, the state of having a normal BMI increases. Participants with the underweight and normal BMI had higher MEQ scores. This shows that mindful eating increases as BMI decreases. There are many studies in the literature that support these findings (28,36,45,57,58,59,60,61,62).

The study had a few limitations due to limited time and permissions, for instance, all participants were female and the sample was small-scaled. However, the study had high consistency and reliability scores despite these limitations.

The study showed that mindful eating could be promising for keeping or reaching a healthy weight. Furthermore, some studies about using mindful eating

alongside challenging treatments like eating disorders show the strength of this concept. We are looking forward to see more studies about the usage of mindful eating on different types of health struggles in the future.

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7. APPENDICES

APPENDIX 1: Questionnaire Form

APPENDIX 2: Mindful Eating Questionnaire (MEQ-30)

APPENDIX 3: Attitude Scale for Healthy Nutrition (ASHN)

APPENDIX 4: Curriculum Vitae

APPENDİX 5: Ethical Approval

APPENDIX 1: Questionnaire Form

Sosyo-demografik Veri Formu:

Cinsiyet: Kadın / Erkek

Yaş: 18-30 / 31-40 / 41-50 / 51-65

Kilo:

Boy:

Eğitim:

İlköğretim

Lise

Üniversite

Lisansüstü

Medeni Durum:

Evli / Bekar

Meslek:

Çalışmıyor

Öğrenci

Memur

İşçi

Emekli

Gelir Düzeyi:

Geliri giderinden yüksek / Geliri giderinden düşük / Geliri gideriyle eşit

APPENDIX 2: Mindful Eating Questionnaire (MEQ-30)

YEME FARKINDALIĞI ÖLÇEĞİ (YFÖ-30)

Değerli katılımcı, bu anket sizin yeme alışkanlıklarınız ve farkındalığınız ile ilgilidir.
Lütfen her bir soruyu dikkatlice okuyunuz ve size uygun gelen kutunun içine X işareti koyunuz.

1 Hiç	2 Nadiren	3 Bazen	4 Sık sık	5 Her zaman

		1	2	3	4	5
1.	Besinlerin kalorileri hakkında bilgim vardır.					
2.	Ana öğünümü ekmeksiz yiyemem.					
3.	Lokmalarımı çiğnemeden yutarım.					
4.	Sevdiğim yiyeceklerden birini yerken, doyduğumu fark edemem.					
5.	Fast food olmayan bir hayat düşünemiyorum.					
6.	Çevremdekiler çok hızlı yemek yediğimi söyler.					
7.	Gaz yapan yiyecekleri yemekten kaçınırım.					
8.	Yemeden önce yiyeceklerin görüntüsü ve kokusundan keyif alırım.					
9.	Dün akşam ne yediğimi hatırlayabilirim.					
10.	Bir şey ikram edildiğinde düşünmeden yerim.					
11.	Yüksek kalorili besinlerden uzak dururum.					
12.	Protein içeriği yüksek besinleri yemeyi tercih ederim.					
13.	Yediğim besinlerdeki ince tatları fark ederim.					
14.	Birden bire çok acıktığımı fark edip ne bulsam yiyecek duruma gelirim.					
15.	Yediğim her lokmanın tadına varırım.					
16.	Sık sık diyet yaparım.					
17.	Tok olsam bile bir yiyeceğin aklımı çeldiği olur.					
18.	Öğün saatlerim bellidir.					
19.	Yemek yerken çatal yerine kaşık kullanırım.					
20.	Bir öğünde daha fazla yiyemeyecek hale gelene kadar yerim.					
21.	Evin bir yerlerinde dondurma, kurabiye ya da cips varken yemeden duramam.					

22.	Moralim bozulunca ilk aklıma gelen şey yemek olur.					
23.	Canım sıkılınca yerim.					
24.	Sağlıklı beslenirim.					
25.	Yemek çok sıcak ise biraz soğumasını beklerim.					
26.	Yediğimi fark etmeden atıştırırım.					
27.	Küçük lokmalarla yerim.					
28.	Stresli hissettiğimde abur cubur yerim.					
29.	Yerken otomatik pilota bağlarım.					
30.	Mutlu olmak için çikolata yerim.					

Türkçe Kaynak: Köse G, Tayfur M, Birincioğlu İ, Dönmez A. Adaptation Study of the Mindful Eating Questiionnare (MEQ) into Turkish, Journal of Cognitive-Behavioral Psychotherapy and Research, 2016; 5(3): 125-134, doi: 10.5455/JCBPR.250644.

Orijinal Kaynak: Framson C, Kristal AR, Schenk JM, Littman AJ, Zeliadt S, Benitez D. Development and validation of the mindful eating questionnaire. Journal of the American Dietetic Association. 2009;109(8):1439-44.

PUANLAMA YÖNERGESİ

Alt boyut ve madde sayısı: 7 alt boyut ve 30 madde

1. Düşünmeden Yeme (5 madde) : 4, 14, 17, 20, 26
2. Duygusal Yeme (5 madde): 21, 22, 23, 28, 30
3. Yeme Kontrolü (4 madde): 3, 6, 27, 29
4. Farkındalık (5 madde): 8, 9, 12, 13 15
5. Yeme Disiplini (4 madde): 1, 18, 24, 25
6. Bilinçli Beslenme (5 madde): 2, 7, 11, 16, 19
7. Enterferans (Dış etmenlerden etkilenme) (2 madde): 5, 10

Ölçeğin bulunan ters maddeler: Ölçekte 20 ters madde bulunmaktadır. 1, 7, 9, 11, 13, 15, 18, 24, 25 ve 27.sorular düz puanlandırılmaktadır. Geriye kalan sorular ters* puanlandırılmaktadır. {*Ters Puanlama (1=5, 2=4, 3=3, 4=2, 5=1)}

Ölçeğin Değerlendirilmesi: Ölçeğin her bir alt boyutundan alınan yüksek puan bireyin ilgili alt boyutun değerlendirdiği özelliğe sahip olduğunu göstermektedir. Ölçek ayrıca toplam yeme farkındalığı puanı vermektedir. Ölçek puanlanırken alt boyutların ve toplam puanın ortalaması alınmaktadır.

İzin için iletişim adresi: drgizemkose@gmail.com

APPENDIX 3: Attitude Scale for Healthy Nutrition (ASHN)

Sağlıklı Beslenmeye İlişkin Tutum Ölçeği (SBİTÖ)

		Kesinlikle Katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle Katılıyorum
1	Sağlıklı beslenmenin yararlarını bilirim.	1	2	3	4	5
2	Hangi besinlerin protein içerdiğini bilirim.	1	2	3	4	5
3	Hangi besinlerin karbonhidrat içerdiğini bilirim.	1	2	3	4	5
4	Hangi besinlerin vitamin/mineral içerdiğini bilirim.	1	2	3	4	5
5	Sağlıklı besinlerin neler olduğunu bilirim.	1	2	3	4	5
6	Şekerli besinler (çikolata, kek, bisküvi, vb.) tükettiğimde mutlu olurum.	1	2	3	4	5
7	Fastfood ürünler (hamburger, pizza vb.) yemekten keyif alırım.	1	2	3	4	5
8	Şarküteri ürünleri (salam, sosis, sucuk, vb.) yemekten zevk alırım.	1	2	3	4	5
9	Yağda kızarmış besinlerin yemeyi severim.	1	2	3	4	5
10	Meyve tüketmekten hoşlanmam.	1	2	3	4	5
11	Şerbetli tatlıları (baklava, künefe vb.)tükettiğimde mutlu olurum.	1	2	3	4	5
12	Ana öğünleri (kahvaltı-öğle ve akşam yemeği) düzenli yerim.	1	2	3	4	5
13	Günde en az 1,5 lt su içerim.	1	2	3	4	5
14	Haftada en az 3 öğün sebze tüketirim.	1	2	3	4	5
15	Düzenli meyve tüketirim.	1	2	3	4	5
16	Her gün protein içeren besinler (et, süt, yumurta, vb.) yerim.	1	2	3	4	5
17	Ana öğünleri atlarım.	1	2	3	4	5
18	Her gün abur cubur (cips, çikolata, bisküvi, vb.) yerim.	1	2	3	4	5
19	Her gün asitli/gazlı içeceklerden en az 1 bardak içerim.	1	2	3	4	5
20	Ayaküstü beslenirim.	1	2	3	4	5
21	Ana öğünümü genellikle kek, bisküvi gibi gıdalarla geçiştiririm.	1	2	3	4	5

Ölçekteki olumlu maddelere ait derecelendirme "Kesinlikle Katılmıyorum", "Katılmıyorum", "Kararsızım", "Katılıyorum", "Kesinlikle Katılıyorum" şeklindedir. Olumlu tutum maddeleri; 1, 2, 3, 4 ve 5 olumsuz tutum maddeleri ise 5, 4, 3, 2 ve 1 şeklinde puanlanmıştır.

Olumlu maddeler: 1., 2., 3., 4., 5., 12., 13., 14., 15., 16. maddelerden oluşmaktadır.

Olumsuz maddeler: 6., 7., 8., 9., 10., 11., 17., 18., 19., 20. ve 21. maddelerden oluşmaktadır.

SBİTÖ 21 madde ve 4 faktörden oluşan bir yapıya sahiptir. Bu faktörler, Beslenme Hakkında Bilgi (BHB), Beslenmeye Yönelik Duygu (BYD), Olumlu Beslenme (OB) ve Kötü Beslenme (KB) olarak adlandırılmıştır.

Beslenme Hakkında Bilgi (BHB): 1., 2., 3., 4., 5.

Beslenmeye Yönelik Duygu (BYD): 6., 7., 8., 9., 10., 11.

Olumlu Beslenme (OB): 12., 13., 14., 15., 16.

Kötü Beslenme (KB): 17., 18., 19., 20., 21. maddelerden oluşmaktadır.

Ölçeğin iç tutarlılık katsayıları, Beslenme Hakkında Bilgi (BHB) faktörü için ,90 Beslenmeye Yönelik Duygu (BHB) faktörü için ,84, Olumlu Beslenme (OB) faktörü için ,75 ve Kötü Beslenme (KB) faktörü için ,83 şeklindedir.

Atıf: Tekkurşun Demir, G., Cicioğlu, Hİ., (2019). Sağlıklı Beslenmeye İlişkin Tutum Ölçeği (SBİTÖ): Geçerlik ve Güvenirlik Çalışması. *Gaziantep Üniversitesi Spor Bilimleri Dergisi, 4(*2), 256-274.

APPENDIX 5: Ethical Approval

KARAR FORMU

31.08.2021

ETİK KURUL BİLGİLERİ	Etik Kurulun Adı	Yeditepe Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu
	Açık Adres	Yeditepe Üniversitesi Diş Hekimliği Fakültesi, Bağdat Cad. No. 238 Göztepe 34728 Kadıköy, İstanbul
	İnternet Sayfası	http://goetik.yeditepe.edu.tr/
	Telefon	0216 363 60 44
	E-posta	goetik@yeditepe.edu.tr

DEĞERLENDİRİLEN BELGELER	Islak imzalı başvuru dosyası, CD'si ve elektronik başvuru	☒
	Araştırma başlığı ve araştırmacıların isimleri	☒
	Başvuru dilekçesi	☒
	Araştırmanın;	☒
	• Niteliği	☒
	• Önemi ve özgün değeri	☒
	• Amaç ve hedefleri	☒
	• Yöntemi	☒
	• Yönetimi	☒
	• Yaygın etkisi	☒
	• Araştırma bütçesi (Mevcutsa)	☒
	• Süresi ve uygunluğu (Zaman cetveli)	☒
	• Kaynakları	☒
	Araştırma izin belgesi / belgeleri	☒
	Bilgilendirilmiş Gönüllü Olur Formu (yapılan araştırmaya özel olarak hazırlanmış)	☒
	Taahhütname-1 Dünya Tıp Birliği Helsinki Bildirgesinin son versiyonunun ve Sağlık Bakanlığı'nın ilgili tüm kılavuzlarının okunmasına dair taahhüt	☒
	Taahhütname-2 Daha önce yapılmış etik kurul başvuruları mevcut olup olmadığına dair taahhüt	☒
	Taahhütname-3 Araştırma sırasında araştırma bütçesinde yer almayan ve gönüllünün kendisine veya Sosyal Güvenlik Kurumuna ek yük getirecek hiçbir işlem uygulanmayacağına dair taahhüt	☒
	Taahhütname-4 COVID-19 hastalarında tedavi yaklaşımları ve bilimsel araştırmalar genelgesi okunmasına dair taahhüt	☒
	Araştırmacıların her birisine ait özgeçmiş formu	☒
	Ek belgeler (Varsa kullanılan ölçek izinleri vb.)	☒

KAR AR	Başvuru Numarası	202106064
	Toplantı Tarihi	13.08.2021
	Toplantı Yeri	Çevirim içi (Google Meet)

Araştırmanın Başlığı	Levent'te Yer Alan Özel Bir Kliniğe Başvuran 18-65 Yaş Arası Kadınlarda Yeme Farkındalığının Sağlıklı Beslenme ve Beden Kütle İndeksi Üzerine Etkisinin Araştırılması
Araştırmacılar	Doç. Dr. Hülya Demir, Damla Türkay

	Karar No	15

Araştırmanın Başlığı	Levent'te Yer Alan Özel Bir Kliniğe Başvuran 18-65 Yaş Arası Kadınlarda Yeme Farkındalığının Sağlıklı Beslenme ve Beden Kütle İndeksi Üzerine Etkisinin Araştırılması
Araştırmacılar	Doç. Dr. Hülya Demir, Damla Türkay

BAŞVURU NUMARASI: 202106064

KARAR

31.08.2021

☒ **KABUL**	☐ **RET** ☐ *KAPSAM DIŞI (GİRİŞİMSEL)* ☐ *BİLİMSEL VE/VEYA ETİK KURALLARA AYKIRI* ☐ *BİR SORUMLU ARAŞTIRMACININ (TEZ İSE TEZ DANIŞMANI), BİR TOPLANTIYA **İKİ (2) ADETTEN FAZLA ÇALIŞMA BAŞVURUSUNDA** BULUNMASI* ☐ *KURUM İÇİ BAŞVURULARINDA **YEDİTEPE UZANTILI E-POSTA HESABI** İLE GİRİŞ YAPILMAMIŞ OLMASI* ☐ *ŞARTLI KABULDE BELİRTİLEN REVİZYONLARIN ZAMANINDA VE/VEYA İSTENİLDİĞİ ŞEKİLDE YAPILMAMIŞ OLMASI*

Prof. Dr. Didem ÖZDEMİR ÖZENEN **Başkan**				**Doç. Dr. Gökhan ERTAŞ** **Başkan Yardımcısı**				**Doç. Dr. Elif SUNGURTEKİN EKÇİ** **Raportör**			
Katılım		İlişki		Katılım		İlişki		Katılım		İlişki	
☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok

Prof. Dr. Feryal SUBAŞI **Üye**				**Doç. Dr. Mehmet Engin CELEP** **Üye**				**Dr. Öğr. Üyesi E. Çiğdem KELEŞ** **Üye**			
Katılım		İlişki		Katılım		İlişki		Katılım		İlişki	
☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok

Dr. Öğr. Üyesi Binnur OKAN BAKIR **Üye**				**Dr. Öğr. Üyesi E. Nur ÖZDAMAR** **Üye**				**Dr. Öğr. Üyesi SEVİM ŞEN** **Üye**			
Katılım		İlişki		Katılım		İlişki		Katılım		İlişki	
☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok	☐Var	☐Yok

Araştırmanın Başlığı	Levent'te Yer Alan Özel Bir Kliniğe Başvuran 18-65 Yaş Arası Kadınlarda Yeme Farkındalığının Sağlıklı Beslenme ve Beden Kütle İndeksi Üzerine Etkisinin Araştırılması
Araştırmacılar	Doç. Dr. Hülya Demir, Damla Türkay