Doctoral (PhD) dissertation theses

EXAMINATION OF CONSUMER OPINIONS RELATED TO CONSCIOUS OR PERCEIVED CONSCIOUS NUTRITION

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1. ANTECEDENTS AND OBJECTIVES OF THE RESEARCH AND PRESENTATION OF THE RESEARCH HYPOTHESES

The topicality of the topic is indeed outstanding, as the number of research related to civilizational diseases has increased dramatically in the last decade. The role of nutrition and physical activity in maintaining mental and mental health and in the development of diseases has become more and more in the focus of attention. According to the World Health Organization (WHO), civilizational diseases such as cardiovascular disease, diabetes and various cancers are spreading as a consequence of poor diet and sedentary lifestyles, and these problems are becoming more and more challenging worldwide (MENDIST et al., 2007; BARQUERA, 2022; PALM, 2022).

The COVID-19 pandemic has exacerbated this situation, as quarantine measures and social distancing have led to many people moving less and demand for comfort food has also increased. As a result of the transition to a lifestyle at home, many people have experienced weight gain, which can lead to various health problems. According to a 2021 WHO report, more than 1.9 billion adults in the world's population are overweight, and 650 million of them are obese (FAKHRUDDIN, 2021; PAVONTE et al., 2022;).

The popularity of success stories and diets on the web in the field of nutrition and weight loss is truly remarkable. People often look for inspiration from the success of others, and many believe that if someone has successfully lost weight with a particular diet, it will work for them as well. However, it is important to emphasize that what works for one person may not work for others. Individual differences, such as genetic background, metabolism, and psychological factors, all influence the weight loss process (EHRLICHER et al., 2022).

In addition, there are a lot of fake self-proclaimed professionals on the internet, who often seek to increase their own reputation or make financial gain. Many times, these individuals recommend methods, products, or diets that have no scientific basis and whose effectiveness is questionable. Following this type of information not only does not help you lose weight, but can even pose health risks (VASCONCELOS et al., 2021). To understand nutritional trends and achieve effective weight loss, it is essential to follow a science-based approach and professional guidance.

Personalized approaches recommended by nutritionists and dietitians can be much more effective than following fad diets. These professionals take into account individual needs, preferences, and health conditions so that they can recommend a diet that can really help you lose weight and stay healthy. Therefore, it is of utmost importance to look for credible sources and follow professional advice from the information on the Internet to avoid misleading information and potentially harmful effects. The spread of civilizational diseases, especially as a consequence of weight gain, raises serious social and economic problems.

Therefore, the objectives set in my thesis are aimed at exploring the role of nutrition and physical activity in the preservation of mental and mental health and in the prevention of civilizational diseases. Selecting authentic information and using reliable sources is essential for consumers to make informed choices to preserve their health (JAHANBAKHSH et al., 2020). Following science-based approaches and professional guidance is key to nutrition, especially to prevent civilizational diseases (PALM, 2022).

The basic hypothesis of my dissertation and the central question of my research is to what extent consumers are able to keep up with the acceleration of technological and industrial development, especially with regard to the effects on their lifestyle and eating habits. In recent years, the number of obese people has increased significantly, which suggests that one of the dominant means of coping with a modern, fast-paced lifestyle is the use of convenience services. This category includes home delivery of FMCG products and quick and easy procurement of semi-finished and ready-to-eat meals, which provide time-saving solutions for consumers (YUSUF et al., 2022).

At the same time, it is important to emphasize that an increasing number of people in the population are recognizing the health risks of this lifestyle, and that one of the most effective ways of prevention is health awareness. However, the spread of this has been built into the public consciousness along a number of misconceptions and misunderstandings, which makes it difficult to spread credible and professionally based information. Physical activity and proper nutrition play a prominent role in preventing obesity and reducing the risk of chronic diseases (TÓTH, 2021). Maintaining a healthy lifestyle is therefore essential for maintaining long-term health (CHIMEZIE, 2023).

In my dissertation, I aim to explore the current nutritional trends that dominate public life and highlight the mistakes that cause health and economic damage, thus hindering the well-being of consumers and society. My goal is not only to look for new solutions, but also to thoroughly analyze existing problems and to help the work of professionals familiar with scientific public life.

Nutrition trends are often not only the result of fashion or marketing tactics, but also have deeper social and economic contexts behind them. To help them make health-conscious choices, it is important that consumers have access to accurate and reliable information to help them make the right choices. In my thesis, I highlight these problems and contribute to the development of a marketing communication strategy aimed at promoting conscious eating and healthy lifestyle.

As a result of the abundant nutrient intake characteristic of modern societies, the decrease in physical activity and the combined effect of individual genetic factors, a significant proportion of the population struggles with obesity (TOLNAY and SZABÓ, 2004). Being overweight is not only associated with negative health consequences, but also raises aesthetic, social and self-esteem problems (KOCSÁNDI et al., 2005). Strategies for reducing body weight – reducing energy intake and increasing energy expenditure – are widely used methods in Hungary as well (LETTERFORS and HALMY, 2008).

Commonly known as "dieting," weight loss efforts often reflect a campaign-like approach, which in itself can explain long-term ineffectiveness. If weight loss is done in a periodic, cure-like manner, there is a high chance that weight gain will occur after the end of the process. On the other hand, lasting success can only be achieved through lifestyle changes, where motivation and perseverance form a structured system (BAJNOK, 2008). To effectively reduce body weight, after determining the degree of targeted weight loss and motivational factors, a proper diet composition is key (ROBERTS et al., 2022; OLATEJU et al., 2023; PARISI, 2023).

Improperly chosen and applied weight loss methods can carry significant psychological and physiological risks. As a result of improper weight loss practices, individuals seeking to lose weight may develop increased irritability and a depressive mood, and typical symptoms may include weakness, reduced ability to work, and health impairment due to protein, vitamin

and mineral deficiencies (TOLNAY and SZABÓ, 2004). In addition, the loss of muscle mass, the slowing down of basal metabolism and the reappearance of obesity to a greater extent can be the result of inappropriate dietary methods. Research shows that strengthening self-control and self-efficacy can improve the success rate of weight loss programs, especially among young people. For sustainable weight loss, psychological factors such as self-control and self-efficacy play a significant role in achieving success (CHAITOFF et al., 2019; SZABÓ and PIKÓ, 2021; BAGASHEV, 2022).

After successfully achieving weight loss, maintaining body weight in the long term is just as important a factor as the weight loss process itself. If, after the end of the diet, the individual returns to his or her previous sedentary and nutrient-rich lifestyle, the risk of regaining weight increases significantly. In addition, it may happen that the body weight will be even higher than the value measured at the beginning of the weight loss diet (TOLNAY and SZABÓ, 2004).

Body image is the sum of psychological, behavioral, and neurophysiological factors related to an individual's own body. The special significance of his study stems from the fact that one of the main motivational factors for modifying body weight is dissatisfaction with body image (TROISI, 2020).

The perception of an individual's body image is influenced by several factors, including perception of one's own body size (an individual's estimation of one's own body size), emotional responses (feeling) triggered by body shape and size, and cognitive assessment of body attractiveness (thought). In addition, the ideal body image conveyed by the media, as well as the opinion and attitude of the family and the peer community, play a decisive role in the development of body image (GROGAN, 2006; PROBST et al., 2008; CZEGLÉDI et al., 2009).

A common feature of the models examining food consumer behaviour is that they place the purchase decision at the centre of their analysis and derive food consumption from this factor. The most frequently used models in consumer behavior research include the complex consumer behavior model developed by Blackwell, Miniard and Engel, as well as the simple customer behavior model created in 1987, the system developed by Engel, Blackwell and Miniard, and Kotler's general customer behavior model (LEHOTA and TOMCSÁNYI,

1994; SZAKÁLY, 2011). In order to understand purchasing decisions, it is also important to take into account market conditions and the role of retail chains, which have a significant impact on consumer behaviour. The impact of retail chains is particularly important, as the decisions of customers are greatly influenced by the products and services available (POPP and JUHÁSZ, 2011; KASIANOVA & BUT-HUSAIM, 2022).

Models examining health behaviour include, among others, Pender's Health Promoting Model (1987), the Health Belief Model and the Protective Motivational Theory. These models are based on the idea that consumers need inspiration and guidance to make health decisions and change their behaviour. These models emphasize the role of information sources, such as the internet, which can help consumers make informed decisions and make food choices. To promote conscious food consumption, companies need to take into account consumers' information needs and support for informed decision-making. For conscious consumers, the availability and reliability of information is crucial, as it influences their purchasing decisions and the evaluation of product quality (SZŰCS et al., 2016; BAGPIPES, 2011; KI et al., 2022).

The Theory of Reasoned Action and the Theory of Planned Behavior focus on the behavioral intent that determines our actions. According to these models, behavioral intent is influenced by three main factors: attitudes, subjective norms, and perception of controlling behavior. The Theory of Logical Actions (AJZEN and FISHBEIN, 1980) and the Theory of Planned Behavior (AJZEN, 1988) emphasize that the intentions behind actions are the result of conscious decisions that are formed by taking into account environmental and social influences.

The Transtheoretical Model of Change (Rácz, 2012) analyzes the process of behavior change step by step, taking into account the different stages that consumers go through when they develop new habits. Detailed analysis of these models is essential for understanding conscious consumer behavior, as they help to uncover the motivations and factors behind purchasing decisions. To promote conscious consumption, it is important for marketing professionals and policymakers to consider these psychological and social factors so that they can develop more effective strategies to influence consumer behavior. To understand conscious consumer behavior, it is essential to analyze different models and theories in

detail, which help to explore the motivations and factors behind purchasing decisions (DUDÁS, 2011).

According to the Transtheoretical Model of Prochaska and DiClemente (1984), the development of sustainable health behaviour takes place through five successive stages: precontemplation (closure), contemplation (contemplation), preparation, action and maintenance (SZAKÁLY, 2011). The Transtheoretical Model thus provides a comprehensive framework for understanding behavioural change and helps to shape health behaviour in a sustainable way. By considering the different stages, professionals can develop more effective strategies to support consumers so that they can successfully go through the process of change (WORTH, 2022).

During **the precontemplation phase (lockdown),** the individual shows no interest in health-related changes and is not aware of the potential health consequences of his or her inactivity. As a result, its ability to influence is severely limited due to its low susceptibility to health promotion campaigns and interventions.

In **the contemplation phase (contemplation),** the individual already recognizes the need for change, but when weighing the benefits and the expected costs, he is still uncertain about the actual commitment. If the challenges of change seem too great to him, the process will get stuck and he will not move on to the next stage.

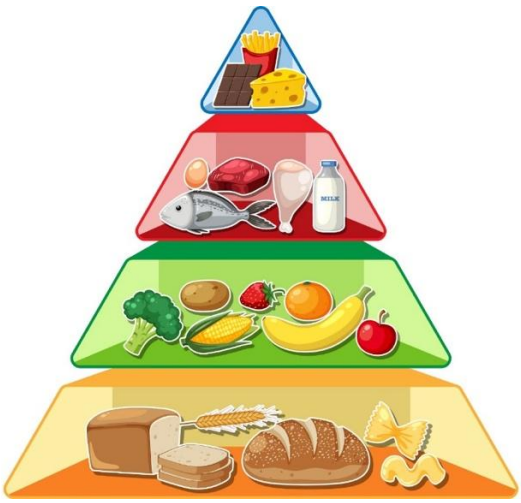
In **the preparation phase**, the individual is not only aware of the necessary lifestyle changes, but also develops a concrete action strategy. In this phase, it is typical to use medical and expert advice, as well as to obtain information independently, for example, to study the literature.

In **the action phase**, the individual makes an actual change in behavior, which manifests itself in active lifestyle or health decisions that are markedly different from their previous habits. Based on scientific consensus, only changes that show significant deviations from previous lifestyle patterns can be considered relevant at this stage.

The **maintenance phase** is the stabilization of behavioral change, during which new habits become a natural part of the individual's daily routine. In this phase, external reinforcement or support is no longer needed to maintain the behavior, and the individual confidently manages the risk of relapse (SZAKÁLY, 2011).

In my present research**, I applied the transtheoretical model**, as this framework comprehensively illustrates the process of transitions and behavioral changes in consumer behavior. The structure of the model divided into stages allows me to position consumers according to the different phases of change, thus providing a more accurate picture of their motivations and decision-making mechanisms. It provides the opportunity to segment consumers according to different phases of change, which helps to develop targeted marketing and communication strategies. On the other hand, the model can be used to explore the motivational and psychological factors that make consumer lifestyle changes.

The food pyramid emerged in the second half of the 20th century as a visual tool to illustrate the relative proportions and frequency of consumption of different food groups. The most well-known early versions include the Swedish initiative and the 1992 USDA "Food Guide Pyramid" model, which uses the pyramid shape to send the message that the consumption of the base (the largest part) should be encouraged, while the peak should be consumed less frequently (SARAC and BUTNARIU, 2020).



1. Figure: The food pyramid

Source: My edit (2025)

The pyramid typically divides foods into layers, such as grains, vegetables and fruits, protein sources, dairy products, and fats and sugars that are consumed less frequently. This layout is easy to interpret and works well for educational purposes and public health communication, as it simplifies complex dietary recommendations into a single, visual metaphor. The pedagogical power of the pyramid lies in the fact that it provides quick, intuitive guidance on proportions and daily routine. The importance of the nutritional

pyramid is also manifested in public health programs, where it is used to promote conscious eating, thus helping to improve the health status of the population (PERELMAN, 2011).

From a scientific point of view, the pyramid has the advantage of presenting a food group-based approach that supports variety, prioritization of plant-based foods, and moderation of excessive intake of energy, salt, sugar, and fat. It can be used well in public health programs for population purposes, such as in school nutrition education and public health campaigns (KARLA et al., 2023).

From the 2000s onwards, several international professional groups and academic centers, such as the Harvard T.H. Chan School of Public Health, revised or supplemented the pyramid scheme. The emphasis has shifted to unprocessed, less refined plant foods, the inclusion of quality fats (e.g. olive oil, oilseeds), and the integration of physical activity and fluid consumption. In addition, the sustainability aspects of the diet are also receiving more and more attention (FIGUEROA, 2021; BEHISHT, 2022).

The historical and pedagogical value of the food pyramid is clear: it is a simple, visual, easy-to-disseminate tool that has contributed to the popularization of nutritional recommendations. At the same time, modern nutritional science and public health experience show that the pyramid alone is not enough to convey more subtle, quality-oriented and individualized messages. Therefore, the pyramid is most useful today when applied in a further thoughtful form, in conjunction with other visual models and concrete, evidence-based guidelines (ARIETA and ARIETA-MIRANDA, 2022; KARLA et al., 2023).

In the field of healthy eating, the OKOSTÁNYÉR® model developed by the National Association of Hungarian Dietetics, played a prominent role in shaping dietary habits in Hungary. The recommendation was prepared with the support of the Scientific Committee on Food Science of the Hungarian Academy of Sciences, and its aim is to provide an easy-to-understand and evidence-based dietary guide for the adult population (MDOSZ: OKOSTÁNYÉR,® 2016; SZŰCS, 2016).

Figure 2: The SMART PLATE®

Source: National Association of Hungarian Dietetics; https://mdosz.hu/uj-taplalkozasi-ajanlasok-okos-tanyer/ *(2025)*

During the development, the professional organization took into account the guidelines of the European Food Safety Authority (EFSA), as well as the WHO and other international guidelines. The goal of OKOSTÁNYÉR® is to offer a food-based, visual nutrition model that flexibly adapts to individual needs, cultural traditions and domestic eating habits.

The structure of the OKOSTALLÉR® is based on the balanced daily presence of food groups. The model recommends eating at least 500 g of vegetables and fruits in the daily diet, of which three to four servings of vegetables and 1-2 servings of fruit, at least one serving in raw form. Three servings of cereals per day, at least one serving of whole grains, are recommended. It is recommended to consume about 500 ml of dairy products per day, alternatively with fortified vegetable drinks, which, however, serve only as a supplement.

Protein sources should come from a variety of sources, such as meat, fish, eggs, dairy products, legumes, and oilseeds. The consumption of red meat is limited to 350-500 grams per week, and it is recommended to include meat-free days on a weekly basis. It is also recommended to consume oilseeds and legumes, 2-3 times a week, in the form of a handful of oilseeds.

Adequate daily fluid intake, primarily in the form of water, is essential. The recommendation emphasizes the moderate use of salt, sugar, and fat, favoring low-fat foods

with less added sugar and salt, and the use of fat-saving cooking techniques such as steaming or grilling.

It is important to remember that a healthy diet cannot stand alone; Regular physical activity, at least 150 minutes of moderate or 75 minutes of vigorous exercise per week, is the basis of a holistic healthy lifestyle. During the 2021 review of the model, sustainability aspects also appeared, such as the preference for seasonal, less processed, domestic ingredients, the emphasis on plant-based protein sources, and the restriction of the consumption of red and processed meats.

The OKOST plate® is a scientifically based, visually easy to interpret and practically adaptable tool in Hungarian nutrition policy. Its advantage lies in the fact that it simultaneously serves to improve health, support nutritional education and promote ecological sustainability. Through widespread use and the inclusion of classic recommendations such as fluid consumption, salt-sugar-fat reduction, variety and physical activity, public health can be achieved

The Planetary Health Diet is a dietary recommendation developed by the EAT-Lancet Committee in 2019 with the aim of protecting human health and the sustainability of the Earth's ecological systems. According to the scientific recognition that forms the basis of the concept, our diet not only affects our individual health, but also significantly influences the state of the environment through global food production. This includes climate change, the depletion of soil and water resources, and biodiversity loss (FESKENS, 2023).

The planetary diet seeks to promote the prevention of chronic diet-related diseases while reducing the ecological footprint of the food supply system by prioritizing plant-based foods, radically reducing meat consumption, especially red meat and processed meat products, and increasing the consumption of whole grains, legumes, vegetables, fruits, and healthy fats (such as nuts, seeds, vegetable oils), and increasing the consumption of whole grains, legumes, vegetables, fruits and healthy fats (e.g. nuts, seeds, vegetable oils) (DANTAS, 2023; FESKENS, 2023).

The model also includes quantitative guidelines that optimize energy and nutrient intake to meet the physiological needs of the adult body, while taking into account global food production capacities. Its scientific significance lies in the fact that it is the first to formulate

quantified dietary recommendations that are aligned with the evidence of both human nutrition and environmental science (WESTON and THIELE, 2023).

However, adopting the planetary diet comes with social and cultural challenges, as eating habits are deeply rooted in tradition. The transition can take place under different economic and infrastructural conditions in different regions, which complicates the implementation. Nevertheless, the model is gaining increasing attention in international public health policy and sustainable development strategies, as it provides a framework for how to simultaneously improve population health indicators and ensure the long-term preservation of the Earth's carrying capacity (BIESBROEK et al., 2023).

The planetary diet is therefore not just a nutritional recommendation, but a holistic approach that seeks to link global health and sustainability, and which aims to provide future generations with the opportunity for proper nutrition and a sustainable environment (SZAKÁLY, 2024).

In the next section, I will explain the main guidelines on which the planetary diet is based:

- **Plant-based diet**: The diet emphasizes increasing the consumption of plant-based foods, such as fruits, vegetables, legumes, and whole grains. The goal is to make plant-based foods dominate the diet, as they have a lower environmental footprint and have a beneficial effect on health.
- **Reduce animal foods**: The planetary diet recommends reducing the consumption of red meat and sugar by more than 50%. Foods of animal origin, such as meat and dairy products, are a significant environmental burden, so reducing their proportion is essential for sustainability.
- **Nutrient optimization**: The diet aims to keep your daily calorie intake around 2500 kcal while ensuring adequate intake of necessary nutrients such as proteins, vitamins, and minerals. Sources of nutrients include nuts, legumes and whole grains, which are rich in the necessary nutrients.
- **Sustainability and Health**: The planetary diet focuses not only on healthy eating, but also on environmental sustainability. The diet should take into account the consumption of local foods, seasonality and sustainable agricultural practices.

- **Transforming the global food system**: The planetary diet aims to make the global food system more sustainable and to reduce the risk of chronic disease and environmental impact through dietary recommendations.

The Planetary Diet and the Diet Plate® fall under the category of Food-Based Dietary Guidelines and aim to support the development of healthy eating habits based on scientific evidence. The advantage of OKOSTÁNYÉR® is that it is specifically adapted to the dietary habits and cultural background of the Hungarian population, presenting the proportions of each food group in a visually easy-to-understand way, so it is easy to understand and can be widely used in education and public health communication. The planetary diet is supported by integrating aspects of health preservation and environmental sustainability, emphasizing not only individual well-being, but also the long-term protection of the global ecosystem, thus responding to the ecological challenges of food production and consumption.

However, both models have limitations. OKOSTÁNYÉR® may be criticized for the fact that, although it adapts to the domestic environment, it emphasizes less the ecological footprint of food consumption and sustainability aspects, thus playing a limited role in addressing global environmental challenges. In the case of the planetary diet, the main argument is practical feasibility: the proposed dietary proportions may show significant differences from local gastronomic traditions, income conditions and the current structure of food supply, so achieving widespread acceptance may encounter social, economic and cultural obstacles.

Both models provide a valuable professional basis for the development of a health-conscious diet: through the local relevance and simplicity of the OKOSTÁNYÉR®, while the planetary diet has a global approach and sustainability focus. However, in the case of both, there is a need for continuous development and adaptation of the guidelines in order to support health preservation, cultural traditions and environmental sustainability at the same time.

In the table below, I compare the recommendations of the planetary diet with the structure and main elements of the PLATE® PLATE. The table aims to show the similarities and differences between the two approaches in terms of food groups and their proportions.

Table 1: Comparison of the planetary diet and the recommendations of the SMART PLATE®

Food groups	Planetary Diet Recommendations	OKOSTÁNYÉR® RECOMMENDATIONS
Vegetables and fruits	500 g, 300 g vegetables and 200 g fruits per day, at least 1 serving raw	At least 500 g per day, 3-4 servings of vegetables and 1-2 servings of fruit, at least 1 serving raw
Cereals	232g of whole grains per day (minimum)	Three servings, at least 1 serving of whole grains
Dairy products	250 g of milk and dairy products per day	500 ml of milk or dairy products per day (alternatively, fortified vegetable drinks)
Protein sources	Variety: 14 g beef, 29 g poultry, 28 g fish, 75 g legumes	350-500 g of cooked red meat per week, meat-free days per week are recommended
Oilseeds and legumes	50 g oilseeds, 75 g legumes	A handful of oily seeds 2-3 times a week, legumes as an alternative source of protein
Fluid intake	There is no specific recommendation, but emphasis on water consumption	Adequate daily fluid intake, mainly in the form of water
Salt, sugar, fat	Added sugar 31 g, saturated fat 11.8 g	Moderate use of salt, sugar and fat, fat-saving cooking techniques
Physical activity	There is no specific recommendation, but it is part of a sustainable diet	At least 150 minutes of moderate or 75 minutes of vigorous exercise per week

Source: Own edit based on SZAKÁLY, 2024 and SZŰCS, 2016 (2025)

- **Vegetables and fruits**: Both recommendations emphasize the importance of vegetables and fruits, but the planetary diet also provides specific amounts.
- **Cereals**: The planetary diet emphasizes the consumption of whole grains, while the OKOST PLATE® also emphasizes the presence of whole grains.
- **Dairy products**: THE DIET® recommends a higher daily amount, while the planetary diet is lower, but it also takes into account alternatives to dairy products.
- **Protein sources**: The planetary diet recommends a variety of protein sources, while OKOSTÁNYÉR® recommends meat-free days a week.
- **Oilseeds and legumes**: Both approaches emphasize the consumption of legumes and oilseeds, but with different frequency.
- **Fluid intake**: The DIET® specifically emphasizes water consumption, while the planetary diet does not provide a specific recommendation.
- **Salt, sugar, fat**: The planetary diet focuses on the amount of nutrients, while the COMFORT PLATE® focuses on moderate use and cooking techniques.
- **Physical activity**: The DIET® emphasizes the importance of physical activity, while the planetary diet does not contain any specific recommendations.

This comparison highlights that both approaches aim to promote healthy eating, but they have different emphases and recommendations.

The main objectives of the research are:

In the following, I present my objectives and hypotheses, as well as their justifications and literature support.

C1: *Summary of conclusions drawn from international and domestic literature sources along the relationship between obesity and civilizational diseases.*

The national and international literature dealing with the drastic increase in the proportion of civilizational diseases and the overweight population consistently point out the global spread of obesity and the possibilities of preventing, developing and treating the resulting health risks. Scientific sources on food consumption and physical activity unanimously emphasize that the integrated application of the two factors is the most important pharmacologically free tool of weight management , which is decisive for both primary prevention and therapeutic interventions. Accordingly, the literature synthesis of the two areas is essential for the scientific foundation of primary research and for the systematization of comprehensive knowledge about body weight management (BULAT et al., 2022; AMENANI and JANUARY, 2022).

In addition to the dynamic change in consumer behaviour, dietary trends and their countertrends shape food consumption habits, health-related attitudes and forms of physical activity in the short term. The multidisciplinary examination of the food industry innovations and exercise preferences generated by them provides an opportunity for a deeper understanding of the global and local processes related to body weight management. This complex analysis is of paramount importance in defining the methodological framework of primary research and in exploring the relationships between health behaviour and consumer decision-making (BALLCO and GRACIA, 2022).

An integrated approach to physical activity and nutrition is key not only for weight control, but also for the prevention of civilizational diseases (TÓTH, 2021).

C2: *To measure the proportion of those who are not satisfied with their body weight compared to those who are satisfied.*

The subjectively perceived health status of the population and its objective indicators often differ from each other. Inadequate regulation of food consumption habits, which play a decisive role in the development of overweight and obesity, carries a significant health risk in the long run and can lead to the development of a number of chronic diseases. Recognizing the intention to modify an individual's body weight can be the first step towards the development of preventive health behaviors, which can contribute to health preservation and long-term sustainable lifestyle changes. A test used to assess this is the test of human figure drawings created by Fallon – Rozin (1982), which can help to understand the body image and self-esteem of individuals. Exploring the relationship between consumer behavior and body weight control through the use of the test provides important data for research (BASTIAN et al., 2019).

C3: *To assess the sources from which today's consumers get information when developing healthy eating habits.*

The availability and reliability of information sources can often be interpreted to different degrees for consumers, which can have a significant impact on the development of health behaviour. It is especially important to examine this area, as making the right decisions is directly related to health preservation. If the selection of weight loss methods is not based on credible, professionally sound sources and the guidance of qualified professionals, the procedures used can not only become ineffective, but also potentially have adverse health consequences (PALACZ – POBORCZKY et al., 2022). These factors underscore the importance of reducing the information gap, which can help with consumer decision-making and the success of body weight control (DORNER, 2024). Providing the right information and professional guidelines is essential for developing effective weight management strategies that can contribute to the prevention of civilizational diseases.

C4: *To assess the attitudes of the population towards a healthy diet.*

The survey of the attitudes of the Hungarian population towards healthy eating is of paramount importance from the point of view of health preservation both at the individual and social level. Nutrition has a direct impact on the health of a population, especially on the risk of developing chronic non-communicable diseases such as obesity, cardiovascular disease and diabetes. In order to reduce the incidence of these diseases, it is essential to map dietary habits and the attitudes behind them. Understanding eating habits and attitudes is

essential for developing prevention strategies aimed at preventing civilizational diseases such as obesity and diabetes (TÓTH et al., 2023).

The study of attitudes towards nutrition makes it possible to understand the extent to which the population follows the principles of healthy eating, what knowledge they have in this field, and what misconceptions or habits influence their eating behaviour. The results of such research are crucial in the development of targeted prevention and intervention programs, as the effectiveness of health promotion strategies is highly dependent on how well they fit the needs and expectations of the population (LIAO and YANG, 2023). In order to develop and maintain conscious eating habits, it is essential to have a deeper understanding of consumer behavior, which is the basis for the prevention of chronic diseases (PÓLYA and ORAVECZ, 2023).

In addition, attitude surveys can contribute to the promotion of health-conscious behaviour, as the identified deficiencies and misunderstandings can be used to plan educational and awareness-raising campaigns that promote a positive change in eating habits. In addition, they can also provide relevant information to food industry actors about the evolution of consumer preferences, which can help develop healthier food offerings (MEYER and SIMONS, 2021).

C5: *To assess what nutrition-related trends are present in the public consciousness today.*

Assessing what nutrition-related trends are present in the public consciousness today is of paramount importance for health promotion at both the individual and societal levels, as well as for food and public health strategies. The continuous change in dietary trends affects people's eating habits, and thus indirectly affects the incidence of chronic diseases, the burden on the health care system, and quality of life (RAJ, 2020; TÓTH 2021).

Studying attitudes and fashion trends related to nutrition allows us to explore what factors determine consumers' decisions and to what extent they are based on scientifically based knowledge or possible misunderstandings. Some dietary trends – such as plant-based diets, low-carbohydrate diets, or the popularity of various "superfoods" – can have a significant impact on dietary habits, so analyzing them is essential to promote health-conscious eating (SHAROVA, 2023).

Furthermore, the examination of nutritional trends can also provide important information for the food industry and trade, as the development of consumer needs and preferences determines the directions of product development and market supply. At the same time, it is essential to know these trends for the planning of public health and prevention programs, as this is the only way to develop effective educational and awareness-raising campaigns that are able to respond to the current dietary habits and attitudes of the population. Understanding changes in dietary habits and attitudes is essential for developing sustainable food systems that can meet the growing demands of the global population (MORAR et al., 2022; SZAKÁLY, 2024).

For the sake of clarity, the objectives and the hypotheses for the fourth objective are *illustrated* in Table 1.

Table 2: Presentation of the objectives of the dissertation and the associated hypotheses

C1	Summary of conclusions drawn from international and domestic literature sources along the relationship between obesity and civilization diseases.
C2	To measure the proportion of those who are not satisfied with their body weight versus those who are satisfied.
C3	To assess the sources from which today's consumers get information when developing their healthy eating habits. **Hypotheses:** **H1:** A higher percentage of consumers get information about healthy eating from the internet. **H2:** The source that consumers consider to be the most credible in relation to healthy eating differs from the source from which most people get their information
C4	To assess the attitudes of the population towards healthy eating. **Hypotheses:** **H3:** A higher percentage of the population considers themselves to be health-conscious. **H4:** Women make up a larger percentage of the group of people who are dissatisfied with their body weight.
C5	To assess what nutrition-related trends are present in the public consciousness today.

Source: My editing, 2025

2. DATABASE AND DESCRIPTION OF THE METHODS USED

During the preparation of my dissertation, I used both secondary and primary data collection methods to make the extraction of the data as accurate and reliable as possible. At the beginning of my work, I carried out secondary data collection, which allowed me to get to know and map the topic more thoroughly. Most of the selected studies have already examined the consumer aspects of a healthy lifestyle, so the information obtained from them provided a scientific framework for understanding consumer opinions, thus facilitating the planning and development of the structure of my primary research.

My primary research was carried out as part of a multi-step process, the first step of which was to carry out exploratory netnography on various nutrition social networking sites. These platforms gave me the opportunity to map the opinions of both consumers and manufacturers, so I could examine the topic from a broader perspective. I used the data obtained during the observation to develop the scenario for my exploratory focus group study, which allowed me to explore deeper interactions and opinions.

After summarizing the results of the netnography and the focus group, I prepared my questionnaire, which was based on consumer opinions, as these were the most important from the point of view of evaluation. To this end, I used several qualitative methods to get the most comprehensive picture of the phenomenon under study. After the focus group examination, I performed an eye-tracking examination, the purpose of which was to confirm the results obtained beforehand. By using the eye tracker, combined with the questionnaire interview, I obtained data that I used to test the intelligibility of the questions planned later.

At the end of the research, I used a questionnaire as a quantitative method, which allowed me to collect and analyze a wide range of data. In order to make the conduct of the studies transparent and to clearly formulate its objectives, I have prepared the following figure, which illustrates the process and results of the research (*Figure 1*).

3. Figure: Structure of research methods and their objectives

Source: own editing, 2025

The methodological approach used in the research is based on an integrated system that combines qualitative and quantitative data collection techniques to ensure the versatility and reliability of the study. The first step of the data collection process is the secondary data collection, the aim of which is to thoroughly map the existing literature and relevant research results. The analysis of these secondary sources not only contributes to the precise formulation of the primary research questions, but also provides guidance for later empirical investigations, enabling the professional and well-founded development of the research framework. The methodological approach reinforces the reliability of the research, which is based on a review of qualitative and quantitative research methods and provides researchers with the opportunity to choose the most appropriate research method, also taking into

account sampling questions (TOSONI and ZUCCALA, 2020; KOLNHOFER-DERECSKEI et al., 2023; KÓ, 2024).

The first qualitative methodological tool to be applied is netnography, which provides a deeper insight into attitudes and experiences related to modern lifestyles by examining consumer interactions and opinions in the online space. This method provides an opportunity to analyze the content generated directly by the target group, paying special attention to the activities on social media platforms (GÁL et al., 2017).

In order to interpret the data obtained in this way in a deeper way, it is also necessary to carry out focus group studies, which provide an opportunity to explore individual opinions in detail and to gain a deeper understanding of the motivations and obstacles related to modern lifestyles. During focus group interviews, participants are free to express their thoughts, which allows for the exploration of complex social and psychological factors (SIM and WATERFIELD, 2019).

This was followed by the eye-tracking examination, which is based on measuring and analyzing the visual attention of individuals. This method provides an opportunity to explore the extent to which visual stimuli influence consumer decisions and lifestyle choices. Through the analysis of eye-tracking data, my research is able to provide a deeper interpretation of the attitudes revealed during qualitative analyses, thus ensuring the reliability of the research results (FUJIMORI and TAMAKI, 2023).

The method that ensures the representativeness of the research is the questionnaire interview, which allows data collection on a wider sample, thus supporting the qualitative results in a quantitative way. With the help of the questionnaires, the factors that have an impact on the habits, attitudes and difficulties related to modern lifestyle can be examined in a quantifiable way. The combined application of these methods allows the research to provide a comprehensive and detailed picture of the dynamics of modern lifestyles and the complex motivational structures behind consumer behavior. Through the integration of qualitative and quantitative data, research seeks not only to describe phenomena, but also to gain a deeper understanding of them, thus contributing to both scientific discourse and practical applications (DUBASI et al., 2019).

2.1. Secondary research

In my secondary research, I applied the analysis of both domestic and international sources. This research does not only cover the topics indicated in my thesis, but I examined dietary habits in a broader context. I chose to examine obesity free of pathological changes and the related trends because it affects Europe, including Hungary, the most, not only the health care budget, but also affects the personal well-being of the individual and their role in society. Overall, obesity is a pandemic problem that affects not only the individual physically and mentally, but also has an impact on society (DWORAK, 2009).

I collected literature primarily with the help of internet search engines and aggregator sites (Science Direct, Scopus, Matarka, PubMed, Google Scientist). Less of the literature collection was made up of professional books, which were also available to me with the help of a collection site (MERSZ). The analysis of secondary information that was born from statistical data analyses was made possible for me by the accessibility of database collection sites (KSH, EUROSTAT, FAO). Although I collected data from several places and sources, not all of them were included in the thesis.

My literature analysis was expanded to several topics: different countries of Europe, dietary norms, the emergence of nutrition-related trends, diseases of civilization, healthy lifestyles from the point of view of consumers, the basic laws of developing a healthy lifestyle, personalized nutrition, forms of nutrition arising from cultural differences, the consequences of starvation and malnutrition, "starving countries", obesity with pathological changes, obesity and obesity health care costs, surgical treatment of obesity, possible causes and consequences of obesity, the importance of weight management in the lives of consumers.

Touching on these topics, I set up the logical backbone of my literature analysis and laid down the building blocks of my research.

2.2. The primary research

Primary data collection is a research activity in which I collect data directly, first-hand for the purposes of the study, typically through questionnaires, interviews, focus groups, observations or experiments. The essence of the method is that after formulating the research problem, I plan and carry out the data collection process myself, so that the information obtained serves specifically to answer the given research questions. In contrast, secondary

data collection means the use of previously collected data for other purposes (BOSLAUGH, 2007; POSPISIL, 2023).

One of the biggest advantages of primary data collection is targeted relevance, i.e. the data are recorded according to the specific goals of the research, thus ensuring a close fit to the study question and a high degree of accuracy. Another advantage is that the methodological parameters – such as the sampling strategy, the formulation of the questions or the environment of the data collection – are fully adapted to my tools and possibilities. Recent data collection also ensures the timeliness of information, which is especially important when examining dynamically changing social, economic or consumer phenomena, especially within the topic of marketing (BLOXHAM, 2023).

Primary data collection also has disadvantages. The process is resource-intensive, the preparation of the research, the conduct of data collection and the processing of the data require a large investment in time, cost and effort. In addition, there is a methodological risk due to the non-response rate, the respondent bias, and the subjective influence of the person conducting the data collection during the primary research.

When applying the methodology, it is also important to consider the ethical aspects of the research, obtaining informed consent from participants, keeping the data confidential and ensuring anonymity are essential requirements. Precisely planned research, which includes a clear definition of objectives, the selection of appropriate data collection tools, and the preliminary definition of data analysis methods, is key to the effectiveness of primary data collection.

During the research, we had to face a number of limitations. One of the significant factors was the attitudes, attitudes and motivation of men, which became difficult to measure due to the aloofness observed during the research. In the case of men, the willingness to respond may have been lower, which made it difficult to form a representative sample.

The body mass index (BMI) as a test factor also carries inaccuracies, as BMI only takes into account the ratio of weight to height, without taking into account body composition, such as muscle mass. This can be especially problematic for athletes whose BMI values do not reflect their real health due to high muscle mass. In addition, the "skinny fat" category, which in men means that although their BMI is in the normal range, their body fat ratio is

high and they do not fall into the fitness category, also deserves attention. This phenomenon is also referred to in the literature as a "normal BMI but high body fat" condition, which indicates a low level of fitness.

The distribution of women's fat percentage may also differ due to gender, which also affects the results of the research. In the case of female respondents, the different distribution of fat percentages can change as a result of hormonal and genetic factors, which also affects the perception of eating habits and health status. For these reasons, BMI-related data were excluded from the research.

2.2.1. Netnography

I started my primary data collection with netnography, which ranged from 10.01.2021 to 19.09.2021. The role of the researcher can vary, in my case I chose the role of an observer, I did not generate conflict and I did not participate in any dialogue, I did not post or react to any activity.

The method examines consumers in their own environment, based on their online posts, social media posts and comments. Netnography also allows the examination of appearances on other platforms (blogs, forums, facebook, instagram, tiktok) thus analyzing the preferences of the users present. (DÖRNYEI, 2008; DÖRNYEI & MITEV, 2010; WOLF, 2019). This adapted method, my armchair ethnography, combines ethnography with the study of groups in the online space. This makes it possible to examine a relatively new group and culture that has emerged on the Internet compared to cultures that have so far only been geographically limited (KOZINETS, 2002; KULAVUZ-ONAL – VÁSQUEZ, 2013). The disadvantage of this type of research method is that since we can only examine those who express their own opinions by communicating with each other on the given online interface, we cannot draw a general conclusion for the entire population, but it provides a good basis for further research and provides a greater understanding of the topic from the consumer side (IGLESIAS, 2007; DÖRNYEI, 2008). Later on, useful data can be obtained for qualitative research, such as a focus group study, or even a questionnaire survey, which is already a quantitative procedure. During the conduct of the research, I paid the most attention to the regulations established on the basis of the research conducted by GÁL et al., in 2017.

When defining the methodological framework of the research, I decided to use netnography, which was primarily justified by the social and communication environment that developed as a result of the COVID-19 pandemic. The lockdowns and institutional closures introduced during the pandemic significantly limited the possibility of face-to-face meetings, so the main venue of social contact has shifted to the online space. As a result of the uncertainty of physical contact and public health risks, the use of social media platforms has been a convenient and safe alternative for many. At the same time, interest in new online platforms has increased. More and more people registered on various platforms, partly to build relationships, partly to gain information, solve problems, and share opinions and experiences, even with people with whom they would otherwise never have come into contact due to geographical distances.

In the period under review, immediately after the quarantine period determined by the pandemic, an increased need to reduce the excess weight gained during the pandemic was observed in certain groups of society. As a result, thematic groups and communities on social media platforms that dealt with healthy eating, lifestyle changes, weight loss methods and inspiring success stories, as well as various – often newly released – products began to grow rapidly, as well as offer various – often newly released – products for fast and effective weight loss. The application of the netnography method in this context allowed me to draw from a wide and diverse source of data, as there were plenty of online groups, forums and community spaces whose activities carried relevant research information.

The advantage of the method in this case was that I could observe the studied phenomenon in its natural digital environment, while the online interactions gave an authentic impression of the examined social attitudes, motivations and behavioral patterns. Due to these circumstances, netnography proved to be not only an expedient but also a methodologically justified choice for the implementation of the research.

I registered on several social media sites, specifically looking for groups and communities that deal with nutrition, and where consumer comments and posts were allowed for consumers. By examining the sites, I was not only able to determine which age group is the most accessible on which platform, but I was also able to form groups for the groups already established in the research conducted by GÁL et al., 2017, based on comments related to nutrition or even silence.

During the preparatory phase of the research, I made observations on several social media platforms, including Facebook, Instagram, Twitter, Reddit, TikTok, LinkedIn and Pinterest. My goal was to assess potential data sources in a wide digital environment and to identify the platforms that are most suitable for examining the opinions, attitudes and online interactions of the Hungarian population. Based on the experiences of the initial data exploration, I finally selected three platforms as the final data source of the research, as the Hungarian user base was the best to be distinguished and defined, and the sufficient amount and relevant activity was available for the research.

On Facebook, mainly representatives of the older age group could be observed, although members of the X, Y and Z generations were also present, with different degrees and types of activity. In the case of Instagram, the dominance of the younger generation was experienced, where a higher interest in visual content also determined communication patterns. In contrast, TikTok has proven to be a fast-growing, cross-generational platform that has been used intensively by a wide range of both young and older users in a short period of time due to the medium's novelty and viral content. The level of activity on this platform was primarily determined by the nature and popularity of the content in question, not the age of the users.

On the other platforms examined – such as Twitter, Reddit, LinkedIn and Pinterest – Hungarian users were present in only a small number or their communities operated in a highly separated manner, which would have made it significantly more difficult to collect targeted and relevant data. As a result, these platforms were not included in the final sample of investigation. On Pinterest, it was also difficult to determine the posters and I could only look at the numbers based on the saved pins regarding the promotion of the content.

Cultural entrée: Emphasizing the essence of the research, I formulated a research question at the beginning, on which I carried out the investigations based on everything: What misconceptions are present among Hungarian residents on online platforms today? My goal was to map online user reviews and scientifically verified and already substantiated statements. Thus, forming a real picture of the possible lack of information or the opposite. The paltforms selected for the study are: TikTok, Instagram, Facebook. As I mentioned before, in this case the role of the researcher took on the form of a passive observer, who,

although present on the given social media sites, did not create conflicts and did not participate in the communication processes.

Data collection, data analysis: The basis for the selection of the literature was up-to-date and credible sources of information. After the successful selection and analysis of these, we moved on to the examination of the social media page. On the online interfaces, we were looking for various videos related to health and lifestyle, in which opinions and advice related to health, healthy lifestyle and nutrition are indicated or presented.

Authentic interpretation: The mentions analyzed during the research were interpreted faithfully to the original without any particular distortion or transformation.

Ethical research: Various permissions were not required as the verbatim opinions of the contributors were not analyzed. The names of the groups analyzed during the study were mentioned because they do not violate personal rights and are public and can be found by anyone.

Feedback from community members: Due to the above, we did not consider this to be significant.

2.2.2. Focus group interview

Focus group interviewing is a qualitative research methodology that involves a structured conversation with a group of experts or a selected group of people from the population to be studied (LÁZÁR, 2009, p.23). This is an informal and interactive interview technique in which a moderator initiates a guided discourse with a specific subset of the target population of the research, while in the case of an expert interview, with participants with a deeper knowledge of the given topic.

This method has become widespread especially in the field of marketing research, its primary goal is not to describe data descriptively, but to take an exploratory approach (BABBIE, 2001). Within the framework of the interview, participants can share their views on a given topic with the support of a moderator, thus providing the researcher with an opportunity to gain a deeper understanding of not only the "what" and "how", but also the "why" questions, thus helping to explore motivational and attitudinal factors.

One of the challenges of the method is to create the right group composition, and the usability of the results depends to a significant extent on the commitment of the participants, the group dynamics and the facilitation skills of the moderator. At the same time, one of the outstanding advantages of the focus group interview is that it can serve as an effective tool for the precise elaboration of the questions of questionnaire studies (LEHOTA, 2001; BABBIE, 2001).

Based on the results of the netnography research and as a preparation for the questionnaire survey, I conducted a focus group interview. In this case, my sample composition was 6 people, of which 5 were women and 1 was a man. The date of the examination is 06.06.2023, with personal presence in a rented banquet room. The main topic groups I discussed with the participants were: health, nutrition, healthy eating, healthy lifestyle, diets, fashion nutrition, ideal body shape, body and self-image, customer attitudes, exercise, food.

As a moderator, I carried out the examination alone. The conversation took place in a direct and unstructured environment. The answers were analyzed in the form of notes in written form and with the help of audio recordings. My main goal was to delve even deeper into the opinions of the selected participants in connection with the topic, and I also wanted to bring to the surface factors that may not have come to the fore for me during the research. The application of the technique was successful for me, as during the informal conversations, a number of factors were discussed that expanded the research with valuable information. The focus group participants had never participated in a similar study before. The discussion took place in a free, informal atmosphere, thus facilitating the dissolution of the participants and thus facilitating their honest intentions to respond. The scenario *can be read in detail* in Appendix 2.

2.2.3. Eye Tracking

Eye tracking is a qualitative, exploratory procedure that belongs to the newer research methods. To perform the eye-tracking examination, I used the fixed Tobii Pro Fusion 120Hz eye tracker, one of the most accurate non-invasive eye cameras, which provides 120 Hz sampling, has effective head movement compensation, high accuracy, and wide intermaterial and display compatibility.

The recordings were evaluated using software compatible with the eye camera (Tobii Pro Fusion 120Hz eye tracker software package). Heatmaps and tools for examining individual areas, TOI (times of interest) and AOI (area of interest). I connected this qualitative method with two questionnaire interviews, which the respondents had to fill out before and after the pairs of images pre-compiled into MP4 videos for the eye camera (the two questionnaires contained different questions, except for the eye tracking ID). Based on the recorded content, I created a heat map, where I examined gaze tracking and lingering in a given area. Each pair of images contained a food composition. On one side, there was a picture of a food that was considered unhealthy in the public mind, while on the other, a healthy alternative to the given meal.

When compiling the pairs of images, I took into account the conversations that took place during the focus group interview, which, although they were not an integral part of the script, were highlighted by the data filtered from what the interviewees said. For this reason, the focus group interviewees were excluded from the eye-tracking study, as most of the dishes they composed were included in the image pairs. During the study, it was raised why those who claim to be health-conscious should not spend more time on a food that they consider unhealthy.

Since the experts who formulate the principles of a healthy and balanced diet do not recommend the complete exclusion of any nutrient, we cannot draw clear conclusions about the opinion of consumers from the long period of time we look at them. That is why I used a questionnaire before and after the examination in order to find out.

Because it is not known exactly in which area of the brain the process of consciousness takes place or at what stage of decision-making. At the end of the study, I offered three products, with which I presented the participants with a choice, thus examining their response to the circumstance. After filling out the questionnaire, the participants could choose from these, and I recorded the chosen product in the last part of the questionnaire.

The problem that arises with eye-tracking examinations was mainly caused by the fact that consumers can of course take a look at foods that are not organically part of their daily diet at any time.

Health consciousness does not include the obligation to occasionally consume foods that may be considered less healthy by subjective judgment and/or expert recommendation. To eliminate this, I conducted the eye-tracking examinations with two questionnaires, thus filtering out as efficiently as possible who can really be classified as a more health-conscious category despite the desired foods, or who is only a health-conscious consumer based on their own judgment. At the beginning of the questionnaire, I asked for the same code with which I recorded the participants in the eye-tracking software.

30 people participated in the study. The gender ratio was almost the same, 14 women and 16 men. All respondents were at least 18 years old. The respondents participated in the study voluntarily. The first block of the questionnaire projects the questions of a healthy lifestyle based on self-declaration, without knowing the pictures.

The three basic pillars of a healthy lifestyle, such as physical activity, mental health and healthy eating, which the questionnaire starts with, then continues with body image testing and the knowledge and application of diets that are very fashionable these days. Finally, it ends with the daily fluid intake, the preparation of meals with your own hands, and the personalization of the meals prepared within the same household.

2.2.4. Questionnaire

Questionnaire data collection can be classified as a quantitative research method, which can be effectively applied in descriptive, explanatory and exploratory studies (MALHOTRA and BIRKS, 2007; BABBIE, 2001). From the qualitative procedures, I chose the large-sample questionnaire interview, the tool of which in this case was the online questionnaire interview. Sampling was not carried out as a random snowball procedure (sharing on social media sites and in groups).

During the compilation of the questionnaire (*Appendix 1*), I primarily took into account the limitations of data collection. On the one hand, there was a very high limit on the proportion of respondents willing to fill it out, which is understandable considering the length of the questionnaire (it contains 53 questions). Furthermore, since the questionnaire was distributed online, I had to take into account that not all people in the country have the right devices and internet access. The finalized questionnaire was published on 04.08.2023, primarily for the purpose of a test interview.

I accepted the suggestions and corrections made after the trial and took the necessary steps towards improvement. By deleting the results obtained so far and taking into account the comments and errors, it was possible to fill out the live questionnaire between 03.09.2023 and 20.01.2024, which was filled out by 539 people. The socio-demographic composition of the sample is detailed in Table 7. The full interpretation of the previously formulated research ideas was not realized, in the case of the large-scale questionnaire data collection of 1000 people, the gender representativeness of the sample was ensured by applying the weighting procedure. Representativeness in this context means that the conclusions drawn on the basis of the sample can be validly projected onto the population (GYULAVÁRI et al., 2017).

During the primary research, the IBM SPSS 24 software was used to perform the statistical analyses, while the data recording, the production of descriptive statistical indicators and the graphical representation were carried out with the help of the MS Excel spreadsheet program. During the analysis and presentation of the results, I took into account both the methodological aspects of the applied statistical procedures and the marketing research (SAJTOS and MITEV, 2007; SIMON, 2016; LEHOTA, 2001; MALHOTRA & BIRKS, 2007). I started the analysis by using descriptive statistical methods, in which I calculated the mean, standard deviation, mode, median and skew. In the case of ordinal measurement level variables, I performed a cross-tabulation analysis in order to reveal significant correlations between the variables. The existence of the statistical relationship was investigated by Pearson's Chi-square test, the results of which made it possible to verify a significant relationship between the variables (SAJTOS et al., 2007GYULAVÁRI et al., 2017).

Table 3: Distribution of the sample according to the main socio-demographic background variables (n=539)

Appellation	Main	%
By gender		
Woman	**280**	**48**
Man	**259**	**52**
Household's primary food purchaser		
Yes	**292**	**54,1**
No	**247**	**45,9**
By financial situation		

Just enough to make ends meet, but I can't save	**104**	**19,3**
I make a living from it and I can save little	**213**	**39,4**
I make a very good living from it and I can save	**54**	**10,1**
I don't want to answer this question	**149**	**27,6**
I have financial problems regularly	**20**	**3,7**
By marital status		
Lives with a partner	**136**	**25,1**
Divorced	**20**	**3,7**
Married	**193**	**35,8**
Living separately from your spouse	**15**	**2,8**
Unmarried/ Unmarried	**171**	**31,8**
Widow	**4**	**0,8**
Active manual worker	**122**	**22,6**
Active white-collar worker	**195**	**36,1**
On maternity leave, maternity leave	**24**	**4,4**
Pensioner	**28**	**5,2**
Pupil	**129**	**24,0**
Housewife	**3**	**0,5**
Unemployed	**7**	**1,3**
Other inactive search	**27**	**5,1**
Other dependents	**4**	**0,8**
According to the confession of a health-conscious life,		
I'm not health-conscious at all	**60**	**11,1**
In some things, yes, in others I am not health-conscious.	**249**	**46,1**
I'm very health-conscious	**18**	**3,3**
I'm mostly health-conscious	**140**	**26,0**
I'm mostly not health-conscious	**72**	**13,4**
Highest Educational Attainment Completion		
Graduation	**246**	**45,6**
Superlative	**223**	**41,3**
Up to 8 general	**6**	**1,2**
Vocational Training/Vocational School	**64**	**11,9**
By age groups		
18 - 29	**239**	**44,3**
30 – 49	**262**	**48,6**
Over 50	**38**	**7,1**

Source: My edit (2024)

The gender distribution of respondents is 48% female and 52% male, which shows a relatively balanced proportion. Regarding the household's primary food purchaser, 54.1% of respondents are the primary purchasers, while 45.9% are not.

According to the distribution of average monthly income, 19.3% said that they are just enough to live on but cannot save, 39.4% live on it but can save little, 10.1% make a very good living from it and can save, 27.6% do not want to answer this question, while 3.7% regularly struggle with financial problems. The distribution of marital status is as follows:

25.1% live with a partner, 3.7% are divorced, 35.8% are married, 2.8% live separately from their spouse, 31.8% are unmarried or unmarried, 0.8% are widowed.

According to the current legal situation and main activity, 22.6% are active manual workers, 36.1% are active white-collar workers, 4.4% are on maternity leave or maternity leave, 5.2% are pensioners, 24.0% are students, 0.5% are housemates, 1.3% are unemployed, 5.1% are other inactive earners, and 0.8% are other dependents. According to the admission of a health-conscious life, 11.1% are not health-conscious at all, 46.1% are yes in some things and not in others, 3.3% are very health-conscious, 26.0% are mostly health-conscious, and 13.4% are mostly not health-conscious.

The distribution of educational attainment is 45.6% with a secondary school leaving certificate, 41.3% with a tertiary education degree, 1.2% with a maximum of 8 primary education and 11.9% with a vocational training or vocational school. The distribution of age groups is 44.3% between 18 and 29 years old, 48.6% between 30 and 49 years old, and 7.1% over 50 years old. Based on the data, the demographic and social characteristics of the respondents cover a wide spectrum, which can help determine the direction of further research.

3. MAIN FINDINGS OF THE DISSERTATION

Social media platforms such as Facebook, Instagram and TikTok play a crucial role in disseminating information about health and nutrition today. Popular hashtags such as #health, #healthyfood, #diet, and #foodislife and #eathealthy generate a significant number of posts, suggesting that users are actively searching for healthy lifestyle content. At the same time, information on social media often includes claims and misconceptions that are not scientifically substantiated and can have a misleading effect on consumers. Different age groups use these platforms in different ways, younger generations tend to follow trends and visually appealing content, while older generations look for solutions in the comments. In addition, users often do not get their information from expert sources, but turn to influencers who do not necessarily have a proper background in nutritional science. This phenomenon highlights the importance of science-based information and expert opinions in the development of healthy eating habits.

The questionnaire and eye-tracking studies of the present research show that although the majority of consumers claim to be health-conscious, their daily dietary practices and lifestyle changes do not always reflect this awareness. The level of nutritional literacy and attitudes is mixed, and many misconceptions and misunderstandings about diet hinder the sustainable development of a healthy lifestyle. Based on the results of eye-tracking studies, visual attention is primarily focused on healthy foods, but at the same time, there is also an attraction to unhealthy foods, which indicates a complex motivational background. Professional sources are considered the most reliable sources of information, along with family, friends and social media, but access to expert advice may be limited, especially due to financial or other barriers.

Based on these findings, it can be stated that social media has a significant impact on the dissemination of knowledge about health and nutrition, but the presence of unfounded content increases the risk of misunderstandings and misconceptions. The gap between health awareness and nutritional practices, as well as nutritional literacy gaps, are obstacles to the development of sustainable healthy lifestyles. The duality of visual preferences further nuances the complexity of consumer behavior, which shows an interest in healthy and less healthy foods at the same time.

Based on the above, it is recommended to strengthen science-based information and expert opinions, especially on social media platforms, as well as the development of nutritional education, which can help to dispel misconceptions and clarify the concepts of diet and lifestyle. It is also important to make personalised advice available, especially for those who do not have access to expert help due to financial or other obstacles. Communication strategies should emphasize increasing the visual appeal of healthy foods, as well as developing social media awareness so that users are able to recognize reliable information and critically evaluate content. Finally, in order to support a sustainable lifestyle, it is necessary to develop strategies that promote the long-term maintenance of conscious eating and the development of good eating habits.

The rise of social media in disseminating information about health and nutrition creates both new challenges and opportunities. On the one hand, digital platforms provide quick and widespread access, which can help promote conscious eating, but on the other hand, the uncontrolled flow of information increases the risk of spreading misleading, scientifically unfounded content. This can be especially dangerous among younger age groups, who are more receptive to trends and messages conveyed by influencers, but at the same time are less critical of the authenticity of the information.

It is also important to mention that health awareness does not only depend on individual decisions, but is also closely related to social, economic and cultural factors. Financial situation, educational attainment, and access to quality food and expert advice have a significant impact on the development of a healthy lifestyle. Therefore, when designing nutrition education and health promotion programs, these complex factors must be taken into account so that interventions are truly effective and inclusive.

Finally, the issue of sustainable nutrition is also gaining more and more emphasis in nutrition research and public discourse. A healthy lifestyle cannot be separated from environmental sustainability, so it is worth integrating the principles of environmentally conscious nutrition into future educational and communication strategies, thus promoting holistic health preservation.

The dissertation provides a novel and significant scientific contribution to the field of nutrition science, as it examines nutrition-related attitudes with a unique methodological

approach, which has not previously been included in Hungarian research. This approach made it possible to explore the complex relationships between dietary habits and trends in depth, so the thesis not only fills a research gap, but also offers new perspectives on the topic. With the help of the methodology used, the research objectives can be interpreted more accurately and the hypotheses can be substantiated, which contributes to the expansion of the existing knowledge of nutrition science and supports the work of professionals with professional competence.

Another novelty of the thesis is that it is the first to carry out a comparative analysis between the international sustainable nutrition guidelines, especially the Planetary Health Diet and the Hungarian "Smart Plate" recommendation. This analysis revealed the similarities and differences between the two systems, and evaluated their practical applicability in the Hungarian nutritional culture. With this study, the thesis contributes to emphasizing the balance between sustainability and cultural embeddedness in the development of dietary recommendations, promoting the development of professional discourse and the promotion of sustainable lifestyles.

In addition, the dissertation used an innovative eye-tracking research approach, which not only measured visual attentional foci and fixations, but also compared them with consumers' subjective health-unhealthy perceptions and actual consumption intentions. The results pointed to a previously under-explored contradiction: consumers often pay more visual attention to unhealthy products while making declared health-conscious choices. This finding contributes significantly to a deeper understanding of the complex relationship between visual attention and health-conscious decision-making, which has been less studied in domestic and international research so far.

The results of the dissertation not only serve to expand scientific knowledge, but also contribute to the development of nutritional education and communication, as well as to the influence of consumer behavior, through their practical applicability. The correlations and contradictions revealed in this thesis provide a basis for the development of sustainable and health-conscious nutrition strategies, and enrich the national and international professional discourse on the development of sustainability and health consciousness

4. NEW AND NOVEL RESULTS OF THE DISSERTATION

(1) There is no study in the Hungarian research so far that would have analyzed attitudes related to nutrition with the methodological approach I have applied. Thus, my thesis fills a clear research gap and offers a new scientific perspective on the topic. The chosen methodology provided a broad insight into the correlations between dietary habits and trends, which allowed for a more accurate interpretation of the research objectives and well-founded support for the hypotheses. The results contribute to the expansion of the existing knowledge in the field of nutrition science, and at the same time create a scientific basis that can support and enrich the work of professionals with high professional competence in the future.

(2) The novelty of the present paper is also reinforced by the fact that no comparative analysis has been carried out so far that would have placed the dietary recommendations developed on the basis of international and domestic aspects side by side. In my research, I compared the guidelines of the Planetary Health Diet with the "Smart Plate" recommendation developed by the National Association of Hungarian Dietetics. During the analysis, I explored the similarities and differences between the two approaches, and evaluated their practical applicability. The study gave me the opportunity to weigh the advantages and limitations of both systems, and to point out how the international guidelines can be fitted into the Hungarian nutritional culture. The results of the comparison may contribute to a greater emphasis in the professional discourse on the balance between sustainability and cultural embeddedness in the development of dietary recommendations.

(3) In the course of eye-tracking research, as a novel approach, I not only measured attentional focuses and visual fixations, but also compared them with consumers' subjective health-unhealthy judgments and actual consumption intentions. The results show that there is often a contradiction between visual attention and declared health-conscious choices: consumers often pay more attention to unhealthy products, while consciously emphasizing their choices that they consider healthy. This controversial behavior has been less explored in domestic and international research so far, so the thesis contributes to a deeper understanding of the relationship between visual attention and health-conscious decision-making.

5. PRACTICAL APPLICABILITY OF RESULTS

Based on the results of the research, social media can be an effective tool in promoting health-conscious nutrition, if used consciously and professionally in a well-founded way. It is important for healthcare professionals and dietitians to have an active presence on digital platforms, conveying credible and scientifically backed information, as well as collaborating with influencers who are willing to incorporate expert opinions into their content and emphasize it. This can help reduce the spread of misconceptions and misleading claims, especially among younger generations, who are more receptive to trends but less critical of the authenticity of information.

To improve social media awareness, it's a good idea to launch educational campaigns that strengthen users' critical thinking, helping them distinguish between trustworthy and unfounded content. In addition, optimizing visual communication is also crucial: presenting healthy foods in an attractive, aesthetic way can increase their attention to consumers and encourage the right food choices. Designing creative and visually engaging campaigns can help reduce the attraction to unhealthy foods while supporting health-conscious decision-making.

Making personalised nutrition advice available is also essential, especially for those who find it difficult to access expert help due to financial or geographical barriers. To this end, it is recommended to develop online platforms and applications that provide support tailored to individual needs. At the same time, integrating sustainable nutrition into communication strategies is essential, as a healthy lifestyle cannot be separated from environmental sustainability. Emphasizing the importance of environmentally conscious eating and encouraging sustainable eating habits can contribute to holistic health promotion.

Finally, taking social and economic factors into account is essential when planning educational programs and campaigns. An approach that meets the needs and opportunities of groups from diverse backgrounds ensures that healthy eating is accessible and feasible for all. Taken together, these measures can help social media to serve as a powerful tool for sustainable and health-conscious lifestyles, while reducing the risk of spreading misinformation.

6. PUBLICATIONS ON THE TOPIC OF THE DISSERTATION (in case of public debate, the certified list of publications)

1. Szilágyi, Cintia ; Soós, Mihály ; Kiss, Marietta; Development of Body Weight Management Among the Hungarian Population; HEALTHCARE 12 : 22 Paper: 2236 , 16 p. (2024)
2. Szakály, Z. ; Soós, M. ; Gál, T. ; Antal, E. ; Pilling, R. ; Szilágyi, C.; Consumer preferences for sweet taste; ÚJ DIÉTA: A MAGYAR DIETETIKUSOK LAPJA (2001-) 32 : 1 pp. 22-26. , 5 p. (2023)
3. Szakály, Z. ; Szilágyi, C.; Examination of consumer preferences for plant-based meat imitations in Hungary.; FARMING 66 : 3 pp. 215-238. , 24 p. (2022)
4. Szilágyi, C.; Popular beliefs and misconceptions about macronutrient diets,among Tiktok users.; NUTRITION MARKETING 9 : 1 pp. 29-37. , 9 p. (2022)
5. Szilágyi, C.; Examination of online consumer groups dealing with health-conscious nutrition.; FOOD NUTRITION AND MARKETING (2022)
6. Szilágyi, Cintia ; Fehér, András ; Berencsi, Alexa; Exploring health awareness related to soft drinks among young adults with the help of eye-tracking examinations; ECONOMICA (SZOLNOK) 13 : 3-4 p. (2022)
7. Szilágyi, C. ; Soós, M.; Acceptance of alternative protein sources (2020); Publication:31827817 Public Source Research Data Scientific

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List of publications related to the dissertation

Articles, studies (5)

1. **Szilágyi, C.**, Soós, M., Kiss, M.: Development of Body Weight Management Among the Hungarian Population.
   Healthcare (Switzerland). 12 (22), 1-16, 2024. EISSN: 2227-9032.
   DOI: https://doi.org/10.3390/healthcare12222236
   IF: 2.7

2. Szakály, Z., Soós, M., Gál, T., Antal, E., Pilling, R., **Szilágyi, C.**: Az édes íz fogyasztói preferenciái.
   Új Diéta. 32 (1), 22-25, 2023. ISSN: 1587-169X.

3. Szakály, Z., **Szilágyi, C.**: A növényi alapú húsimitátumok fogyasztói preferenciáinak vizsgálata Magyarországon.
   Gazdálkodás. 66 (3), 215-238, 2022. ISSN: 3003-9894.
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4. **Szilágyi, C.**: Lakossági hitek és tévhitek a makrotápanyaggokkal kapcsolatos diétákban a TikTok felhasználók körében.
   Táplálkozásmarketing. 9 (1), 29-37, 2022. ISSN: 2064-8839.
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5. **Szilágyi, C.**, Fehér, A., Berencsi, A.: Üdítőitalokkal kapcsolatos egészségtudatosság feltárása a fiatal felnőttek körében szemkamerás vizsgálat segítségével.
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   DOI: http://dx.doi.org/10.47282/economica/2022/13/3-4/12491

Total IF of journals (all publications): 2,7
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The Candidate's publication data submitted to the Tudóstér have been validated by DEENK on the basis of the Journal Citation Report (Impact Factor) database.

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