THESISES OF THE DOCTORAL (PhD) DISSERTATION

THE EMERGENCE OF SUSTAINABILITY AS A COMPLEX VALUE AMONG GENERATION Z

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1. INTRODUCTION OF THE TOPICS AND OBJECTIVE

Sustainability and sustainable consumption have been central themes for researchers for years. It is becoming less and less controversial that, due to resource constraints and increasing environmental challenges, we will have to face environmental, social and economic challenges in the future, which require a changing consumer attitudes. Sustainability is linked to several megatrends (environmental technologies, nano/biotechnology, and advances in healthcare), which are expected to be significant factors in transforming consumer culture in the coming period.

This research aims to examine the consumer behaviour of the consumer segments most committed to sustainability, LOHAS (Lifestyle of Health and Sustainability) and Voluntary Simplifiers, also known as LOVOS (Lifestyle of Voluntary Simplicity), primarily in the field of food consumption.

One aspect of sustainability topics stands out: sustainable food consumption. The main reason is that food consumption should be considered one of the areas with the most significant environmental impact (VETŐNÉ, 2012; STANSZUS et al., 2019; OSMAN and THORNTON, 2019). However, when examining this topic, it should always be borne in mind that food consumption is a unique area of consumption since it satisfies a basic human need; the quality and quantity of nutrition directly determine the well-being and health of the individual. Therefore, efforts should be made to develop a diet that, in addition to ensuring a healthy diet, reduces the harmful environmental effects of consumption. In recent years, consumer attitudes towards nutrition have accelerated like never before. However, a new direction is increasingly being felt, where values such as health and environmental awareness or ethics shape consumer preferences. Even in basic foodstuffs, manufacturers seem to be expected to produce their products environmentally friendly and ethically. Their consumption should promote health preservation while guaranteeing a maximum taste experience.

The emergence of the principles of sustainable development in the consumer value system may promote the development of conscious consumer behaviour, during which the importance of belonging to a community is the focus rather than materialistic values, and experience orientation is emphasized instead of maximizing material goods (TÖRŐCSIK,

2007; RÁCZ, 2013). Furthermore, different generations seem to have slightly different approaches to sustainability issues. Several studies confirm that younger Gen Z are more concerned about sustainability issues than members of older cohorts (BALÁZSNÉ, 2022; DABIJA et al., 2020; SU et al., 2019). For this reason, the primary methods of the present study (questionnaire, focus group interview) were conducted among Generation Z university students.

In order to understand the impact of sustainability on consumer behaviour, it is necessary to identify consumer groups committed to sustainable consumption (LOHAS, LOVOS) and to examine the central values, characteristics and consumer behaviour of these segments. The dissertation's initial hypothesis is that there is a correlation between the rise of sustainability and changes in consumers' value systems (TORDA, 2016; HOFMEISTER-TÓTH, 2016; TÖRŐCSIK, 2016), the exploration of which is one of my main goals during my research work.

Main objectives of the research

O1: *Identification of consumer groups committed to sustainable consumption (LOHAS, LOVOS) and examination of consumer behaviour in each segment, primarily in food consumption.*

O2: *Comparison of the LOHAS and LOVOS segments based on their lifestyle characteristics (values, consumer behaviour, demographic background variables).*

O3: *Examining consumer perception of activities related to sustainable food consumption based on literature.*

O4: *Formulate marketing communications that can be effectively addressed to consumer groups committed to sustainability.*

Several Hungarian research projects (SZAKÁLY et al., 2017; RÁCZ, 2013) prove that the group committed to sustainable consumption (LOHAS – Lifestyle of Health and Sustainability) has appeared in Hungary as well, and they are becoming more and more important year by year, especially in developed countries, their number is constantly increasing. The other consumer group I examined is the Voluntary Simplifiers, also known as LOVOS – Lifestyle of Voluntary Simplifiers segment (GREGG, 2003). As their name implies, lifestyle advocates primarily strive to create a simple, sustainable lifestyle, avoiding

materialistic values and the desire to maximize material goods. Voluntary simplification means that people consider a conscious reduction of their consumption substantial for sustainability and their own mental health (ELGIN, 1993). The implementation of the O1 objective described above is carried out in several steps; first of all, the fundamental values of the two lifestyles (**O1.1**) need to be determined in the framework of secondary research.

As a next step, based on the results of secondary research and focus group interviews, a research model based on lifestyle values will be created, which will serve as the basis for the questionnaire survey (**O1.2**). With the help of the research model created, Gen Z college consumers can be segmented based on lifestyle and characterize segments along with lifestyle factors and consumer behaviour (**O1.3**).

I am conducting my primary research (due to the factors described above) among Generation Z university students. As a result, the size and characteristics of the two segments studied (LOHAS and LOVOS) can be determined, focusing primarily on food consumption among the studied age group. I linked the hypotheses in the following table (*Table 1*) to my latter objective.

1. Table: Presentation of dissertation hypotheses

Hypotheses	
H1	The value dimensions of the LOHAS lifestyle appear in the value system of Gen Z university students.
H2	Along with the LOHAS values, there is a segment where university students who are sympathetic to lifestyles gather.
H3	The value dimensions of the LOVOS lifestyle appear in the value system of Gen Z university students.
H4	Along with the values of LOVOS, there is a segment that includes university students who are sympathetic to lifestyle.

Source: Own editing, 2024

As a next step (after identifying the segments representing the LOHAS and LOVOS lifestyles), in accordance with objective **O2**, it will be possible to compare the LOHAS and LOVOS segments based on the characteristics represented by the lifestyle. In addition, we

can get answers to the buzzwords that can make marketing communications successful in their case.

After exploring and comparing the segments most committed to sustainable consumption, it is essential within the framework of the **O3** objective to also examine consumer perception of activities related to sustainable food consumption based on literature. In order to achieve this objective, the focus group interview and questionnaire interview results will be analysed along the main topics identified during the literature review.

Finally, the thesis aims to formulate marketing communication messages that can effectively address consumer groups committed to sustainability (**O4**). The latter objective can also provide a helpful starting point for companies when developing marketing communications to address the segments mentioned above. Due to their value systems, the two segments to be examined (LOHAS and LOVOS) can be the primary target group for socially responsible, healthy product manufacturing and green marketing companies.

2. MATERIAL AND THE METHODS

In order to examine the hypotheses presented in the previous chapter and achieve the objectives, I collected comprehensive data using secondary and primary research methods. Among the primary methods, both qualitative (netnography and focus group interview) and quantitative (questionnaire interview) procedures were used. The following is a detailed description of the data collection and analysis methods used.

2.1. Secondary data collection

I started my research with thorough secondary data collection, during which I reviewed the available national and international literature on the topic. The primary goal during the literature review was to lay the foundation for primary research, both in the case of focus group interviews and questionnaire interviews.

Keeping in mind the achievement of the objectives outlined at the beginning of the thesis, I tried to present the topic of my dissertation in a logical way. The main topics presented during the literature review were sustainable development, sustainable consumption, sustainable food consumption, consumer segments committed to sustainable consumption (LOHAS and LOVOS segments), and the introduction of generation Z from the aspect of sustainable consumption.

During the data collection process for secondary research, I was assisted by Scopus, Science Direct, Research Gate and Google Scholar. In terms of databases, I relied primarily on data and information from HCSO and Eurostat. In addition, I read several national and international publications on the topic (FAO reports, NFFS indicators, ReFED and MDOSZ publications). In the case of the literature sources I processed, I tried to process both domestic and international studies everywhere (if possible), to present domestic ones in addition to international research results, and to compare and evaluate the results (as far as the different research methods allowed). A significant part of the processed studies comes from international sources, this is due to the limited domestic literature available on the research topic, especially in the case of the LOVOS segment.

2.2. Primary data collection

As the first step of the research, start the study with qualitative methods. Qualitative methods help reveal consumer behaviour attitudes and motivations, which later provide a great starting point for questionnaire surveys (LEHOTA, 2001).

2.2.1. Netnography

Observational netnography provides qualitative results. Netnography is one of the new marketing research tools; with its help, we can find out which of the typical buzzwords appear most among consumers in connection with sustainable consumption. In addition, this method can be used to observe consumers' natural habits and thoughts without them being aware of it so that the results can give a more reliable picture than questionnaire surveys. Through observation, consumer groups can be formed and objectively studied (DÖRNYEI and MITEV, 2010).

During the primary research, nethnographic research was carried out as a first step to explore Hungarian online consumers' attitudes related to sustainable nutrition (BALSA-BUDAI and SZAKÁLY, 2023). During the study, the content published concerning sustainable nutrition by certain companies in Hungary and having a Hungarian Facebook page was analysed. The structured content analysis was implemented on the most popular social media platform – Facebook – through the following steps (GÁL et al., 2017). The first step (cultural entrée) of netnographic research is to formulate the research question, which in this case was as follows. *What attitudes do Hungarian online consumers have regarding sustainable nutrition in general?* Subsequently, in connection with the research question, it was examined which online forms of communication available on the Internet could contain relevant information from the topic studied, and Facebook was finally selected. At this step, a decision was also made on the researcher's participation level, where the observer's role was chosen. In this case, the researcher is a passive participant, so to speak, present and observing the conversations but does not actively intervene. The next step is data collection and analysis. After identifying the sources, relevant content was selected and processed. During the research, special attention was paid to the pursuit of authentic interpretation, as one of the most important criteria during netnography is that the researcher can faithfully reproduce the thoughts and findings of the online participants

examined during the research without distortion or modification. Furthermore, the implementation of ethics also plays an important role in the investigation, for which it is necessary to be aware of the general terms and conditions of the site examined regarding the use of content (KOZINETS, 2012; DÖRNYEI and MITEV, 2010; GÁL et al., 2017). Content published after 2019 included in the analysis required that the post had at least 100 likes and at least 10 comments. The results obtained during the netnography helped me prepare the scenario of the focus group interview and compile the questionnaire used in quantitative research. Although the results of the netnographic study were published before writing the thesis (BALSA-BUDAI and SZAKÁLY, 2023), as I refer to them several times during the dissertation, for the sake of better interpretation of the focus group interviews and the results of the questionnaire interview, the parts considered the most relevant will also be briefly presented during the dissertation.

2.2.2. Focus group interview

Using the results of the netnographic study and in preparation for the questionnaire interview, I conducted two focus group interviews. During the interview, with the help of the researcher/moderator, participants can express their opinions and views on a specific topic; thus, the researcher can get answers to "what" and "how" questions as well as "why" type questions, thus revealing motivations and attitudes. As a disadvantage, it is often difficult to assemble groups adequately, and the "usability" of the results largely depends on the attitude of the group members, group dynamics and the skills of the moderator. However, the clear advantage of this method is that it is generally an excellent tool for developing the elements of questionnaire interviewing (LEHOTA, 2001; BABBIE, 2001).

Regarding sustainable food consumption, the interviews were conducted among Gen Z university students who are sympathetic to the LOHAS and LOVOS segments and reflect their value groups according to the research objectives. Registration for the interview was voluntary, but a short online questionnaire was a condition of application. The questionnaire screened applicants to see if their lifestyle reflected the main value groups of the LOHAS or LOVOS segment I examined. For both lifestyles, 5 questions (1 each per value group) were asked using a 5-grade Likert scale. Based on the description provided, the respondents did not know that my goal was to find those committed to the two segments. Two other

questions related to demographic data (gender, age), and they also had to evaluate how health- and environmentally conscious they consider themselves to be using the Likert scale. Finally, they had to provide a contact option (email address). If a student's responses outlined the main value groups of a lifestyle, I contacted him. Subsequently, based on questionnaires and student feedback, the LOHAS and then the LOVOS interview group were formed. The interview took place online at the express request of the participants, using a Webex interface. The interviews took place in September 2023 and took 1,5 hours to complete in both cases. The interviews were recorded with the prior consent of the interviewees. The recordings later served as a basis for analysis.

The LOHAS group consisted of 7 people (4 women and 3 men). The script of the focus group interview is included in *Annex No.3* of the dissertation. In the case of the LOHAS Group, the following main topics were examined during the interview: the conceptual system of sustainable food consumption and the related values represented by the LOHAS segment, the examination of the knowledge of logos/trademarks/labels related to the LOHAS lifestyle, the examination of the appearance of consumer aspirations related to sustainable food consumption, the exploration of food purchasing habits, the testing of the so-called traffic light marking and future discussion of aspirations.

The LOVOS group also consisted of 7 people (6 women and 1 man), although the goal was to make the male-female division more proportional. Unfortunately, only 1 of the men who applied for the interview met the prerequisites, and I was able to contact him successfully. The script of the focus group interview is included in *Annex No.* 4 of the dissertation. In the case of the LOVOS Group, the following main topics were examined during the interview: the conceptual system of sustainable food consumption and the related values represented by the LOVOS segment, the examination of the knowledge of logos/trademarks/movements/initiatives related to the LOVOS lifestyle, the examination of the appearance of consumer aspirations related to sustainable food consumption, the exploration of food buying habits, the testing of the so-called traffic light marking and the discussing future aspirations.

2.2.3. Questionnaire survey

Based on the results of the qualitative studies, the research model used for the questionnaire survey could be prepared. The list of claims has been compiled along the value categories that most outline the LOHAS and LOVOS lifestyles. In connection with the LOHAS segment, the questionnaire developed by RÁCZ (2013) was adopted. The choice is justified by the fact that the characteristics and size of the domestic LOHAS segment were previously explored along these questions (SZAKÁLY et al., 2017). The questionnaire adopted in connection with the LOVOS segment was successfully validated by my colleagues in a previous study (BALSA-BUDAI et al., 2019) when we assessed the size and characteristics of the LOVOS segment among university students in Debrecen. The current research model was created based on the two questionnaires mentioned above, this time narrowed down and revised to the topic of sustainable food consumption, which can be found in the dissertation's *Annex No. 5*. As previously mentioned, several studies (DABIJA et al., 2020; SU et al., 2019; CHANEY et al., 2017; PENCARELLI, 2020) confirms Gen Z's firm commitment to sustainability. In order to examine their attitudes, this research was conducted among Gen Z university students.

Structure of the questionnaire

In the first part of the questionnaire, I used a five-step Likert scale to examine how much the respondents agree with each statement (1-not at all, 5-completely) and what consumer attitudes they have based on this. In this half of the questionnaire, 53 statements were made regarding the lifestyle of the LOHAS and LOVOS segments along the value groups of the two segments established during previous research (RÁCZ, 2013 and BALSA-BUDAI, 2019). In the case of the LOHAS segment, the following value groups appeared: environmental awareness, health awareness, ethics, authenticity and individualism. In the case of the LOVOS segment, the study was also conducted along 5 value groups: financial simplicity, self-sufficiency, environmental awareness, personal growth and ethics. For the reasons mentioned in the first chapter (the importance of food consumption in sustainable consumption), the questionnaires integrated into both researches – LOHAS and LOVOS – have been modified so that this time the claims specifically aim to explore food consumption habits in both lifestyles.

In the second half of the questionnaire, socio-demographic background variables were examined (based on gender, age, place of residence, education, university, marital status, primary food purchaser of household and monthly income). In addition, in this section, I examined the extent to which the respondents consider themselves health- and environment-conscious among the background variables, also using a 5-degree Likert scale.

Method and procedure of sampling

Sampling was carried out as follows. Among the universities of the country, those are included where economics is taught, and the number of students reaches at least 1000 at the given university. Based on this, 13 universities were visited for cooperation. The list of universities involved is given in the following table (*Table 2*).

Table 2: List of universities surveyed

University	Participated in the survey
Corvinus University of Budapest	Yes
Budapest Business School	Yes
Budapest Metropolitan University	No
Budapest University of Technology and Economics	Yes
University of Debrecen	Yes
Eötvös Loránd University	No
University of Miskolc	Yes
Óbuda University	Yes
University of Pannonia	No
University of Pécs	Yes
Széchenyi István University	Yes
University of Szeged	No
MATE	Yes

Source: Own editing, 2024

As a first step, the higher education statistics published by the Educational Authority calculated the total number of students and the distribution of men and women per university for the selected universities based on the above conditions (OKTATÁSI HIVATAL, 2020). As a second step, the number of students was proportional based on a sample of 1000 students, with the aim of including each university's number of students in the sample. It was also calculated how the male-female distribution among the sampled students should correspond to the characteristics of the population (in this case, the selected 13 universities).

Subsequently, the individual institutions, the lecturers working at the given university (to help conduct the interview) and the head of the respective faculty (to authorize the research) were visited for cooperation.

Subsequently, the individual institutions, the lecturers working at the given university (to help with the conduct of the interview) and the head of the respective faculty (to authorize the research) were visited for cooperation. Ultimately, I received permission and help from 9 universities to conduct the interview. In the other four cases, either the internal regulations of the universities or the low interest of students in interviewing were the obstacles.

The table above (*Table 2*) indicates which students from 9 universities finally participated in the survey. In all cases, filling out the questionnaire was voluntary; students were allowed to participate with the help of teachers working at the given institution. Based on the above, the method of sampling qualifies as convenience sampling.

Unfortunately, the response rates of the respondents fell short of expectations, so the previously set goal of including a proportion of students in the sample corresponding to the weight of the actual number of students had to be abandoned. In the end, n=925 people completed the questionnaire; the most major demographic background variables are summarized in *Table 3*.

Table 3: The Socio-demographic Background of the Sample (n=925)

Criterion	N	%
Gender		
Female	546	59
Male	379	41
Settlement		
Capital city	152	16
County town	345	37
Town with more than 10 000 residents	183	20
Town with between 2 000–10 000 residents	149	16
Settlement with less than 2 000 residents	96	10
Universities		
Corvinus University of Budapest	58	6
Budapest Business School	26	3

Budapest University of Technology and Economics	97	10
University of Debrecen	448	48
MATE	11	1
University of Miskolc	38	4
Óbuda University	68	7
University of Pécs	97	10
Széchenyi István University	82	9
Marital status		
Single	658	71
Married or in a partnership	265	29
Widow/divorced living alone	2	0
Education		
High school degre	839	90
University degree	86	9
Can you be considered the primary food purchaser of the household?		
Yes	292	32
No	633	68
Subjective income		
Can live on it very well and can also save	290	31
Can live on it, but can save little	428	46
Just enough to live on, but cannot save	130	14
Sometimes cannot make ends meet	13	1
Have regular financial problems	0	0
Do not have an individual income	8	1
No answer/Do not know	56	6
Age		
18-29 years	925	100
Distribution of respondents according to gender ratio by university		
University	Female [main]	Fe-male [%]
Budapest Business School	16	62
Budapest University of Technology and Economics	51	53
University of Debrecen	275	61
Széchenyi István University	50	61

University of Miskolc	23	61
Corvinus University of Budapest	31	53
Óbuda University	34	50
University of Pécs	60	62
MATE	6	55

Source: Own editing, 2024

As can be seen in the table above, based on the gender ratio of the respondents (n=925), 59% of the respondents are women (546 people), while 41% are men (379 people). However, from the point of view of sampling, it is more critical for us to examine the gender distribution of universities, for which the publicly released data of the OKTATÁSI HIVATAL (2020) provided the starting point. Ensuring the sample's representativeness (from the point of view of male-female distribution) is described in more detail below.

2.2.4. Data analysis methods

Although it was not possible to interpret the preliminary ideas in the case of the number of students, the gender representativeness of the sample was ensured for all universities by the preliminary ideas, so the male-female ratios of the sample adequately reflect the values of the actual population. In both cases, there was no significant deviation from the desired distribution data, so although the question of the need for weighting was raised, the Khi square tests performed proved in all cases that there is no significant difference between the intended and the implemented male-female distribution data (GYULAVÁRI et al., 2017). Due to the above, weighting was not justified on the given sample, so the sample can be considered representative by gender (the results of the tests are presented in *Annex No. 6* of the dissertation).

Before starting the analysis, the data was clarified, the purpose of which was to identify logically inconsistent answers and outliers and to handle missing data. IBM SPSS 24 and JASP 0.18.3 programs were used to perform statistical studies during the primary research. At the same time, in the case of data recording, descriptive statistics and graphical visualization, I processed the results using MS EXCEL spreadsheet program. When analyzing and presenting the results, I kept in mind both the methodology of applied statistics and marketing research (CHEESEOS and MITEV, 2007; LEHOTA, 2001; MALHOTRA et al., 2007).

I started by applying statistical methods describing the analysis (mean, standard deviation, mode, median, skew). In the case of ordinal measurement level variables, cross-table analyses were also performed to look for significant relationships between the variables. In this case, the significant relationship between the variables was proved by performing the Pearson Khi square test (GYULAVÁRI et al., 2017)

As a further step, CFA (confirmation factor) analyses were performed for both lifestyles (LOHAS and LOVOS) (BROWN and MOORE, 2012) along with the primary value factors already defined in advance in the literature (BROWN and MOORE, 2012; ROSSEEL 2018). In this case, the factor analysis was not exploratory but confirmatory, with the help of which I examined whether the data obtained during the interview fit the previously formulated theoretical models (both in the case of LOHAS and LOVOS lifestyles). Further analysis eliminated 24 of the original 53 statements to improve the internal consistency of variables. The results were evaluated for the remaining 15 lifestyle-related statements for the LOHAS segment and 17 retained statements for the LOVOS segment (3 statements were made for both segments). The list of questions excluded from the analysis is indicated in the grey cells of *Annex No. 5* of the dissertation.

Following the factor analysis, in order to be able to divide the sample into homogeneous groups, I performed value-system-based segmentation of university students for both of the examined lifestyles (CHEESEOS and MITEV, 2007; SZÉKELY and BARNA, 2002). A hierarchical clustering method (WARD method) was used along the factors of the LOHAS segment. In contrast, a non-hierarchical (k-means) method was used along the factors of the LOVOS segment. Finally, the relationship between clusters was investigated using variance analysis (ANOVA) and Pearson correlation (with 5% significance level) (FIELD, 2013).

3. MAIN FINDINGS OF THE THESIS

The main findings of the thesis are presented along the lines of its objective described in the first chapter and the hypotheses subordinate to them.

O1: *Identification of consumer groups committed to sustainable consumption (LOHAS, LOVOS) and examination of consumer behaviour in each segment, primarily in food consumption.*

O1 was a complex, complex objective of the research. When planning its implementation, I considered it necessary to formulate sub-objectives so its evaluation will be carried out along the sub-objectives.

O1.1: *It is necessary to define the fundamental values of the two lifestyles within the framework of secondary research.*

During the literature processing, a thorough examination of both segments was carried out. Before the dissertation, I examined sustainable consumption in both lifestyles (BALSA-BUDAI and SZAKÁLY, 2018; BALSA-BUDAI et al., 2019). The present research specifically targeted the field of sustainable food consumption. Accordingly, the values prevailing in this area based on the literature were examined. Based on the results of the secondary research, I concluded that previous Hungarian research (RÁCZ, 2013; LOHAS value groups defined based on SZAKÁLY et al., 2017) – *environmental awareness, health awareness, ethics, authenticity* and *individualism* – and the LOVOS value groups defined in our previous research (BALSA-BUDAI et al., 2019) – *material simplicity, self-sufficiency, environmental awareness, personal growth* and *ethics* – can be appropriately applied to food consumption as well.

During the secondary research, several literature sources highlighted that sustainable consumption appears differently for each generation, so I narrowed my research to Generation Z, considered by several studies in the literature to be the most committed to sustaining consumption (BALÁZSNÉ, 2022; DABIJA et al., 2020; SU et al., 2019). In order to achieve this, the primary research was conducted among Generation Z university students.

O1.2: *Create a research model based on lifestyle values to serve as a primary research basis.*

To create the research model of the questionnaire survey, in addition to the literature review, two focus group interviews (one each with university students reflecting the values of the LOHAS and LOVOS lifestyle) were conducted, the results of which were used to create a list of claims tailored to final food consumption for both segments. The questionnaire was based on two previously validated lists of claims (RÁCZ, 2013 and BALSA-BUDAI et al., 2019), which were modified in cases of statements that cannot be interpreted concerning the study of food consumption so that it continues to characterize the given value group adequately.

O1.3: *With the help of the research model created, it is necessary to segment Generation Z university students based on lifestyle and characterize the segments along with lifestyle factors and consumer behaviour.*

To achieve this objective, a questionnaire survey was conducted involving nine universities, where Gen Z university students studying economics were interviewed (n=925). In the case of both lifestyles, the fit of the previously formulated research model (using the CFA method) was examined, which proved to be adequate based on the fit indicators, so the predefined LOHAS and LOVOS value factors were accepted. In the following, I will evaluate the hypotheses subordinated to the objective.

H1: *The value dimensions of the LOHAS lifestyle are reflected in the value system of Gen Z college students.*

In the case of the LOHAS lifestyle, based on the results of the primary study, there is a sufficient separation of value dimensions that point towards the LOHAS lifestyle. The five established value factors (*health awareness, environmental awareness, ethics, authenticity, and individualism*) appeared with different weights in the value system of university students.

Taking into account the various analytical results together, this factor seems more difficult for consumers to enforce when it comes to food consumption. The LOHAS focus group interviews revealed that members tend to enforce their environmentally conscious behaviour in other areas (e.g. transport). The reason for this is that the food consumption is a complex

area where experience-centeredness and hedonism prevail greatly. The phrase "*I try to be conscious, but not at any cost*", repeated several times during the focus group interview, reflects the problem well. In this case, consumers may feel that the price they should give up for environmentally conscious behaviour (e.g. reducing the consumption of products of animal origin) is too high. This finding is reinforced by the fact that the university students surveyed found themselves environmentally and health-conscious almost equally. However, they could identify better with the values of health consciousness regarding food consumption. Concerning ethical values, it is essential to note that the ethical behaviour to note that the ethical behaviour expected of companies (e.g. creating ethical working conditions, supporting those in need) shaped the value system of university students in the value system of respondents, which statement is also reflected in the results of the research conducted by KISS et al., 2016 and SZAKÁLY et al., 2017.

Furthermore, it is worth emphasizing that, similarly to the historical research (SZAKÁLY et al., 2017), several value groups (*environmental awareness, authenticity, ethical values*) prevailed more in the case of women. This result is not surprising, but this research confirmed that female consumers are more committed than their male counterparts regarding food consumption when it comes to sustainable consumption. Another finding (although also surprising) is that *authentic* food consumption is less characteristic of those living in the capital than their counterparts in rural areas. Finally, the results also showed that although consumers were less able to identify with the value of environmental awareness, the proportion of environmentally conscious university students who bought food was significantly higher. This suggests that university students who decide for themselves what to put on their tables turn out to be more environmentally conscious than their peers who do not or rarely do their shopping. This fact positively affects the realization of sustainable food consumption since the food purchaser plays a decisive role in this matter.

Based on the results, the individual value factors are present in the value system of university students, albeit with different weights. Thus, this hypothesis is justified

H2: *Along with the LOHAS values, there is a segment where university students who are sympathetic to lifestyles gather.*

Value-based segmentation of university students was then performed along the LOHAS factors. Based on the results, three segments were separated – *LOHAS sympathizers*, *Traditionalist individualists* and *Trend rejectors* – with *"LOHAS sympathizers* showing the most significant commitment to lifestyle values. In their case, all five groups of values formulated in connection with lifestyles (*environmental awareness, health awareness, ethics, authenticity* and *individualism*) can be discovered. This segment includes 42,2% of respondents (382 people), a ratio very similar to the results of PÍCHA and NAVRÁTIL (2019), where the proportion of those sympathetic to the LOHAS lifestyle constituted 43% of the respondents.

Their members were most likely to identify with the values of *health awareness* and *individualism*, meaning that it is essential for them to consume high-quality food that adequately supports the essential nutrients necessary for maintaining their health. They also like food specialities that are mainly made from domestic ingredients and a short supply chain. With *environmental awareness* in mind, there is a desire for more conscious food consumption and purchase (the desire to avoid overconsumption and waste). At the same time, they value the *ethical* behaviour of companies such as ensuring humane working conditions, supporting those in need and producing food ethically. Although they claim to be health-conscious rather than environmentally conscious, both aspirations are present in their lifestyle (in both cases, a significant difference can be drawn compared to the other two clusters). The results of focus group interviews are also in line with the previous findings, furthermore, the characteristics of the segment of "*LOHAS sympathizers" are very similar* to the characterization of the cluster "*Young trend followers*" of the SZAKÁLY et al., (2017) study.

It is important to point out that the majority of respondents, including those sympathetic to the LOHAS lifestyle, live in excellent financial conditions, which is presumably also because most of them still live with their parents, as indicated by the high proportion of single people ("72% of *LOHAS sympathizers*") and the low number of primary food buyers in the household (34% of "*LOHAS sympathizers*"). Therefore, usually, someone else procures food for them, so their decision-making role can only be realized to a limited extent in this case. Furthermore, the question arises of whether their consumption habits are currently determined by their value system or, instead, by their parents' value system.

Based on the literature (KORHONEN, 2012), I considered it necessary to further segment the "*LOHAS sympathizers*" cluster based on the degree of commitment to lifestyle. During the segmentation, three subclusters were formed, among them the "*Health-conscious LOHAS"* members, who emerged as the most committed group along the values represented. 16,76% of the total sample belongs to this group, which best reflects lifestyle characteristics.

In light of the above results, my hypothesis that a separate segment of university students is committed to the LOHAS lifestyle is justified.

H3: *The value dimensions of the LOVOS lifestyle appear in the value system of Generation Z university students.*

Based on the results of the questionnaire survey, it can be concluded that the value groups representing the LOVOS lifestyle (*financial simplicity, self-sufficiency, environmental awareness, ethics* and *personal growth*) are separate from each other and, although with different weights, are also present in the value system of university students regarding sustainable food consumption. Like those seen in the LOHAS lifestyle, *ethical* values showed a dominant separation from other value groups. In this case, the most crucial thing for university students within the value group was the refusal to buy food that was incompatible with the value system.

In the case of the LOVOS lifestyle*, environmental awareness* was considered more favourable, and the purchase of food from organic/local/sustainable farming proved to be the most important. People living in small settlements were better characterized by this group of values than their urban counterparts. This is likely because they have more opportunities to achieve this value (e.g. composting or sourcing locally produced food). The value group of personal growth brings together community values and the importance of individual development. The results showed that when it came to food consumption, university students tended to overrepresent community values (e.g. seeing sustainable food consumption as a common interest or supporting the local farming community). This result is in line with the findings of the research of DUDÁS and SZAKÓ (2019) and BALSA-BUDAI et al. (2019), in the case of the latter, participation in community initiatives proved to be the most important within the value group. It should be noted that this group of values was also less prevalent in the case of those living in the capital. Despite less weight, *self-*

sufficiency also appeared in university students' value system; the most critical factor proved to be the community cultivation, production and harvesting of food. Finally, the results showed that *university students* – primarily residents of the capital – could least identify with the value of financial simplicity (which was most evident in the conscious reduction of the amount of food purchased). This result is also similar to the findings made in the research of BALSA-BUDAI et al. (2019).

Another observation is that women could better identify with each LOVOS factor ($p<0.001$). The value groups of *financial simplicity* and *environmental awareness* proved to be more important for the primary food purchaser of the household, which is a positive factor since, as mentioned above, their values primarily prevail during food procurement. In this case, income did not influence the assessment of certain value factors either.

Overall, although the assessment of the individual value groups cannot be considered uniform in the case of the LOVOS lifestyle, all these factor values influence the value system of university students in some way. Based on this, my hypothesis is justified.

H4: *Along with the values of LOVOS, there is a segment that includes university students who are sympathetic to lifestyle*

During segmentation, I received three distinct clusters for the LOVOS lifestyle (*LOVOS sympathizers, Community simpliers, Unconscious simpliers*). Among these, the segment of "*LOVOS sympathizers*" shows commitment to all lifestyle values (material simplicity, self-sufficiency, environmental awareness, ethics and personal growth) and overvalues them compared to other segments ($p<0.001$). This cluster includes 26,2% of respondents (233 people), for whom community values such as supporting farmers by purchasing local products, achieving sustainable food consumption at the community level and sharing family meals proved to be the most decisive factors in personal growth. While the ethical value group was the one with which they could least identify, the latter finding is consistent with the results of PEYER et al. (2017).

This group can include university students, some of whom may have their own garden or farm and are happy to produce part of their food needs themselves, factors that proved important in the study of DUDÁS and SZAKÓ (2014). They are also happy to participate in "buycott" or boycott movements. Compared to the other two clusters, segment members

considered themselves the most environmentally conscious (72,96%), and the same number declared themselves health-conscious (72,10%), which shows a significant difference from the results of the other clusters in both cases. Furthermore, although, like "*LOHAS sympathizers*", the proportion of primary food purchasers of the household is low (39,49%), this proportion still turned out to be significantly higher compared to other clusters.

Several literature sources confirmed (ETZIONI, 1998; BALLANTINE and CREERY,2009) that in the case of the LOVOS lifestyle, it is worth examining those sympathetic to the lifestyle based on their degree of commitment, the further segmentation of the group of "*LOVOS sympathizers*" was carried out in this case as well. The study confirmed that, in line with the literature, three further subclusters emerge: "*Completed simplifiers*", "*Advanced simpler*", and "*Partially simplified*". Among the subclusters, "*Completed simplifiers*" have the highest level of commitment to lifestyle, and segment members highly overrepresent all relevant value groups. This small group, but more homogeneous in terms of values, makes up only 4,34% of the total sample. Among the values represented, the factors of *environmental awareness, ethics* and *personal growth* are the most overrepresented compared to the other subclusters ($p<0,05$), and the proportion of those who declare themselves to be health and environmental conscious is also the highest in this group This includes university students who fully identify with the values of the LOVOS lifestyle, who keep in mind all aspects of sustainable food consumption when shopping, consciously try to reduce their consumption and often grow/produce their own food needs. These findings are also consistent with the research results of DUDÁS and SZAKÓ (2014). When training the target group of food brands, it is worth bearing in mind that there may be differences between representatives of the LOVOS lifestyle based on the degree of commitment to values. The more committed one is to this lifestyle, the more difficult it is to reach out to food brands, given that highly committed members produce a significant part of their food consumption. In contrast, consumers who are only sympathetic to lifestyles can still have significant purchasing power in the food market. Regarding the factor of market exit, which often arises in connection with the LOVOS segment, I formulate the following proposal.

Proposal1: During the training of the target group of a food brand, the degree of commitment to the lifestyle of the LOVOS segment must also be considered (in addition to

the represented value groups), and consumers belonging to this category must be segmented based on this.

In light of the above results, I consider my hypothesis to be justified.

O2*: Comparison of the LOHAS and LOVOS segments based on their lifestyle characteristics (values, consumer behaviour, demographic background variables).*

One of the objectives of my thesis is to compare the two segments most committed to sustainability (LOHAS and LOVOS) in the light of the results obtained. The following conclusions can be made based on focus group interviews and questionnaire interviews. The two segments share several common values, some of which are reflected in the literature (e.g. environmentally conscious and ethical values). Considering the results, we can say that the difference is mainly outlined along two value groups – in line with the results of BALSA-BUDAI et al. (2019) – along with individualism and material simplicity.

LOHAS can be seen as a hybrid lifestyle where seemingly contradictory values (e.g. individualism and hedonism) go hand in hand with factors of sustainable consumption. The authors came to a similar conclusion regarding hedonism (BALÁZSNÉ et al., 2022), also in their research examining the attitudes of Hungarian generation Z LOHAS university students. This kind of hybrid value system was well reflected in the LOHAS interviewees. However, they stated that a higher level of awareness is necessary for someone to consume consciously in addition to individualistic values; individualistic traits were still evident in their responses (e.g. brand loyalty despite increased food prices). Regarding the results of the questionnaire survey, *individualism* was also the value group to which segment members showed the highest degree of commitment in the value system of "LOHAS sympathizers" – similar to "Conscious individualists" committed to the LOHAS lifestyle appearing in the research of KISS et al. (2016) " segment –. In their case, community values are less prevalent, and in sustainable consumption, health awareness is more enforced, and environmental awareness can only follow (to quote from the focus group interview, "*not at all costs*"). So, environmental awareness appears only to a certain extent in their value system as a kind of aspiration. The interview members also report this, and it is also reflected in the value system of the "*LOHAS sympathizers*". It is no coincidence that several studies

refer to LOHAS as a "*lifestyle of health and sustainability*" (SAVELLI et al., 2019; MATHARU et al., 2020; SUNG and HONG, 2019).

For LOVOS sympathizers, however, community values prove to be of paramount importance in the field of food consumption, as highlighted by the results of the questionnaire, where factors related to the individual from the value group of *personal growth* eventually fell out of the statements (during the CFA analysis). In contrast, community advocacy proved to be quite significant. In their case, *material simplification* can also be seen, which, according to the research of BALSA-BUDAI et al. (2019), forms the opposite pole of individualism (the perception of individualism and material simplicity is opposite). Based on the results of focus group interviews, *environmental awareness* and *ethics* also prevailed more in this segment (e.g. knowledge of the relevant trademarks was higher than in the LOHAS group). It is important to note that *health awareness* also appears in the case of LOVOS members, as shown by both the focus group interview results and the proportion of those in the segment who consider themselves health conscious.

Based on the above-mentioned findings, the main difference in values represented by the two segments is to be found in the assessment of the importance of the individual and the community. While in the case of the LOHAS segment, the individual, and thus individualistic values, are emphasized (the dominance of health consciousness can also be linked to this since that value group also refers to the individual), in the case of the LOVOS segment, community values prevail more – in line with the results of DUDÁS and SZAKÓ (2019). This is also reflected in the factor of *self-sufficiency*, which, based on both the questionnaire and the interview, lifestyle representatives prefer to do in a community (friends, family), whether it is a community garden, joint harvesting, cooking or even pork cake. Due to the focus on community values, the role of food from short supply chains (e.g. (e.g. from friends, neighbours, and local market) is also more emphasized for members of the LOVOS segment. The interviewees believed that the main reason for excessive materialism and, thus, overconsumption is a lack of spiritual balance, so it can be said that a simpler life gives them satisfaction (following ALEXANDER and USSHER, 2012; KANNISTO, 2018; BROWN, with findings from 2022).

Since the questionnaire examined a sample with a homogeneous age group (Generation Z) and education level (university students), possible differences that demographic background

variables can formulate are limited. In both segments, the values represented were more likely to be overrepresented by women, similarly to PEYER et al., 2017; PÍCHA and NAVRÁTIL, 2019; SZAKÁLY et al., 2017; WAN and TOPPINEN, 2016; HAN et al., 2009 and KASSINIS et al., 2016. However, based on residence and income, the results of the research showed no significant difference between the two segments. In order to remove the limitations mentioned above, I make the following proposal.

Proposal2: The established list of claims focusing on food consumption should also be applied to older generations in the context of a questionnaire survey to identify differences and similarities between generations in sustainable food consumption.

However, the comparison of the two segments faces problems not only domestically but also internationally, considering that there currently needs to be a uniformly applied measurement method for examining the two lifestyles.

Proposal3: For both the LOHAS and LOVOS segments, it would be necessary to develop/adopt an internationally accepted list of claims, which would allow better comparability with studies abroad, thus answering questions such as whether the value groups represented by the segments are the same in different countries. It would also allow for better comparison of segment sizes.

O3*: Examining consumer perception of activities related to sustainable food consumption based on literature.*

According to the literature, the following main activities can be linked to the most important principles of sustainable food consumption:

(1) Buying/consuming products from short supply chains (e.g. local products, seasonal fruit and vegetables)

The preference for local products, food purchased at markets, and seasonal fruit and vegetables is critical to implementing sustainable food consumption. This is reflected in the value systems of both segments I examined (LOHAS and LOVOS). In the case of LOHAS claims, the short supply chain appeared in the importance of buying on local markets and the preference for Hungarian foods within the authentic value. In descriptive statistics, most respondents (based on mode value) agreed or fully agreed with the importance of the given aspects. In the case of the LOVOS claims, favouring the products of small farmers,

participating in the "Harvest yourself" and "Grow yourself" movements, and producing self-produced food all fall under this aspect. A significant proportion of respondents were rather indifferent or dismissive of these factors. Based on the results of focus group interviews, mainly those sympathetic to the LOVOS segment emphasized that it is important for them to buy preferably from the market or local producers, and they always do so for certain products (e.g. meat, vegetables, fruits and eggs), they rarely buy them from stores. During the interview, the LOHAS segment also highlighted the importance of buying local and seasonal foods, but most prefer looking for these products in stores. Summing up the results, I believe that the preference for foods from short supply chains is essential to sustainable food consumption, and most university students are aware of this. However, only a tiny proportion of them (mostly committed to the examined lifestyles) enforce this in their purchasing behaviour. The prominent role of this endeavor can be seen primarily among the members of the LOVOS segment. In order to promote the short supply chain, easier and more convenient access among young people may be critical, so I make the following suggestion.

Proposal4: To promote short supply chains among young people, with a view to more convenient/easier accessibility, it may be advisable to expand the number of virtual farmers' markets, where some food would become available to them, even when ready to cook.

(2) Conscious reduction of food waste and related packaging materials, avoidance of waste

Several studies have highlighted the importance of reducing food waste and related packaging materials (SZŰCS, 2020; ROBERTS, 2018; ReFED, 2021). On the one hand, the environmental (and economic) burden of unnecessarily produced food negatively impacts all stages of food production and processing. The amount of waste resulting from the packaging material involved also significantly impacts the environment. Several literatures have pointed out that this area is where the most outstanding results could be achieved with the least effort (and renunciation) (GÁTHY et al., 2017). From the producer side, it is necessary to build the shortest possible supply chain, which would ensure a longer shelf life of the product (due to the shortening of the delivery time). Furthermore, increasing food quality time also appears as an essential endeavour, e.g. through more modern packaging

techniques. Regarding packaging materials, the preference for degradable, environmentally friendly packaging is essential in ensuring adequate product protection and quality.

In order to achieve conscious consumption, consumers must avoid overconsumption at the time of purchase (e.g., they write a list, pay attention to the shelf life, and prefer products with a longer shelf life). In households, the primary aspiration is to reduce the amount of waste going to waste and adequately manage the waste generated (e.g. composting, collection and delivery of helpful cooking oil, selective waste collection). During focus group interviews, participants made significant progress on this issue and said they would like to do more in the future. They pay more attention to avoiding waste (in which increased food prices have also been an important consideration), avoiding unnecessary packaging when shopping, and condemning those who do not. Almost all of them collect garbage selectively, so this act was considered the most popular for sustainable consumption in both segments. The netnographic study among Hungarian online consumers (BALSA-BUDAI and SZAKÁLY, 2023) also came to this conclusion.

The interviews also revealed that consumers may be divided on the perception of bearing the additional costs of environmental activities (e.g. the introduction of degradable but paid bags). Many felt it was unfair that shops had passed this cost on them. Another divisive issue among consumers (based on the netnographic study) is the introduction of environmentally friendly packaging materials and cutlery (paper/wood based) that reduce the enjoyment value of food. Both studies showed that consumers would unanimously expect more sustainability-related efforts from retail chains (e.g. requiring environmentally friendly packaging materials from suppliers or more innovative use of food waste). However, bearing the costs incurred or the factor of diminishing enjoyment value is no longer welcome.

In this case, several claims were made in the questionnaire for both segments. These results also suggested that consumers expect companies to be greener. The conscious reduction of the amount of food purchased was relatively divisive among the respondents, and the same can be said about the residual savings generated in households. Based on the questionnaire, the most essential endeavour appeared for the majority: conscious reduction of packaging materials.

Education would probably play the most prominent role here so that consumers understand the important impact they can make on more sustainable consumption even with simple steps (e.g. reducing waste). I make the following proposal.

Proposal5: Education on sustainable food consumption should place greater emphasis on the importance of reducing food waste and raising awareness of the positive effects of more conscious food consumption (e.g. customer list writing, saving leftovers, avoiding waste), as these easy-to-implement steps can greatly contribute to households achieving more sustainable food consumption.

(3) The emergence of ethics in food consumption

The relevant results of the questionnaire (e.g. ethical corporate behaviour, ethical animal husbandry/product production, participation in buycott/boycott initiatives) suggest that for most university students, these values play little role in food purchasing decisions. However, their most important factors were to create ethical working conditions and help those in need. In the case of focus group interviews, I examined the trademarks related to the value system of the segments and found that the knowledge of the trademarks was not complete among the interviewees. Especially in the case of the LOHAS segment, most of the trademarks were unknown to the interviewees, least known to the Fairtrade logo, which aims to reduce more humane working conditions and exploitation of farmers. This finding is supported by the fact that, based on the questionnaire survey. However, ethical values appeared in the value systems of both segments (LOHAS and LOVOS), and respondents were less able to identify with them compared to other value factors. Based on this, it can be said that this aspect is currently less prevalent in implementing sustainable food consumption in the case of Generation Z university students. For those committed to sustainability, it also has less weight than other factors (e.g. health awareness, environmental awareness).

Reducing the consumption of products of animal origin

Most research related to sustainable food consumption urges a preference for a plant-based diet over an animal diet. Even the National Association of Hungarian Dietetics encourages domestic consumers to reduce the consumption of foods of animal origin, e.g. by introducing a meat-free day (MDOSZ, 2021; SCHMIDT 2022a; SCHMIDT, 2022b).

However, I think this research has shown that this is perhaps the sustainability aspect that is most difficult to enforce for consumers and that can pose the greatest risks (health, environmental and economic).

None of the focus group members follow a plant-based diet and do not plan to do so in the future, although they were aware of its role in sustainable food consumption. They did not see this as the way to achieve sustainable consumption. One reason for this is that, in their opinion, other activities (e.g. green transport) can compensate for environmental burdens better than not eating meat. The interviewees agreed that the origin of the meat appears to be an essential aspect (i.e. preferably Hungarian, local, and, in the case of the LOVOS segment, homemade). Most LOVOS interview members (according to the value of self-sufficiency) either bought family animals or purchased a significant part of their meat needs from neighbours/friends. Thus, they did not consider their mixed diet to be environmentally harmful. The LOHAS segment rejected plant-based diets because of health risks, believing that "meat substitutes" (e.g. tofu) were more harmful to health. However, they also preferred domestic products and strived for a varied diet.

A related claim was also made in the questionnaire that too much food of animal origin has adverse effects on health and the environment. Respondents rejected this claim, but it is important to note that among those who agreed, there was a significantly higher proportion of health and environmental consciousness ($p<0.05$) than those who disagreed with the statement.

To sum up the above, the majority of university students may be aware of the negative effects of the consumption of animal products, but there is no result suggesting that they apply this to their consumption, and there is no difference in the behaviour of segments committed to sustainable consumption in this issue. Food consumption is a very specific area where many factors influence consumer choices. The consumption of products of animal origin is also a cultural issue, and although excessive consumption may pose health risks, the same statement may be true if ignored. However, moderating meat consumption by consuming more fruit and vegetables (e.g. Mediterranean diet) can benefit nutrition from both health and environmental points of view. Education also plays a vital role in this topic so that consumers receive adequate information about healthy and environmentally conscious nutrition as early as possible (from early childhood).

4. NEW AND NOVEL RESULTS OF THE DISSERTATION

The new and novel results of the dissertation are summarized below.

(1) *Based on the literature, the joint study of the segments most committed to sustainability – LOHAS and LOVOS – is carried out using qualitative (focus group interview) and quantitative (questionnaire interview) methods, focusing on sustainable food consumption and value-based comparison of the two segments.*

(2) *Transforming previous research into the existing LOHAS and LOVOS lifestyle to the topic of food consumption, examining the fit of the theoretical model with CFA analysis.*

(3) *The value-based segmentation of Hungarian Gen Z university students in both segments and value groups was defined by the literature and confirmed during focus group interviews.*

In the field of food consumption, value-based segmentation of the LOHAS and LOVOS segments was implemented together for the first time in Hungary (and internationally). The present research was the first to examine the validity of the previously established value groups in connection with the LOHAS and LOVOS segments in the case of food consumption. As a result of segmentation, the following consumer segments were identified for the LOHAS lifestyle: *LOHAS sympathizers*, *Traditionalist individualists* and *Trend rejectors*. Three segments were also distinguished in connection with the LOVOS lifestyle: *LOVOS sympathizers*, *Community simpliers* and *Unconscious simpliers*.

(4) *Identification of Gen Z "LOHAS sympathetic" university students, examination of their value system and characteristics with background variables.*

Looking specifically at food consumption, the value system of Gen Z LOHAS lifestyle sympathizers was examined for the first time and characterized with background variables. It has been established that all 5 value groups outlining the LOHAS lifestyle (environmental awareness, health awareness, ethics, authenticity and individualism) also appear in the field of food consumption. It was also revealed that Gen Z LOHAS consumers make up 42,2% of the respondents, with women significantly overrepresented among its members. The most committed representatives of the LOHAS lifestyle (*Health-*

conscious LOHAS) were identified for the first time focusing on food consumption, accounting for 16,76% of the total sample.

(5) *Identification of Gen Z "LOVOS sympathizer" university students, examination of the value system of lifestyle representatives, and characterization along background variables.*

The value system of those sympathetic to the Generation Z LOVOS lifestyle was also examined for the first time and characterized with background variables on food consumption. In this case, it was confirmed that all 5 value groups outlining the LOVOS lifestyle (environmental awareness, material simplicity, ethics, personal growth and self-sufficiency) also appear in food consumption. Furthermore, Gen Z LOVOS consumers were identified, who make up 26,2% of the respondents, with women significantly overrepresented among their members. In the LOVOS segment, focusing on food consumption, the most committed lifestyle members (*Completed simplifiers)* were also identified first, making up 4,34% of the total sample.

5. PRACTICAL APPLICABILITY OF RESULTS

The practical usefulness of my research is reflected in the **O4** objective and the related proposals.

O4: *Formulate marketing communication messages that can be effectively addressed to consumer groups committed to sustainability*

In order to achieve this goal, on the one hand, I perform value-based segmentation of university students committed to sustainability. Based on the results, the following conclusions can be made. In both the LOHAS and LOVOS segments, the proportion of self-identified health and environmental conscious people was significantly higher among those who sympathized with a lifestyle than among those who did not. Thus, the claim of the literature that these two values are achieved simultaneously in the case of sustainable food consumption has proven to be accurate and confirmed (BAUERNÉ and SZŰCS, 2019; BROEKEMA, 2020; OSMAN and THORNTON, 2019).

Value-based marketing communications can work well for both lifestyles in light of the above results. In the case of the LOHAS lifestyle, marketing communication related to individualistic and health-conscious values can work. In contrast, in the case of the LOVOS lifestyle, the emphasis on community foods and the support of domestic farmers may come to the fore. In the case of both lifestyles, it is true, based on the results, that in addition to the environmental certification of a given product, it may be necessary to attach other buzzwords from the point of view of successful marketing communication.

In the case of LOHAS, the health mentioned above promotion and preservation, high/premium quality, food specialities, local products or support factors for local farmers can positively influence their decision-making. I find it more challenging to address the representatives of the LOVOS lifestyle correctly since, on the one hand, the segment members produce or purchase many things themselves or purchase them from home, while financial simplification ("less purchases") also appears in their consumer behaviour. Here, PEYER et al., 2017's finding turns out to be true that the more committed someone is to this lifestyle, the harder it is to reach out to food brands (due to the strong presence of the factor of self-sufficiency and the market exodus that appears for this reason). In their case, the movement to support local farmers, domestic product certification, and the domestic nature

of food (e.g. farm chicken) may work for the less committed segment members. Focus group interviews showed that while LOHAS members care about their brand (they are more willing to wait for a sale but buy the proven product), for LOVOS members, perceived quality is more of a decisive factor, so if retail chains offer similarly good quality at better prices than their private label products, they can quickly become brand abandoners. On this basis, I make the following proposal.

Proposal6: During marketing communications, it is essential to explore the values represented by the given target group properly; more than the product's environmental friendliness may be required for successful marketing communications. It is worth including other buzzwords in the marketing messages, e.g. high quality, local product, GMO-free, products of domestic farmers, and premium product.

Many trademarks used on product packaging seek to communicate these values to consumers (e.g. Fairtrade, Domestic Product, MSC, UTZ, Rainforest Alliance, etc.). However, the focus group interview showed that even members of university students committed to sustainability are only partially familiar with these trademarks. In agreement with the opinion of the focus group interviewees, I make the following suggestion in this regard.

Proposal7: Brands need to be informed about their meaning, but also to inform the public about their meaning. Higher trademark knowledge can lead to a more positive attitude among consumers (KONTOR et al., 2019). This marketing communication could occur through the collaboration of several brands, where they present the meaning of the trademarks they use with an "educational" intent. The use of trademarks on packaging may give an advantage over a competitor who does not use that mark, but this advantage and the reduction of uncertainty before a purchase can only be achieved if the target group knows the meaning of the trademark.

Consumers primarily expect retail chains and larger companies to achieve sustainability efforts. However, when moving towards sustainable consumption, customers are reluctant to bear the extra cost but expect at least shared costs with companies. Furthermore, in the case of food, it proves to be accurate, in line with the results of netnographic research (BALSA-BUDAI and SZAKÁLY, 2023), that an innovative solution can only work if, in

addition to being considered "greener", it maximally ensures the usual taste experience, as this remains the primary concern for consumers (e.g. the introduction of new wood-based spoons in the fast food chain, which consumers found to be "bad taste", or the case of quickly soaking paper cups, which ultimately destroyed the enjoyment value of food for them).

Proposal8: When introducing environmentally friendly packaging materials, special attention should be paid to ensuring that the given solution is not only environmentally sound but also does not entail high additional costs for the consumer and, at the same time, maximally ensures the usual taste experience.

Finally, I would like to make my comments on the 'Traffic Light' nomination. The application of the "Traffic Light" marking on foods among the tested labelling methods proved to be very successful, the interviewees knew and were able to interpret its meaning. However, examining the label alongside the menu - based on OSMAN and THORNTON's (2019) study- yielded the same results for both segments. The interviewees kept their original decision the same due to the nomination (whether it concerns health or the environment). They debated how well the labelling reflected health- and environmentally conscious values in the case of prepared foods; in their opinion, they were unsuitable for adequately assessing a dish. They would not welcome this method of marking on menus; for them, their possible use in restaurants would not add value. The focus on experience in the restaurant proved more vital for both segments (LOHAS and LOVOS I have therefore rejected the proposal to use this notation in light of the above results. However, examining the notation on a larger and more heterogeneous sample is necessary to draw final conclusions.

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7. LIST OF PUBLICATIONS RELATED TO THE DISSERTATION

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Subject: PhD Publication List

Candidate: Nikolett Balsa-Budai
Doctoral School: Doctoral School of Management and Business
MTMT ID: 10074673

List of publications related to the dissertation

Articles, studies (6)

1. **Balsa-Budai, N.**, Szakály, Z.: Fenntartható élelmiszer-fogyasztással kapcsolatos fogyasztói megítélés feltárása netnográfiával.
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3. **Balsa-Budai, N.**, Kiss, M., Kovács, B., Szakály, Z.: Attitudes of Voluntary Simplifier University Students in Hungary.
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4. Kontor, E., **Balsa-Budai, N.**: Intelligens csomagolási megoldások az egészség- és környezettudatosság jegyében = Intelligent packaging with regard to health- and environmental awareness.
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Conference presentations (2)

7. Kiss, V. Á., **Balsa-Budai, N.**, Soós, M., Szakály, Z.: Examination of sustainable and health-conscious lifestyle among the Hungarian population based on the results of three research. In: 5th CARPE Conference : Horizon Europe and beyond : Proceedings. Eds.: Javier Orozco Messana, Juan Miguel Martínez Rubio, Editorial Universitat Politècnica de Valencia - UPV, Valencia, Spanyolország, 114-118, 2019. ISBN: 9788490487891

8. Fehér, A., **Balsa-Budai, N.**, Farkas, N. D., Szakály, Z.: Egészségtudatos élelmiszer-fogyasztás a digitális korban egy netnográfiai kutatás példáján.
In: Magyar Táplálkozástudományi Társaság XLIII. Vándorgyűlése : Program füzet és az előadások összefoglalói. Szerk.: Biró Lajos, Gelencsér Éva, Lugasi Andrea, Rurik Imre, Magyar Táplálkozástudományi Társaság, Mezőkövesd, 28-28, 2018. ISBN: 97861556060609

List of other publications

Articles, studies (6)

9. Apáti, F., **Balsa-Budai, N.**, Fehér, A., Kontor, E., Szakály, Z., Kurmai, V., Balogh-Vida, V., Farkas, N. D., Kiss, M., Karnai, L., Szőllősi, L.: Élelmiszer-fogyasztói szokások, trendek várható változása. Debreceni Egyetem Gazdaságtudományi Kar, Debrecen, 142 p., 2022.

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13. Kontor, E., **Balsa-Budai, N.**, Papp-Bata, Á., Kiss, M.: Az élelmiszercímkék szerepe az egészségtudatos táplálkozás megvalósításában: ösztönző és gátló tényezők.
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