

**SZENT ISTVÁN UNIVERSITY
GÖDÖLLŐ**

**TYPICAL ASPECTS OF HEALTH CONSCIOUSNESS WITH
SPECIAL RESPECT TO FOOD CONSUMPTION IN THE AGE
GROUP OF 14-18**

DOCTORAL (PHD) THESISES

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THE HISTORY OF THE RESEARCH, OBJECTIVES TO BE REACHED

The history of the research

Domestic and cross-border expert appraisals agree on the fact that demands of modern, health conscious nutrition will have a major significance in future consumer habits. When analyzing the changes in food consumption all the factors need to be considered which have an impact on the amount and structure of the consumption, such as the development of the economy, growth in the efficiency of the production from the point of view of the domestic economy. With respect to the consumers, the values of consumer habits, personal factors and life style are the decisive factors.

Regarding the consumption as a primary value, when analyzing and examining food consumption prognosis, the changes of the factors having an impact on food consumption, the appearance of new consumer needs and habits have to be taken into account. Summarizing them it can be stated that the life style, material, recreational and cultural consumption of the Hungarian households have changed radically, modifications can be seen in the structure of their expenditures as well. From the middle of the 1980's the interests of the consumers to health and nutrition intensified. This new consumer interest and habit put emphasis on such important issues as e.g.:

- How healthy do consumers find food products they consume?
- How do worries concerning health change eating habits?
- What are the advantages and disadvantages of vegetarianism and the traditional diet?
- How important is it to know certain ingredients of food and their impact on health?
- How much information do the wrapping and nutrition labels give to the consumers?
- How safe are food products? Is there any harmful impact of them on health?

The significance of the topic

By the end of the 20th century a tendency came up in the field of sociology and marketing sciences that put major emphasis on behavior research. As a result of this the first decade of the 21st century was considered as the decade of behavior sciences. This fact comprises the hope that the most recent discoveries of the rules of behavior can contribute to the

development of people's life qualities to a great extent. The recognition of the rules of human behavior is important because it can give help in becoming healthy, happier, well-balanced, that is to say such people who are able to enjoy the perspectives that life can give. Therefore health consciousness is one significant side of behavior research, as certain behavioral decisions influencing health condition often occur not in the present time but in the distant future. Real health consciousness means that we are willing to make such decisions which can be painful at the moment, but in the long run our efforts will pay the price. A hopefully better life quality is acquirable if we can enjoy life, if we are able to lead a happy life style. Trusting in ourselves and finding pleasure in our social life are also very important. For the health condition life style is the most responsible factor. The behavioral values of the youth are responsible for the behavior of their adult age that is why it is important to analyze the question what values they consider in health, and what life style they lead. People's health consciousness in Hungary and in the world is growing, as a result of this keeping health is becoming more and more important.

The research pays special attention to the examination of the habits, life styles of the young consumers as this age group forms a characteristic segment on this consumer market. The reason for this is the fact that basically their parents finance their needs but in spite of this they possess consumer experiences, individual preferences, consumer habits. The young age group attracts a large number of food producing companies, there are certain companies which sales policy is based on them as they are aware of the fact that young people not only mean a significant purchasing power, but they are the consumers of the future. Their needs and expectations will define the demand of the future markets.

The objectives of the thesis

The objective of my research is to present the role of health consciousness and behavior control through a concrete examination concerning the health behavior of young people. As these tendencies are adverse especially in Hungary I consider this matter extremely important. My research was based on the regrettable fact that the health condition of the domestic population is in a poor state. When examining the death rate and the expectable duration of life at birth, the situation looks even darker. In order to achieve a change in the approach /life style, nutrition, behavior culture/of the population the educational work has to be started as soon as possible. One of the main tasks of this paper is the education, preparation

of the young people for healthy form of life, nutrition, calm(er), (more) well-balanced life style. The examination of health consciousness of young people in food products consumption is also important because the youth theoretically are aware of the rules of e.g. well-balanced, healthy nutrition, experiments support that they tend to consider to put the theoretical knowledge into practice.

The task is given: the habits and values of young people have to be analyzed in order that the next generation should have the chance for a healthier, calmer life in the world. In accordance with the aims above I defined the following objectives in my research:

- Exploring and analyzing the general values of young people with respect to different socio-demographical aspects
- Researching preferential choices in connection with food and eating habits concerning health related issues
- Analyzing the relationship between likeness and health-related influence of different food products, evaluating the values in connection with food preference and consumption.
- Evaluating the appearance of health consciousness in the life styles of young people
- Creating consumer segments based on the values, habits and life styles of young people.

THE METHOD OF THE RESEARCH

In order to achieve results in accordance with my objectives I conducted a primary research based on personal questionnaires. It is difficult to define the boundaries of young people as a target group. The sociologists and marketing experts take into consideration different aspects when defining the top and the bottom age limits of the term young people this means that we cannot talk about a standard scientifically accepted age group definition. In my research young people means an age group between 14-18 years and the reasons for this are the following:

- I consider the age of 14 the bottom limit of the age group because the males and females are mature by this time, from a biological point of view they are not children any more, but they are not adults yet.

- From a sociological aspect I accept the age of 14 the proper limit as this is the time period when the majority of this age group leaves a community and steps into another, namely from elementary school they move to secondary school. Secondary school as a sociological group can create a system of norms and habits, which will be decisive in the adult age.
- From a legal aspect giving the bottom limit is the “simplest” and least arguable as by getting an identity card they themselves have to take responsibility for certain actions. Under 14 e.g. people cannot be punished.
- The top limit of the age group is 18 as the radical biological changes undergone in the body typically come to an end.
- The vast majority of the age group becomes adult for society after taking their school-leaving exam at the age of 18.
- Regarding the top limit from a legal point of view 18 years has significance as the person who celebrates his / her 18th birthday is considered to be an adult. The age of 18 is the minimum age for voting rights, so this is the time when people can influence the progresses of their micro- and macro-environment.

To get the results set in our objectives, a primary research was carried out by means of personal interviews and questionnaires based on a national, representative sample. The preparation and the realization of the representative survey were done in accordance with a plan about samples and research.

The sample contained questioning 1500 persons and the main objective was to ensure representation. It could be realized by means of a multi-phase process of sample taking and, as a result, a multiplied representation was gained. The publications of the Central Statistical Office served as a source while compiling the sample.

As the first step, we examined the number of students in case of undergraduate, full-time courses of secondary schools, namely in grammar, technical and vocational schools. Regarding this percentage, the basic number for students of grammar, technical and vocational schools was formed. As the second step, we examined the proportion of male and female students in the different school types. As a result, we managed to

define the proportion of males and females in the sample in grammar, technical and vocational schools. As the third step, we examined the age categories of the secondary school students so we could get the proportions expressed in percentage by age group in the sample. This could make it possible to examine the students not only by their gender and school type but also by their age in the sample and to draw conclusions about mass behavior. Finally, as the fourth step the proportions in percentage by region (and also in Budapest) were defined.

By means of the planned process of sample taking we realized that the composition of the sample by gender, age, school type and county (region) could correspond with those of the sampling population.

The selection of the students happened in a two-phase accidental choice. As the first stage, secondary schools (grammar, technical and vocational schools) were randomly chosen in all counties, regions and in Budapest and the proportion of the sampling population was regarded in the proportion by percentage of the sample. As a result, 62 schools were contacted. After the inquiry by phone from the directors of the schools represented in the sample, the second step was to ask them to choose a given number of students set in the quota (defined by age and gender) at a fixed time to fill in the questionnaire. The questions in the topic of the research, the topic of the question groups and the analysis of the questions were asked by previously trained field investigators. By means of the test questioning and after asking the whole sampling population totally 1526 measurable questionnaires were processed. By using the opportunities provided by the mathematical-statistical software SPSS 10.0 for Windows at the data processing, simple comparative statistical analyses, significance analyses by Chi-square trial and variable analysis (ANOVA) for multi-variable statistical analyses were used.

RESULTS OF THE RESEARCH

The proportion in percentage of the students involved in the research based on certain socio-demographical variables is presented by table 1.

Table 1.: The proportion of the sample by gender, school type, age and region

<i>Gender</i>	
Male	46%
Female	54%
<i>Type of school</i>	
Grammar school	36%
Technical school	45%
Vocational school	19%
<i>Age</i>	
14-15	20%
16-17	66%
18-above 18	14%
<i>Region</i>	
Central Hungary	6%
Central Transdanubia	12%
Western Transdanubia	12%
Southern Transdanubia	11%
Northern Hungary	12%
Northern Great Plains	15%
Southern Great Plains	13%
Budapest	19%

Health consciousness in the life style and scale of values of the young people

Life style is the most decisive factor in keeping our health condition, while the behavioural values of young people characterise their attitudes at an adult age. That is why it is very important to examine the importance of health in their preferences and the life style they lead.

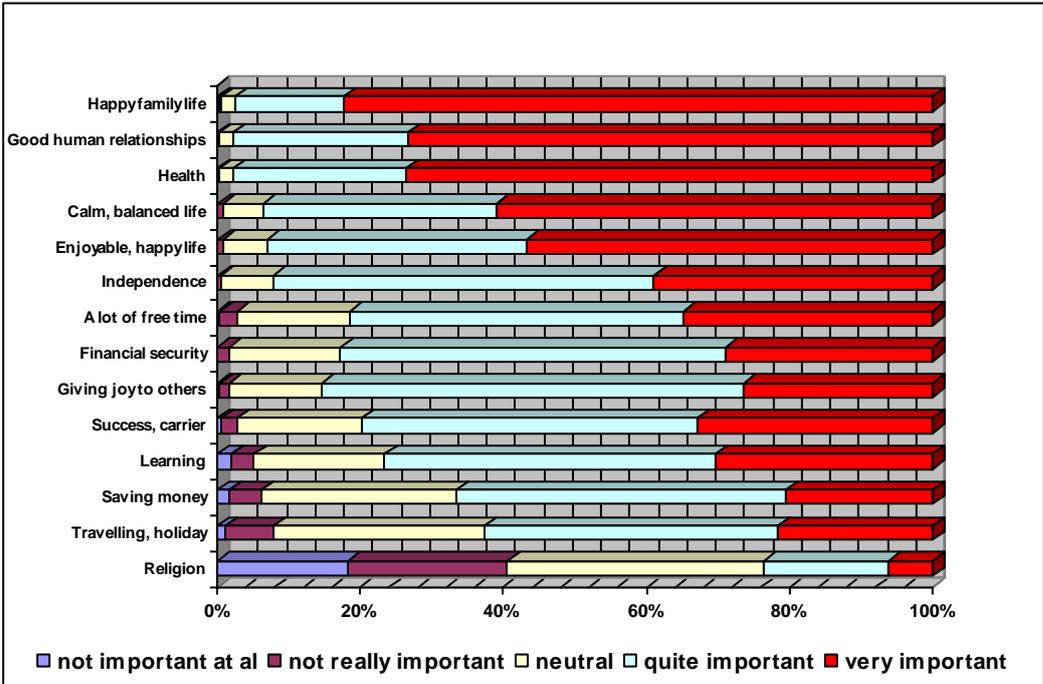
I examined cases where health as a value factor was situated in the preferences of certain social values. The given results are summarised in table 2.

Table 2: the importance of social values among youngsters

	average	dispersion
Happy family life	4.79	.50
Good human relationships	4.71	.50
Health	4.71	.51
Calm, balanced life	4.54	.65
Enjoyable, happy life	4.49	.66
Independence	4.30	.63
A lot of free time	4.13	.79
Financial security	4.10	.71
Giving joy to others	4.10	.69
Success, carrier	4.09	.80
Learning	4.00	.89
Saving money	3.79	.87
Travelling, holiday	3.75	.90
Religion	2.71	1.13

Source: own research

The table clearly shows that the most important things for the young people are the calm, stable and reliable factors as these values lead the ranking with high averages. The low dispersion figures represent the pronounced opinion of the youngsters. Deeper analysis can be made if we examine the proportional values of the answers separately (Figure 1).



Source: own research

Figure 1: the proportion of social values among youngsters (%)

The figure reflects that except for religion the vast majority of young people consider each category very important. We can draw the conclusion that young people can be separated in distinctive groups based on social values. This distinction of the examined age group was divided with the help of factor analysis. It is shown by table 3.

Table 3: rotated factor table based on social values

	Factors			
	1	2	3	4
Happy family life	.701	-.245	.106	.150
Calm, balanced life	.659			.224
Enjoyable, happy life	.554	.320	.192	-.212
Giving joy to others	.523	.356	-.236	.193
Good human relationships	.472	.348		
Health	.408	-.403	.155	.232
A lot of free time		.679	.258	-.103
Travelling, holiday		.559	.417	
Independence		.526		.153
Financial security		.121	.785	
Success, carrier		.143	.744	
Saving money		.107	.146	.756
Religion	.119			.728
Learning	.295		-.253	.412

Source: own research

It can be said that we can separate four distinctive factors. The first factor is characterised by the “expectations” of the healthy life style so it can be called the “*moral factor*”, while the second factor can be called the “*hedonist factor*”, the third the “*materialist factor*” and the fourth is the “*conservative factor*”.

To be able to analyse the youngsters in the relation of their life style, at the end of the questionnaire there were some statements concerning life style as well. Naturally it can be presumed that the different life style forms appear with different importance among youngsters therefore factor analysis was carried out to explore these expected differences. The factors and factor weights are presented in table 4.

Table 4: rotated factor table based on individual statements on life style

	Factors				
	1	2	3	4	5
I buy mostly branded, well-known products	.723		.231		
I am the leader with my friends	.683				.115
I usually try new products at once	.649		.276	.121	
I usually believe in advertisements	.570		.344		-
I often go to restaurants	.560				.106
I am very optimistic about the future	.431	.133	-.127	.269	.340
Sport is a good way to keep fit		.668		.224	
I like when my life is colourful	.241	.573			.333
Smoking is bad for health	-.267	.562	.215	.130	-
I usually do sports	.421	.422	-.320		-
I would prefer delicious food even if it is bad for my health			.693	-.118	.171
I prefer ready-made, comfortable products	.253		.684		
I believe in family traditions, values	.159			.675	.160
I prefer being at home to going out	-.158	-.335		.498	-
We should pay more attention to our environment	-.126	.349	-.115	.498	
I pay attention to my eating habits	.227	.266	-.184	.467	-
It is important what other people think of me	.184		.438	.448	
I usually smoke		-.106			.785

Source: own research

Based on the data of the table, 5 factor groups can be distinguished. The first factor includes the life style characteristics which describe the dominant aspect of the individuals so we can refer to it as the “*leader factor*”. In the second factor we can find the variables in relation with healthy life e.g. doing physical exercises, colourful life, restraining from bad habits that is why it can be interpreted as the “*life style conscious*” factor. The third factor variable includes the less health conscious features therefore it can be named the “*comfortable, gourmet*” factor from the point of view of healthy life style. The fourth factor comprises the characteristics, which are mainly associated with the views of the conservative and moral values so it can be defined as the “*moral-conservative*” factor. The fifth factor is the “*smoker factor*”.

The majority of the coefficients of the five factors exceeds 0.3 and 0.4 that is why factor analysis would be enough to make the segmentation, but for the sake of a more exact view I thought it would be advisable to conduct cluster analysis.

As a result of the analysis I have four different segments. Those who “*lag behind*” put emphasis on smoking, the joy of eating and sports, physical exercises play a less important role in their lives, and the factors of belonging to a community and leading other people are the least characteristic features of them.

Considering the life style characteristics the “*average*” are identical with those who believe in conservative values. Smoking is not characteristic of them and they are not influenced by brand awareness and different advertisements. They live their lives according to traditions.

The segment of “*sporty*” considers different sports the most important factor. Smoking and eating unhealthy food is impossible for them.

“*Cool moderns*” belong to the fourth segment whose lives are influenced by brands, advertisements. Based on their life style calm life, family traditions, the importance of family and health consciousness is at the end of their preferences.

To examine the relations between the social values and the factors based on life style statements, I calculated a correlation analysis (table 5).

Table 5: Correlation analysis between the values and the life style factors

	Value: moral	Value: hedonist	Value: materialist	Value: conservative
Life style: life style	.208**	.098**	.073**	
Life style: comfortable, gourmet		.059*	.219**	-.080**
Life style: moral, conservative	.227**	-.112**		.284**
Life style: smoker		.176**		-.129**
Life style: "leader"		.172**	.246**	-.092**

* p<0,05 ** p<0,01
 Source: own research

By analysing the correlation coefficients we can state that there is correlation between the values of young people and their life styles. It is not surprising that in the case of the “*hedonist*” factor the features characterised by the “*moral*” life style are not so dominant, but they have a greater influence on the values of “*conservative*” factor group. It is interesting to note that the “*smoker*” life style factor is associated with the group where independence, travelling and holidays are decisive values.

The correlation can be discovered in the clusters as well, emphasising the inevitable correlation between the values and life style. Based on this, we can state that the typical life style of the “*hedonists*” is accompanied by regular smoking even if they are aware of the health damaging influence of it.

The most characteristic life style feature of the “*conservatives*” is that they are open to new ideas to expand their knowledge, so they play a more active role in human relations, but they do not prefer the presence of active smokers in their company. It is not surprising that they like versatility on the weekdays. It is considered as a positive feature that they care about their environment as well, so other people’s opinion is as important for them as their living environment- that is why they pay attention to their environment. Having conservative values they consider it important to follow family traditions, to keep fit by doing regular sport activities. Health for them is a significant value so their food preference is motivated by health consciousness factors rather than the value of pleasure (tastiness) factors. They are conscious in forming their nutrition habits.

When examining the life style of the “*moralists*” we have several interesting results e.g. they also like human relations, which is influenced by the fact that they like purchasing branded, well-known products. It is surprising that they consider health as an important value, but they smoke a lot and when choosing food the taste is more important for them than the health factors so they do not pay attention to their eating habits. They like if their life is colourful, that is why they like going out with friends, but they dislike having conversations in restaurants. From the social values the consideration of their environment appears; they like playing the leader role in certain groups, though they do not consider other people’s opinion on them important, paying attention to the environment is more important in this group.

The life style of the “*rationalists*” is based on the opposite of the former three factors. The leader role and the social life are not characteristic of them so it is not surprising that they spend most of their time on studying at home. They do not consider other people’s opinion on them important, so purchasing branded, new products is not significant for them. Family traditions, paying attention to the environment, and restraining from smoking play a more important role. The fact supports their rational way of thinking that they do not believe in advertisements.

It can be stated that there are relations between the two factors and clusters (value, life style). From the groups of factor and clusters analysis, health or the aspiration of health consciousness appears, which is promising as the experiment was conducted among youngsters. But it is an important question whether youngsters consider health as a value or they regard it as a life style. I examined the average values of the statements concerning life style and we discovered that the statements which defined health on knowledge level had higher values (4.60 and 4.57) while the values of concrete, health conscious behaviour (3.62 and 3.56) are regrettably low. As a result of this we can state that youngsters consider health as an important value, but this is not part of their life style.

The manifestation of health-consciousness in the food preference and consumption of the young generation

When analysing the results of the research the first step was to examine the fact if the young had to assess different types of food regarding healthy features, would they consider e.g. the role of that certain product in their everyday consumption. They had to evaluate the foodstuff from 1 to 5 regarding their healthy features when 1 meant a very bad and 5 a very good value. The list of preference is shown by table 6.

Table 6.: The evaluation of certain foodstuff regarding their healthy features based on ranking the average points

	Average	Deviation
Milk	4.51	0.76
Apple	4.49	0.68
Yoghurt	4.22	0.87
Fish	4.20	1.01
Chicken, turkey	4.12	0.86
Brown bread	4.08	0.89
Egg	3.88	0.86
Potato	3.67	0.90
Pork meat	3.16	1.11
Pizza	2.92	1.26
Sugar	2.85	0.94
Chocolate	2.83	1.22
Sweet biscuit	2.80	0.98
Hot dog	2.65	1.25
Hamburger	2.65	1.31

From: own resource

The results gained show that the young relatively assess the healthy features of certain foodstuff properly – if we only regard the priority list. When we have a closer look at the gained average, we can see that although the preferred products of the young (e.g. pizza, chocolate, hot dog, hamburger) only rank in the second half of the list, these averages are not very convincing in moving towards the bad or the very bad direction. All in all, we can conclude that they know these preferred foods are not obviously healthy but as they consume them with pleasure, they will not underrate them to a great extent.

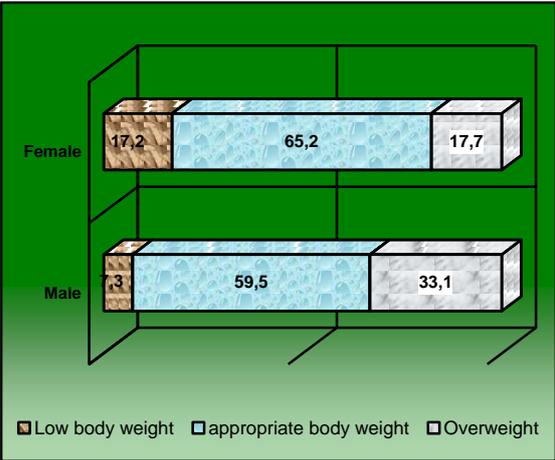
I was wondering if there was any difference by gender regarding the assessment of certain products, thus a variable analysis (ANOVA) was carried out. While evaluating the results besides a significance of $p < 0.05$ it can be stated that in all cases the females were better in labelling certain products healthy or unhealthy than the males. The significant differences are presented by table 7.

Table 7.: Variance analysis by gender regarding the assessment of healthy features of certain products

		Average	Deviation
Yoghurt	Male	4.15	0.90
	Female	4.27	0.85
Brown bread	Male	3.93	0.93
	Female	4.20	0.84
Egg	Male	3.97	0.86
	Female	3.81	0.85
Potato	Male	3.78	0.90
	Female	3.58	0.89
Pork meat	Male	3.37	1.09
	Female	2.98	1.09
Pizza	Male	3.20	1.25
	Female	2.68	1.23
Sugar	Male	2.94	0.97
	Female	2.78	0.92
Chocolate	Male	3.00	1.24
	Female	2.69	1.19
Sweet biscuit	Male	2.93	0.99
	Female	2.69	0.96
Hot dog	Male	2.88	1.28
	Female	2.46	1.20
Hamburger	Male	2.88	1.33
	Female	2.45	1.27

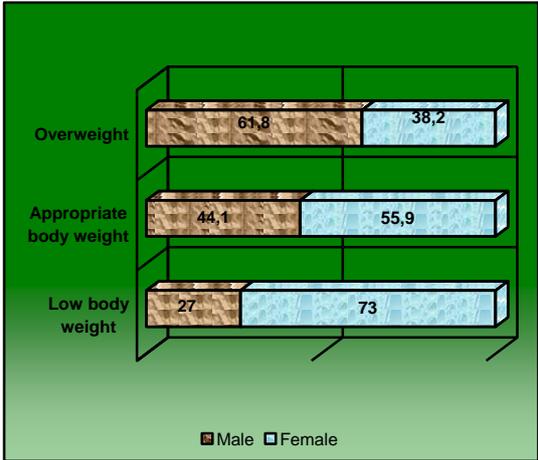
From: own research

Based on the data of the chart we can make a clear difference between the assessment of healthy features by the males and females- in favour of the assessment of the females. It can be noted that all kinds of food regarded healthy by the dietary specialist literature greatly exceed the mean value in case of the females than in the males while the mean value of the points given by the males regarding unhealthy food by the specialists is prominently higher. It can be due to the fact that –also according to the data- there are masculine and feminine food groups among the young. The first one comprises mainly sweet products or those originated from animals containing high energy and fat while the latter one refers to those originated from plants that are easy to digest and of higher value from a dietary point of view. This presumes if we examine the body measure index of the young by gender, we can expect the males to have a typical overweight. The examination was carried out by cross-chart analysis with chi-square trial. The results are shown by figures 2-3.



From: own research

Figure 2.:The weight-proportion of based on the BMI



From: own research

Figure 3.: Weight proportion genders based on the BMI according to genders

Both figures show that in the examined age group males are more likely to have some overweight while the females are characterised by lower weight. It is worth noting that nearly two-thirds of the overweight young is male whose logical consequence is that among the males there are roughly twice as many overweight students than in the case of the girls.

The selection of foodstuff is greatly influenced by the extent of preference of the given product by the selectors. The survey also examined the level of preference for the different (so-called everyday) products with the young. The results are presented by table 8.

Table 8.: The preference of some dairy-and meat products for the young

	Average	Deviation
Cheese	4.33	0.86
Yoghurt	4.30	0.97
Milk desserts	4.26	0.90
Ham varieties	3.98	1.07
Butter cream	3.84	1.04
Frankfurter	3.76	0.97
Other cold cuts	3.74	0.91
Milk	3.70	1.16
Sour cream	3.65	1.08
Butter	3.64	0.97
Smoked-cooked meat	3.63	1.16
Sausage, salami	3.60	1.08
Liver products	3.58	1.11
„Párizsi”	3.52	1.07
Flavoured milk	3.47	1.23
Bacon	2.74	1.22
Curd	2.73	1.37

From: own research

Based on the data of the table we can state that dairy products and especially those having a kind of flavour effect are more popular with the young (it is well reflected by milk ranking only 8.) Curd placed last can be explained by the fact that its flavour cannot be characterised by the wide range of flavour typical of the products in the first half of the table, it is rather dominated by the sour flavour.

The extent of preference shown by the young for certain products is not enough to find out what kind of healthy features they associate with the given products. To explore this difference I also examined how the rank of food was formed when students had to assess them in terms of health. The results are presented by table 9.

Table 9.: The assessment of the healthy features of dairy-and meat products by the young

	Average	Deviation
Curd	4.50	0.72
Yoghurt	4.38	0.70
Cheese	4.22	0.76
Milk	4.04	0.88
Sour cream	3.99	0.83
Butter	3.62	0.86
Ham varieties	3.41	0.97
Butter cream	3.40	0.80
Smoked-cooked meat	3.27	1.02
Flavoured milk	3.23	0.87
Other cold cuts	3.18	0.83
Milk desserts	3.15	0.95
Liver products	3.14	0.86
Frankfurter	3.06	0.90
„Párizsi”	3.06	0.94
Sausage, salami	3.00	0.97
Bacon	2.46	1.09
Ready to prepare food	2.31	1.02

From: own research

If we examine the data of the table, it can be seen that our expectation to rank dairy products higher than meat products in terms of health came true. Based on the table we can say that the assessment of healthy features by the young for certain products relatively corresponds with the recommendations from modern dietists. It is worth noting the high value of curd in the table. Maybe this is the point where we can conclude that there is some hope to form the health-conscious nutrition of the young by means of appropriate communication and influence. This proves that although curd ranked last in the list of preference of the students, the most preferred cheese and yoghurt in terms of health were placed well at the first place. To sum it up, in the case of these three groups of dairy products (curd, yoghurt, cheese) the advantageous nutrition features were properly and very effectively transmitted by the different media and channels.

While examining the mean values of meat products we can state that the general assessment of the product line by the young is more unfavourable than in case of the dairy products. A conclusion can be drawn, namely, that the examined age group regard meat products much unhealthier, which is

justified by the lower mean value. This result also hides a duality: on the one hand, it is a cause for rejoice that the picture created of health by the young prefers dairy products, on the other hand, it is a cause for contemplation to have this „negative” picture of the meat processing industry.

I was trying to analyse the food consumption habits of the young not only from the point of view of habits but also from other categories important which can influence them in buying or consuming different products. These categories are such characteristics expected from foodstuff like quality, calorie value, use value or economic efficiency. It can be vital to state whether use value or nutrition value is of more importance for the young. Table 10. answers the question how the different characteristics rank among the young.

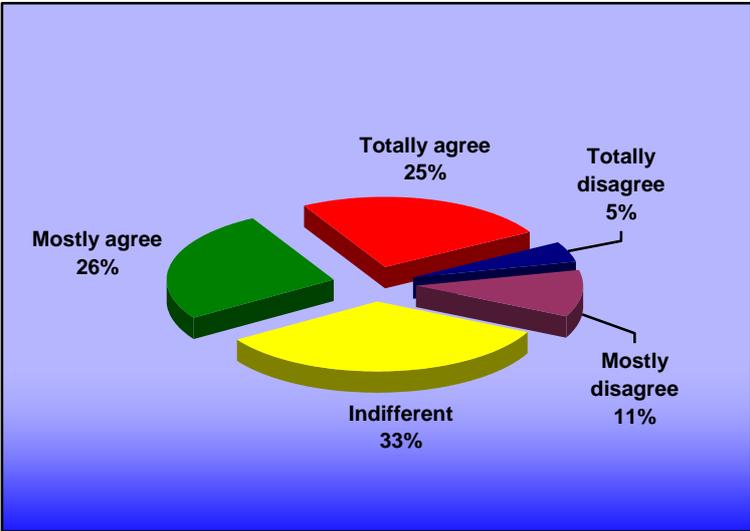
Table 10.: The importance of the features of dairy- and meat products for the young

Features of dairy products	Average	Deviation	Features of meat products	Average	Deviation
Fresh	4.86	.41	Fresh	4.83	.47
Rich in vitamins	4.60	.66	Tasty	4.62	.64
Tasty	4.57	.65	Clean, free from chemicals	4.49	.85
Clean, free from chemicals	4.50	.83	Delicious	4.33	.83
Rich in minerals	4.35	.85	Rich in vitamins	4.30	.87
Protects health	4.34	.81	Protects health	4.20	.92
High Ca content	4.24	.91	Rich in minerals	4.12	.96
Helps digestion	4.18	.80	Helps digestion	4.01	.93
Delicious	4.18	.78	Contents clearly displayed	3.99	1.04
Contents clearly displayed	3.98	1.04	Longer life	3.98	1.04
Wide range of flavour	3.91	.97	Wide range of flavour	3.91	.99
Longer life	3.79	1.07	Low fat	3.84	1.06
Low fat	3.78	1.07	With trademark	3.55	1.21
Low sugar	3.62	1.02	From domestic material	3.47	1.17
Reduced salt	3.53	.92	Reduced salt	3.47	.96
With trademark	3.47	1.22	Low energy	3.26	1.05
From domestic material	3.36	1.09	Nicely wrapped	3.25	1.16
Can be re-sealed	3.28	1.25	In several shape	3.21	1.10
Cheap	3.17	1.13	Cheap	3.08	1.16
In several shape	3.15	1.10	Not smoked	3.07	1.06
Branded, well-known	3.13	1.00	Can be re-sealed	3.02	1.27
Low energy	3.10	1.06	Branded, well-known	2.97	1.13
Nicely wrapped	3.10	1.16	Special offer	2.95	1.21
Easy to open	2.85	1.28	Easy to open	2.80	1.25
Special offer	2.85	1.23	Easy to open	2.50	1.22
Redeemable	2.74	1.24			
Well- advertised	2.47	1.14			

From: own research

The data of the chart reflect that the young are more influenced by pleasure and nutrition factors rather than by use value. If we have a look at the deviation, we can see that in case of nearly two-thirds of these features these values are high so the assessment of the young comprises a wide enough interval. To eliminate these fluctuations a factor analysis was carried out to interpret the examined features more precisely. As a result of the factor analysis, it was stated that nutrition factors are more important for the young than use factors as well as the factors of pleasure are pushed in the background although they should have been more domineering regarding the average. The reason for this lies in the fact that the messages of marketing communication firstly emphasize nutrition value, use or practical usage while they neglect the so-called „basic features” like freshness, flavour or deliciousness which go without saying.

All in all, it is an important question if the young have to choose from different kinds of food/foodstuff, then flavour or health as a point of view will influence their decision. On the basis of the results of our survey, it is likely that taste and flavour will be more important and when it comes to choice, most young people will favour them rather than health. This hypothesis is also supported by figure 4.



From: own research

Figure 4.: The agreement of the young with the statement „I would rather consume tastier food even if it does not do good to my health.” (%)

The segmentation of the group of young people based on health consciousness

In the progress of the research I examined the values, life styles and food consumer behavior of the young people from the point of view of health consciousness. As a result of all the three experiments I managed to create such homogeneous groups which were characteristic to the health consciousness of the given age group according to the given factors. In my opinion each individual analysis is suitable by itself for evaluating young people's health consciousness, I considered it to be important to examine the separate factors jointly in order to achieve a clearer, more exact picture. Therefore the contraction on the experimental factors was also carried out in the segmentation of the young people.

In order to complete the analysis I included factors gained at earlier experiments by conducting a joint factor analysis using all the factors created earlier. I considered it important as different factor variables were created by different features, the factors emerging in the earlier factor experiments would have reduced the number of the variables, and the usage of the large number of variables would have created an extremely complicated factor matrix. During the experiment I created 6 factor groups. As a result of the cluster analysis I formed five segments characteristic to the age group of 14-15 years of young people evaluating values, lifestyle and food-consuming habits.

As a result of this the group of “**modern hedonists**” belongs to families where the parents are well-qualified and the children live with only one parent making the earnings per capita high. In their life style the characteristic feature is hedonism, which can be seen in their food consumption as they like a large scale of different types of food and prefer gourmets. It is not surprising that the promotional and commodity features are important for them in connection with food consumption. The proportion of 15.9 % is the least significant in the group of young people, but having high pocket money /20.000-30.000 HUF/ they are an important market for the food companies (especially if companies take advantages of their interest).

Considering proportional issues the fourth (16.2%) segment called “**lagging behind**”. Their parents are low-educated and they carry on studies at schools where presumably health consciousness is not in the focus of common interest. Based on the qualification of the parents from

these region (Northern Hungary, Northern Great Plain) earnings per capita is lower, the students typically do regular work parallel with their studies. Their expectations to food products are in accordance with their situation. They prefer cheaper products with price reduction, and they consider the taste of the product a greater importance than other features.

The “**prudent conservativisms**” make the third segment with their proportion of 20.3 %. This segment is characterized by conservative values so their life style and food consumption is conservative, as well. Although they do not consider health as a major value, the features of ingredients are important for them when examining their expectation regarding food selection. Due to their situation (least well-trained parents) economic and usage values play an important role. Their standard attitude is justified by the food they prefer as they consume milk, butter; from meat products they like Parisian.

The second biggest group is called “**up-and-coming**” with the proportion of 23.6%. This is the segment which is closest to health consciousness. This statement is supported by the fact that this group consider health not only important, but with doing regular psychical exercises they actually do something about it. Ingredients features are considered, but it is the environment and the cover of the food which have more importance. The preferred food products have signs of health consciousness. For example cheese products, ham and cold cuts.

The largest segment of the young people (23.8%) is the segment of “**modern self-conscious**”. Having the features of up-and-coming and modern hedonists, this group cannot be placed to any of the categories mentioned above. It is important to highlight that they consider health an important value (cf. up-and-coming), but the promotional, commodity features have the same significance for them. This makes it possible for different companies to emphasize health and safety related features as this is the only segment which consider this important.

Based on the results of the research it can be stated that the situation is not hopeless as 48% of the youngsters consider health important, taking into account the conservatives, it measures two thirds. But I have to note that the importance of health does not automatically mean health consciousness in the food consumption or in the life style. The aim is that health should

not only be a value but through consciousness it should mean a form of life, a life style.

New scientific results

Based on my research I have defined the following new and recent scientific results:

1. When processing the referred bibliography of the thesis, I organized and presented the factors influencing healthy food consumption and life style simultaneously examining their role in food industry and marketing. By doing this it became possible to explore the factors that are essential in the field of marketing messages focusing on health related issues.
2. Young people referring to the age group between 14-18 years, have never been involved in a parallel study where the number of the factors were so extent in connection with food consuming and health conscious values.
3. With the help of multi-variable statistical analysis I concluded that the group having four well distinguishable preference values created by *HORVÁTH* (1996) prevailed in the case of the present day Hungarian young people that the “*rationalists*” came to the stage instead of the “*disappointed pessimists*”.
4. As a result of my examinations I concluded that when deciding about the preferences and health content of certain foods, the young are influenced by their gender, the type of school they study at as well as the level of the economic development of the region they live. Furthermore, it was also concluded that the food consumption of the young was primarily decided by the commodity features rather than their health content but the latter one is of great importance in my mind. However, it was also revealed by the research that the young people had the necessary background information when it came to decision-making but simply they did not prefer it. To sum it up, we can say that the present-day Hungarian students aged between 14-18 and of them, mainly girls from the grammar schools of Budapest and Western-Transdanubia and boys from the vocational schools of Northern-Hungary are the least health conscious in food consumption.

5. As a result of statistical-mathematical analyses five segments were created of the examined age group which can represent the young well on the basis of their system of values, lifestyles and “health conscious” food consuming behavior. Such a segmentation of the 14-18 year-old people has not so far been achieved either in the domestic or in the international research.

CONCLUSIONS, SUGGESTIONS

While preparing my paper the following conclusions and suggestions can be made based on the primary and secondary research:

1. Health-conscious nutrition can even be created individually if one believes that the previous values and habits can be changed or if one surveys the advantages and the disadvantages of both options. It is also important to create a peculiar idea of health and consider healthy nutrition a value together with the healthy way of life as a final result.
2. The natural consequence of the continuous decline of the number of the population is when the food market can be described by “shrinkage” rather than an increase, which would mean a great challenge for the food industry. More likely, these companies can only survive in the increased competition if their aims are directed from quantity to quality concentrated on the young people in their production and sales.
3. Based on behavior-research of food consumption it can be noted that the preference for food has changed in a positive direction in the past nearly one and a half decades as a result of a process in which food consumption is better associated with the positive feelings of people when compared to the previous data and it can also mean a sense of pleasure besides satisfying the needs.
4. In the forthcoming years the change of consumption habits towards the health conscious nutrition, that is the increase of consumer intelligence can be expected in parallel to the fact that besides the energy content of the foods their biological and pleasure content values are more and more highlighted.

5. To increase consumer intelligence and to create a health-conscious nutrition it is indispensable to influence consumption habits actively whose most efficient method is the intensive marketing activity about modern nutrition and of course, advertising within this category.
6. The behavioral parts of lifestyle are responsible for the state of health to the greatest extent. The formation of the behavioral patterns of the young people will base their later life as an adult. It is evident that the most important trend of prevention is to start influencing behavior as soon as we can at the youngest age.
7. Future orientation as a behavioral part is a decisive element because as an attitude it can have very serious consequences on the health conscious behavior of the young, their decisions in connection with health and thus the formation of their state of health, as well.
8. It is not enough if the young know the foods and they also know where they are from and how they are prepared as they also should carry out practice with the foods because their preparation needs many kinds of skills- including the senses- if the preferences and needs of the consumers are taken into account together with aesthetical and ethical points of view. In my mind it would be worth including the study of food-and nutrition in the curriculum as in the future with the possession of this knowledge people themselves can improve their health, it can motivate creativity even at a young age and can educate well-informed consumers for the society.
9. The food preference of the young people can change depending on the environment they are raised so the influence of education can mean a great help in understanding the importance of healthy nutrition. Young consumers should realize that there are not good and/or bad dishes, rather, it is the balance that counts and harmony created in accordance with the suggested portions of certain food types. Of course, healthy nutrition for the young can only be achieved if this “food harmony” is not only constrained to consumption at home but also it is regarded as a value which should be kept at school and in a social environment, as well.

10. It can be stated that among the five segments (modern hedonists, lag behind, prudent conservatives, up-and-coming, modern self-conscious) created by value, lifestyle, product characteristics and preference for food and dishes, there are only few resemblances which could make it possible to create such a marketing strategy which aims at the young as a whole. In case of the segments “*up-and-coming*”, “*prudent conservative*” and “*modern self-conscious*” covering a decisive part of the examined age group the need for health and quality or rather, their appearance as a value can be regarded positive and this can mean a basis of the formation of different media messages. Although the segment called “*modern hedonist*” does not seem attractive regarding its size, due to its commitment to advertisements, brands and pleasure features, the accompanying higher average parental salary and the relatively high pocket money of the young it can mean a significant market for the food industry. This is also the segment where the marketing messages should more and more be directed at health and the lifestyle in connection with health as it is not regarded important regarding its potentials. The segment called “*lagging behind*” cannot be too attractive regarding its size or characteristics for the food industry concentrating on health and quality issues as the low average salary and the strong price awareness cannot make it possible to reach this target group.

11. In my opinion the results of the research could simultaneously be used in several areas among which the following can be highlighted:

- *Corporate sector:* The food processing industry can gain vital and precious information in the future about how and what way they should create the range of products in the food industry in the following years and decades paying attention to the traditional habits of nutrition but, at the same time, continuously regarding health-consciousness as a „new demand”.
- *Society, media:* The consumers and the society must be kept informed by means of appropriate marketing communication about the results of all research tasks, which are centered on health and, the healthy way of life. While information is only exchanged „scientifically” and in a close group, the members of the society cannot be expected to

create the way of life or attitude that can lead to health-consciousness considered as a value.

- *Politics, legislation:* Unfortunately, most research tasks examining health, state of health or health-consciousness in Hungary do not go along with many positive results. So, this important question must be made topical at the highest level of leadership in the country. We think that the results of the research will supply such precious information that can make the representatives of legislation think and direct attention to the necessity of surveying and analyzing the food consuming habits of the young, as the society of the future will be based on them.

AZ ÉRTEKEZÉSHEZ SZŰKEN ÉS TÁGABBAN KAPCSOLÓDÓ PUBLIKÁCIÓK

Tudományos folyóiratok

IDEGEN NYELVEN

Lajos A. – Szira Z. (2005): *Health consciousness int he life style and scale of values of the hungarian young people.* Annals of The Polish Association of Agricultural and Agribusiness Economists, Vol. VII. No. 6., p. 77 – 82., ISSN 1508-3535

Horváth Á. - **Lajos A.** – Szira Z. – Varga E. (2005): *The manifestation of health-consciousness in food preference and consumption among young people according to an empiric study.* Gazdálkodás 12. sz. különkiadása, XLIX. évf. English Special Edition, p. 98-111., ISSN 0046-5518

MAGYAR NYELVEN

Lajos A.: *Az élelmiszerfogyasztásra ható társadalmi és gazdasági tényezők tendenciáinak vizsgálata.* Gazdálkodás, XLVIII. évf. 5.szám, p. 74-80

Tudományos konferencia előadás kiadványban megjelentetve

IDEGEN NYELVEN

Lajos A. - Szabó Z.: *Ideas about the Competitive Environment of the Hungarian Meat Industry.* (2nd International Conference of Ph.D. Students, Section proceedings Agriculture p. 121 - 124., Miskolc 1999. ISBN 963 661 374 5ö, ISBN 963 661 375 3)

Szabó Z. - **Lajos A.:** *The importance of the hungarian wine auctions.* (2nd International Conference of Ph.D. Students, Section proceedings Agriculture p. 163 - 167., Miskolc 1999. ISBN 963 661 374 5ö, ISBN 963 661 375 3)

Tomcsányi P. - **Lajos A.:** *Sponsorship in sports.* (2nd International Conference of Ph.D. Students, Section proceedings Economics p. 381 - 388-, Miskolc 1999. ISBN 963 661 374 5ö, ISBN 963 661 377 x)

Szabó Z. - **Lajos A.:** *Consumer Habits of the Young Generation in Dutch Hypermarkets.* (Young Science 2000, II. diel, p. 173 - 175., Račkova Dolina, 2000. ISBN 80 7137 859 3)

Szabó Z. - **Lajos A.:** *The role of wine in the nutrition culture.* (International Scientific Days 2001, VI. diel, p. 1808 - 1812., Nitra 2001. ISBN 80 7137 871 2)

Szabó Z. – **Lajos A.** – Széles Zs.: *Agricultural auctions in Hungary*. (Young Science 2001, p. 190 - 193., Račkova Dolina, 2001. ISBN 80 7137 971 9)

Lajos A. - Szabó Z.: *Nourishment – nutrition – foodstuff: Cultural and societal role in influencing and restructuring the food consuming habits*. (2nd International Conference for Young Researches of Economics, Volume I. p. 191 – 195., Gödöllő, 2002. ISBN 963 9483 05 2ö, ISBN 963 9483 06 0)

Tímár P. – **Lajos A.**: *Einklang zwischen der Qualitätsorientierung und der ständigen Entwicklung*. (2nd International Conference for Young Researches of Economics, Volume II. p. 286 – 291., Gödöllő, 2002. ISBN 963 9483 05 2ö, ISBN 963 9483 06 9)

MAGYAR NYELVEN

Richter I. - **Lajos A.**: *A sport szerepe a turizmusfejlesztésben*. (VII. Nemzetközi Agrárökonómiai Tudományos Napok, Régiók vidék és mezőgazdaság-fejlesztése, 4. kötet p. 47 - 51., Gyöngyös 2000. ISBN 963 9256 09 9ö, ISBN 963 9256 13 7)

Lajos A.: *Regionális testkultúra*. (VII. Nemzetközi Agrárökonómiai Tudományos Napok, Régiók vidék és mezőgazdaság-fejlesztése, 3. kötet p. 1 - 4., Gyöngyös 2000. ISBN 963 9256 09 9ö, ISBN 963 9256 12 9)

Lajos A. - Varga A.: *Fogyasztói vélemény a Kiváló Magyar Élelmiszer Védjegyről*. (XLII. Georgikon Napok, Az agrár-termékpiacon és környezetük, I. kötet p. 65 - 69., Keszthely 2000. ISBN 963 9096 71 7ö, ISBN 963 9096 72 5)

Lajos A. - Varga A.: *Kiváló Magyar Élelmiszer Védjegy a szervezeti piacon*. (XLII. Georgikon Napok, Az agrár-termékpiacon és környezetük, I. kötet p. 108 - 112., Keszthely 2000. ISBN 963 9096 71 7ö, ISBN 963 9096 72 5)

Lajos A. - Szabó Z.: *A holland és a magyar vásárlói szokások összehasonlítása a bevásárlóközpontokban*. (XXVIII. Óvári Tudományos Napok, Az élelmiszergazdaság fejlesztésének lehetőségei, III. kötet p. 58 - 62., Mosonmagyaróvár 2000. ISSN 0237 9902)

Egyéb publikációk

Lajos A.: *Az intézményrendszer kialakításának lehetőségei a magyar sportban*. (VISION-2000 II. Az intézményrendszer helyzete és fejlesztése az agrárgazdaságban, az EU-csatlakozás tükrében, II. kötet p. 125 - 134., Gödöllő 1999.)

Lajos A. - Tomcsányi P.: *A kultúra és a testkultúra kapcsolata, illetve hatása a társadalomra.* (IX. Marketing Konferencia, Verseny és marketing, p. 115 - 121., Balatonfüred 1999.)

Villányi J. - **Lajos A.:** *Kohézió és kooperáció a CEFTA országok között.* (VISION-2000 III. A kooperáció, a koordináció és az integráció szerepe és lehetőségei az agrár és a vidéki gazdaságban, II. kötete p. 272. - 279., Gödöllő 2001.)

Szabó Z. - **Lajos A.:** *A bevásárlóközpontok koordinációs szerepe a megváltozott fogyasztói szokásokban.* (VISION-2000 III. A kooperáció, a koordináció és az integráció szerepe és lehetőségei az agrár és a vidéki gazdaságban, I. kötet p. 261 - 269., Gödöllő 2001.)