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THE CHARACTERISTICS OF CONSUMER ATTITUDES IN THE FOOD MARKET IN HUNGARY

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Abstract: The objective of our research was to examine the health status and health behaviour of the Hungarian population in relation of food consumption by identifying relationships between the underlying factors. In our research we used the objective factors from secondary data concerning nutritional status and body image as a framework for the interpretation of the examined relationship of eating attitudes and body attitudes. We chose survey as our test method, it was carried out on a national representative sample of 1000 people. After the examination of the factor structure of the two attitude measuring questionnaire, five consumer groups have been identified by the cluster analysis. The five clusters are: Uncontrolled Impulse Eaters, Dissatisfied Tense, Uninterested, Overweight Impulse Eaters and Conscious Consumers. This segmentation based on eating attitudes and body attitudes could serve as a guidance for health marketing experts and the manufacturers of health protective food to determine and address their target group.

Keywords: body attitudes, eating attitudes, health, segmentation

Introduction

In accordance with nowadays' consumer trends health and environmental protection are in the centre of research and development efforts of leading food producers. Beside the technological developments, however, marketing has an essential role in this industry as the health protecting foods are able to exert their positive effect only with conscious food consumption behaviour. The trends of health and sustainability have already appeared in Hungary as well (Rácz 2013) but responsible corporate culture and marketing activity should take into account the education of health conscious lifestyle whom double objective, i.e. increasing market share and developing consumers' health status combines economic and social benefits.

The health behaviour is a compound system whom elements are the conscious food consumption, the physical activity, the mental health, the avoidance of harmful excise goods, and the hygiene, in addition, it is necessary to be present in the individual life as part of the lifestyle. The preventive health risk behaviour is a continuous, conscious behaviour, while the health risk behaviour (smoking) is typically emotional, influenced by unconscious factors (Bíró 2008; Szakály 2011). Thus exploring and/or bringing up their own, health conscious consumer base provides an advantage for the firms aiming to prevail on the health market, but for this it is essential to know the underlying contexts of health consumption.

Literature review

Nutritional Status

In respect of the energy quantity ingested in the body with the daily nutrition, when the ingested energy quantity is consumed in an amount necessary for the life processes of our body and for covering our physical energy consumption, it is considered as an energy balance. If the quantity of ingested energy exceeds the quantity of the consumed energy, a positive energy balance develops, if it does not reach the quantity of consumed energy, a negative energy balance develops. These two cases could explain the development of the overweight and the malnutrition. Due to the permanent positive energy balance (i.e. more energy is ingested in the body than is consumed for a long time) the energy quantity stored in the body in form of fat increases. Depending on the extent of the body fat accumulation, the status is called underweight, overweight, and obesity which has been called illness since 1998 by the WHO (World Health Organisation) (Csányi 2010).

According to the announcement of the WHO in 2008, 1.4 billion overweight people lived in the world regarding the population over 20 years, and among them more than 200 million men and 300 million women can be seen as obese. In the period of 1980 and 2008 the extent of overweight approximately doubled in the European regions of the World Health Organisation. This ratio was 58.3% among the adult

men, and 51.2% among the adult women. In the countries of the European Union 30-70% of the population struggle with the problem of overweight, and 10-30% can be regarded as obese (WHO 2003; WHO 2014).

According to the Hungarian results of the European Population Health Survey conducted in 2009 in Hungary 53.7% of the population (over 15 years) shows a higher body mass than recommended (Szakály 2011). Based on the data provided by GFK (2005) 45% of the population is satisfied with their weight, 37% of them would like to decrease it, and 7% would increase it.

The judgement method of the adult population's body mass is the calculation of the Body Mass Index (BMI) (Rodler 2008). The method of determining the BMI score is to divide the body mass of the focal person by the square of the body height expressed in meter, and its unit of measure is kg/m^2 (Csányi 2010). Today BMI is the standard method of measuring the body mass as it strongly correlates with the total fat mass and is less dependent on the body height.

44.7% of the Hungarian adult population belongs to the group with a recommended BMI, 1.96% is of underweight, and 53.24% is of overweight from which 17.73% is obese. The overweight and the obesity are risk factors of the development of further non-infectious diseases such as cardiovascular diseases, malignant tumours, diabetes and its complications, and osteoporosis (Bhattoa et al. 2009). Before the examination of tendencies of certain diseases concerning the Hungarian population we present the perceived and real health status of Hungarians, the last one is described worldwide by the macro level indicators of life expectancy at birth and mortality rates (Szakály 2011).

Despite the fact that Hungary occupies one of the last places in the rank of the EU-28 member states, the population perceives its health status much more favourable than the reality. The difference in the real and the perceived (subjective) health status is influenced by the socio-demographic, social, economic, and cultural environments of individuals as well. In their research Szakály et al. (2006) also examined the subjective perception of health. Based on the findings of the population survey the rate of those who consider their health as over average was 53.1%, and that of those who consider it as 'both good and bad' was 37.1%. This survey also resulted in the higher rate of positive health perception by men than women (Szakály 2011).

Body image and its perception

Under body image we mean the sum of psychological, behavioural, neurophysiological factors related to the individual's own body. Its examination is important because one of the most essential cause of changing the weight is the dissatisfaction with the body image. Individual perception of body image is influenced by the estimation of one's own body size (perception), the emotion provoked by the body shape and size (feeling), and the perception related to the attractiveness of the body (thought). The ideal body image stemming from the media, and the opinion and attitudes of family members and

peers also influence the perception of the individual's body image (Grogan 2006; Probst et al. 2008; Czeglédi et al. 2009).

Grogan (2008) examined the perception of the body image in several aspects, and based on these we can conclude that satisfaction of women with their body image differs from that of men, however, the same stereotypes are present related to the overweight people. Cash (1990) observed in his research conducted in the U.S. that this differentiation occurs already in childhood, causing children less like playing with overweight peers. This stereotype can be detected also in adulthood, overweight persons are less active, can be less loaded with hard work as well as they are less successful, less athletic, and less popular than their thinner counterparts (Lewis et al. 1997; Grogan, 2008). The judgment of people with normal body mass and of thin persons is more positive in the area of health, fitness, energy level, and self-control as well than that of the overweight people, who are considered to be gentle and caring. The strength and intensity of stigmatisation is related to e.g. depression and negative self-esteem (Czeglédi 2009).

Similar to the satisfaction of women with their body image, the image considered real and ideal is different in case of men (75%) as well. The highest difference in the perception of body image in case of women and men is that while women uniformly consider the thinner shape as ideal, men desire to increase and decrease their body mass thus develop a different body image almost fifty-fifty. In the research conducted by Frederic et al. (2005) ideal body image in case of Americans, French, and Australians is extremely more muscular than the reality, and beside this they also consider the men shape desirable for women being more muscular or with higher body mass than theirs. In case of the elder men (over 45 years) the higher body mass and the overweight is more accepted than in case of younger men. 29% of adult men is dissatisfied with his body image. 24% of them would change his upper body, 41% his torso, and 18% his lower body. Only 10% of respondents answered being dissatisfied with the whole body image in general. Examining the reasons of the change 72% of respondents would increase his musculature to feel better in his skin, and 80% would feel better if his current musculature was more developed (Grogan 2008).

Methods

For the accomplishment of the objectives of our research a nationwide representative questionnaire survey of 1000 people was started in Hungary. In course of the sampling representativeness was ensured *a priori* in case of each region, thus the structure of the sample entirely meets the quota set by the KSH previously (quota sampling).

Selection of settlements in each region was conducted by draw (simple random sampling). In case of the selected settlements the random walk method was used that ensures a total randomness for the selection of the appropriate respondents. In the second step the person appropriate for the interview was selected among the residents of the households with using the

birthday key method. With using this method total randomness was ensured in the second step as well. The sample reflects the composition of the basic population according to four factors (region, settlement type, gender, age). Data analysis was conducted with using the SPSS mathematical, statistical software package, and beside frequency distributions and cross table analyses, factor and cluster analyses were also used.

The questionnaire contained two series of questions beside the socio-demographic variables: the Three-Factor Eating Questionnaire and the Body Attitude Test. We used the version of the 21 item Three-Factor Eating Questionnaire (TFEQ-R21) (HRQL Group 2002) translated into Hungarian and adapted by Czeglédi és Urbán (2010). TFEQ-R21 is a 21 item measurement tool whom items are assessed with 4- and 8-point Likert scales. The questionnaire includes three scales: 1. Uncontrolled eating scale, 2. Cognitive restriction scale, and 3. Emotional eating scale. In our research assessment method adapted by Cappelleri, Bushmakin et al. (2009) was used, i.e. scale development was carried out by simply averaging the items.

The Body Attitude Test (BAT) measures the subjective body experience and the attitude related to one's own body (Probst et. al. 1995; Túry-Szabó 2000). It consists of a total 20 items, and the assessment is with 6-point Likert scales. The test measures the dissatisfaction with the body image, i.e. the higher the score, the more unfavourable the body image. The Body Attitude Test applies three scales: 1. Negative apperception of the body size, 2. Inadequate familiarity with one's own body, 3. General dissatisfaction with the body. In our research factor analysis was conducted to reveal the existence of a factor structure that describes the nationwide representative sample of the research with a higher explaining power than the original model.

Results

In the first step factor analysis was performed with the items of the Three-Factor Eating Questionnaire (Table 1). The new structure clearly reflects the original factors (therefore we use the same denominations), but 9 items had to be taken out of the original 21 to get a factor structure with a reasonably high (70.115%) explanatory power. The first and strongest factor, the Emotional eating explains 37.019% of the total variance, while the Uncontrolled eating (explained variance is 16.621%) and the Cognitive restraint (explained variance is 16.475%) represent a similar explanatory power.

The reliability of the new scales was also tested by examining the Cronbach's alpha, and as all the values were over 0.8 (Uncontrolled eating: 0.817, Cognitive restriction: 0.825, Emotional eating: 0.955), it can be stated that the scales are homogeneous enough for further research amongst the Hungarian sample.

In the second step the factor structure of the Body Attitude Test was examined (Table 2), and it resulted in a two factor model with Maximum Likelihood extraction method. This structure explains 63.927% of the variance. Out of the original three factors Lack of familiarity with one's own body and Negative apperception of body size constitute the new structure, there is only one item (When I look at myself in the mirror, I'm dissatisfied with my own body.) that originally belongs to the General body dissatisfaction factor (it belonged to not a unified construct on the examined sample) and it has become part of the Negative apperception of body size now. The reason might lie in the fact that the body size is the main cause of dissatisfaction, and it seems to be a more specific and homogenous feature than general dissatisfaction. To verify the reliability of the new scales the Cronbach's alpha value of the

Table 1. Factor structure of the Three-Factor Eating Questionnaire

Statement	Factor		
	Emotional eating	Uncontrolled eating	Cognitive restriction
If I feel nervous, I try to calm down by eating.	0.877		
When I feel blue, I want to eat.	0.865		
When I feel lonely, I console myself by eating.	0.854		
When I feel sad, I often eat too much.	0.800		
When I feel anxious, I find myself eating.	0.779		
When I feel tense or "wound up", I often feel I need to eat.	0.776		
When I smell a delicious food, I find it very difficult to keep from eating, even if I have just finished a meal.		0.799	
When I see a real delicacy, I often get so hungry that I have to eat right away.		0.712	
Being with someone who is eating often makes me hungry enough to eat also.		0.614	
I consciously hold back at meals in order to not gain weight.			0.785
I deliberately take small helpings as a means of controlling my weight.			0.768
I do not eat some foods because they make me fat.			0.711

Method: Maximum Likelihood; Rotation method: Varimax with Kaiser Normalization. a. Rotation converged in 5 iterations. KMO=0,918; Bartlett (Approx. Chi Sq.) 9183.963; (Sig) 0.000; Communalities: 0.504-0.862; Total Variance Explained: 70.115; N=1000.

Source: Own compilation

Table 2. Factor structure of the Body Attitude Test

Statement	Factor	
	Lack of familiarity with one's own body	Negative apperception of body size
My body causes a distress for me.	0.806	
My body appears as if it was not mine.	0.782	
There are things going on in my body that frighten me.	0.759	
I feel tense in my body.	0.733	
I feel my body as an insensitive object.	0.668	
I think I'm too thick.		0.815
I have a strong desire to be thinner.		0.794
My hips seem too broad to me.		0.704
When I look at myself in the mirror, I'm dissatisfied with my own body.		0.542

Method: Maximum Likelihood; Rotation method: Varimax with Kaiser Normalization. a. Rotation converged in 5 iterations. KMO=0.908; Bartlett (Approx. Chi Sq.) 5653.086; (Sig) 0.000; Communalities: 0.332-0.791; Total Variance Explained: 63.927; N=1000.

Source: Own compilation

factors was calculated again (Negative apperception of body size: 0.851; Lack of familiarity with one's own body: 0.905), and as both values are higher than 0.8, they could be accepted as reliable scales to measure body attitudes.

In the last step cluster analysis was carried out with the aggregated factors of the examined two questionnaires in order to segment the Hungarian population on the basis of body attitudes and eating attitudes. As a result of this process 5 clusters could be separated, Table 3 describes the socio-demographic features of the clusters.

Cluster 1 – Uncontrolled Emotional Eaters (N=174)

The strongest feature of this cluster is emotional eating that means they tend to eat more than it would be necessary to satisfy their needs in emotional situations. The second most typical characteristic of this group is uncontrolled eating, so impulsivity generally characterises this cluster, although their body attitude is not negative at all. Thus Uncontrolled Emotional Eaters do not restrict themselves, and they do not feel qualms because of this, they enjoy eating. Within this group men are slightly overrepresented (55.7%), they mainly own a secondary school degree, their income is just about enough to earn a living, the single population is represented with the highest percent amongst the members of this cluster, they are mainly active physical workers (39.1%) and 56.3% is the primary food purchaser in the family.

Cluster 2 – Dissatisfied Tense (N=118)

The body attitude of this group is extremely negative, they often feel anxiety and tension about their physical processes. They feel good in their body at the least extent, they are totally dissatisfied with their body size. They tend to overeat in emotional situations, considerably eating plays a highly important role in dissipating tension in their lives. Members of this group are mainly women (57.6%) with average or lower than average income, the percent of widows is the highest (19.5%)

amongst the groups. They primarily represent the older population and their legal status is retired. They are typically primary food purchasers of the family (68.6%) as they mainly live alone.

Cluster 3 – Uninterested (N=382)

The body attitude of this group is neither negative nor positive, emotional eating shows a weak impact, the only factor that characterises this group is the lack of cognitive restraint. This pattern means that the members of this group do not care about their nutrition and perception of their body at all. Men are overrepresented in this group (59.2%), they mainly have vocational school or high school degree, slightly above average income equally characterises them as slightly below average. There is no special difference from the average on other socio-demographic dimensions, they are not typical food purchasers (51.8%) in the family.

Cluster 4 – Overweight Impulse Eaters (N=130)

The Overweight Impulse Eaters are characterised by highly negative body attitudes, especially on the dimension of negative apperception of body size. They think that they are too thick and have a strong desire to be thinner. They cannot resist eating if they see or smell any delicious food. They are mainly women (63.8%), their income is enough for their living or they can even put apart, usually they have a partner or a family, in which they are the primary food purchasers.

Cluster 5 – Conscious Consumers (N=196)

This is the only group whom main feature is the conscious restraint that suggests that they are conscious about their food choices, and do not waver even in emotional situations. As a result of conscious nutrition they are usually satisfied with their body, but they are also motivated to be thinner. The members of this consumer group are mainly women (64.3%), with high school or university degree. Their income level is

Table 3. Socio-demographic features of clusters, % (N=1000)

Variable		Socio-demographic distribution %					Sig.
		1	2	3	4	5	
Cluster size		174	118	382	130	196	-
Gender	Men	55.7	42.4	59.2	36.2	35.7	0.000
	Women	44.3	57.6	40.8	63.8	64.3	
Age group	18–29	31.0	19.5	24.6	23.8	28.6	0.132
	30–39	15.5	18.6	20.7	16.9	15.8	
	40–49	19.0	18.6	19.6	25.4	22.4	
	50–59	19.5	13.6	14.9	15.4	17.9	
	>60	14.9	29.7	20.2	18.5	15.3	
Level of education	Elementary school	10.3	13.6	13.9	9.2	8.7	0.002
	Vocational school	32.2	28.0	37.2	36.2	20.4	
	High school degree	42.5	41.5	34.6	37.7	46.4	
	University degree	14.9	16.9	14.4	16.9	24.5	
Subjective income	NT/NV	1.7	1.7	2.6	1.5	2.6	0.001
	It is well enough to earn a living, and they can put aside.	0.0	2.5	3.9	4.6	6.1	
	It is enough to earn a living, and they can put a little aside.	23.0	24.6	27.0	31.5	35.7	
	It is enough to earn a living but they cannot put aside.	60.9	54.2	47.6	43.1	48.5	
	Sometimes it is not enough to earn a living.	12.6	11.9	17.0	17.7	5.6	
	They have regular problems with daily living.	1.7	5.1	1.8	1.5	1.5	
Family status	Married	36.2	42.4	39.5	42.3	37.8	0.018
	Living with a partner	17.2	8.5	16.0	16.9	17.9	
	Widow	6.9	19.5	8.1	6.2	5.1	
	Single	28.7	19.5	25.7	21.5	23.5	
	Divorced	10.3	9.3	9.7	12.3	15.3	
	Living apart	0.6	0.8	1.0	0.8	0.5	
Legal status	Active physical worker	39.1	28.8	38.7	35.4	28.6	0.000
	Active intellectual worker	21.8	19.5	17.5	23.1	38.3	
	Retired	17.8	33.1	22.8	16.9	17.9	
	Student	9.8	5.1	8.6	9.2	6.6	
	Other	4.0	4.2	2.4	5.4	4.6	
	No answer	7.5	9.3	9.9	10.0	4.1	
Primary food purchaser	yes	56.3	68.6	51.8	66.2	62.8	0.002
	no	43.7	31.4	48.2	16.9	37.2	

Source: own compilation

the highest amongst the five segments, intellectual workers are overrepresented, and they tend to be the primary food purchasers of the household.

Conclusions

In the course of the first and second step of our examination factor structure of the Three-Factor Eating Attitudes Test and the Body Attitude Test were determined on a nationwide representative sample. As a result of the analysis we not only developed a model with appropriate explaining power that can be used for cluster analysis but the factors of the ques-

tionnaires were identified as scales with high internal consistency that can be used for further examinations on Hungarian samples.

The second, essential result of the research is the segmentation of the Hungarian population according to eating attitudes and body attitudes that provides important information for the health marketing experts and health protecting food producers to determine the size of their target group and the appropriate way of addressing them. The resulted pattern confirms the overview of the literature review, shortly the fact that majority of the Hungarian population (53.24%) is of overweight or obese. It seems to be also true that among the population the ratio of people with a negative body image is significant, and

considering the body image, women tend to perceive themselves more negatively.

38.2% of the population is seen as Uninterested, they totally reject the conscious nutrition, and this does not cause a body discomfort feeling for them that could have a motivating effect, thus this group is the hardest to communicate with. The other hard-to-reach group is the cluster of Uncontrolled Emotional Eaters (17.4%) who use eating as a stress reduction tool in negative emotional situations, and this satisfies them (according to the examined variables), i.e. they entirely consider eating as a source of pleasure. The combined size of the two groups hard-to-reach in terms of health behaviour is 55.6%, i.e. majority of consumers belong to this category.

The Dissatisfied Tense group is in a quite bad situation according to their subjective feelings in terms of body image and eating attitudes but this perception is articulated in the form of anxiety and dissatisfaction, thus they are aware of their status, and they would likely be willing to change due to the tension pressure, but the producer targeting this group has to provide effective solutions to reduce anxiety. According to the income status of the target group it does not worth to target the premium category, and information and distribution channels should be developed based on the needs of the elder consumers. In a marketing perspective this is not an optimal, health conscious group in a good financial position but by the implementation of a relevant strategy significant market share can be gained as 11.8% of the Hungarian population belongs to this group.

The Overweight Impulse Eaters' group (13%) characterised by higher financial potential and significant motivation, thus can be reached more easily, but to gain their loyalty special attention should be devoted to them due to their impulse consumption. The desire to be thinner and the emotional and uncontrolled eating are present at the same time. It is likely that this consumer segment is the primary target group of the so called fashion diets: they purchase it, they try it but they quickly give it up if the method demands perseverance, and long-term life style changes. In their case the stress should be put on retaining them instead of addressing them.

The primary target group of health protecting foods, i.e. the Conscious Eaters' group is almost 20%. The members of the cluster have likely changed their nutrition habits in the past and they have maintained it for a long time as they are not characterised by the emotional eating. According to their financial status they can afford even the premium category products, and if they are affected by them convincingly, they even purchase them as they are the primary purchasers in the household. It is likely that the members of this group are who react first to the rallying call of 'health', they can be met in lifestyle clubs, fitness events, and at screening tests. These consumers can be convinced by scientific arguments, and are loyal for a long time.

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