

## THE RELATIONSHIP BETWEEN THE MOTIVATORS AND BARRIERS OF HEALTH BEHAVIOUR AND CONSUMER ATTITUDES TOWARDS FUNCTIONAL FOOD

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Due to the shift in consumer behaviour, the proportion of well informed, conscious consumers has been growing steadily, and functional foods with their capacity to protect health have been gaining more and more ground. To achieve market success in the field of functional foods, producers should be able to communicate information effectively concerning health issues and their newly developed product should indeed meet consumer expectations. The aim of our study was to identify and define the components of the dimensions of consumer attitudes in Hungary together with the barriers and motivators of health behaviour. Our research also examined how these factors influence consumer willingness to consume functional foods. Our surveys were carried out in focus groups of health-conscious (n=8) and not health-conscious (n=8) consumers. Our findings confirmed the adequacy of the international dual model, regarding the attitudes of Hungarian consumers towards functional food. Moreover, we also explored the most popular health food categories and sources of information on nutrition.

**Keywords:** functional food, attitude, health behaviour, motivators, barriers

The spread of lifestyle- and diet-related civilisation diseases is continuously increasing worldwide, thus obesity, hypertension, cardiovascular diseases as well as diabetes entail severe personal, economic, and social burdens on a global scale. Consequently, the role of disease prevention has become of strategic importance and an increasingly wider scale of consumer groups has realised that proper nutrition can beneficially influence their quality of life (SZAKÁLY et al., 2016; MULLIN & DELZENNE, 2017). This new trend presents new challenges to the food industry: companies have to develop and market food products which due to their health preservation values are able to prevent the spread of civilization diseases. Based on the internationally accepted definition, foods can be regarded as functional if they can be satisfactorily demonstrated to affect beneficially one or more target functions in the body, beyond adequate nutritional effects, in a way relevant to an improved state of health and well-being and/or reduction of risk of disease (ASHWELL, 2002). Functional foods are divided by the European Commission into the following groups: (I) natural food such as fruit or grain, which may or may not be modified by plant breeding or other technologies; (II) food to which a component was added; (III) food from which a component was removed or reduced; (IV) food in which one or more components were modified, replaced, or enhanced to improve its health properties (EUROPEAN COMMISSION, 2010). Since the development of new functional components and the solution of technological challenges are highly costly

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and risky business, the analysis of consumer behaviour influencing the purchase of products is of prime importance for the producers to avoid the failure of the investments. Therefore, companies have to monitor the changes in consumer attitudes towards functional foods and ensure that their newly developed products will meet consumer expectations. Importantly, attitudes fundamentally determine the perception, understanding, acceptance, or rejection of the information conveyed related to functional foods (URALA & LÄHTEENMÄKI, 2003). URALA and LÄHTEENMÄKI (2007) divided individual attitudes towards functional foods into four dimensions: (1) Perceived reward, (2) Need for functional foods, (3) Trust in benefits, and (4) Safety. Previous studies highlighted that health knowledge and the level of health-awareness of consumers also influence the attitudes towards functional foods. Consumers who are more worried about their health and are aware of a healthy lifestyle show more willingness to consume functional food than those less worried about their health (NAYLOR et al., 2009; CHEN, 2011). Since lifestyles fundamentally influence attitudes, the model of DOWNES (2008), which defines the barriers and the motivators of a healthy lifestyle, is of particular importance. Beside personal motivators (increased energy, spiritual beliefs, body weight control, desired outcome), environmental motivators (roles models, social support, counselling service, information on health) were defined. Similarly, two types of barriers were specified: personal (lack of motivation and time) and environmental ones (lack of social support, safety concerns, lack of resources). The latest complex approach is built on the integration of the models of DOWNES (2008) and URALA and LÄHTEENMÄKI (2007) to examine attitudes and willingness towards functional foods in relation to motivators and barriers of health behaviour (KÜSTER-BOLUDA & VIDAL-CAPILLA, 2017).

In line with global trends, the market share of functional foods face explosive growth in East-Central Europe, too, and research on habits, expectations, and attitudes of targeted consumer groups is of prime importance for developing an appropriate regional marketing strategy. The main objective of our study was to adapt this complex attitude and health motivational model to Hungarian consumers by conducting focus group surveys, which can provide the basis for the better understanding of motivators and barriers of health behaviour and for exploring consumer attitudes towards functional foods.

## 1. Materials and methods

Focus group interviews were carried out in two homogeneous groups composed with members independent of each other. Health-conscious (HC) group consisted of individuals considering themselves health-conscious, while non-health-conscious (NHC) group had individuals considering themselves not health-conscious. When recruiting the groups, important factors we considered were as follows: representation of both sexes (both groups consisted of 5 women and 3 men), different age groups, varied qualifications and type of settlement. Regarding the influencing role of children, we also had participants with children.

Focus group scenario was based on models of DOWNES (2008) and URALA and LÄHTEENMÄKI (2007), and the structure was as follows: (1) Association game; (2) Functional product categories – frequency of consumption; (3) Exploring sources of information related to nutrition; (4) Identifying the components of the Downes – Urala & Lähteenmäki dual model, namely what relationship exists between the attitudes towards functional foods and the barriers and motivators of health behaviour, and finally, (5) Preparing the hierarchical value map of functional foods.

## 2. Results and discussion

### 2.1. Association game

Group members wrote down the first couple of words that came into their minds after hearing a term to test their prior knowledge. The first term was *functional food*. Only two individuals from the HC group had heard it previously, but even they had no detailed knowledge about it. Nevertheless, almost everybody connected it to healthy diet and healthy lifestyle in both groups. The next expression was *health*, and NHC group associated it with words like fruit, vitamin, physical activity, happiness, salad, vegetables, and milk. HC group, however, thought in a much wider spectrum e.g. sport, vegetable fibres, physical activity, being stress-free, conscious diet, long life, happiness, fitness, vitality, pollutant-free, awareness and abstinence. The last expression was *health-consciousness*. In both groups, it was associated with regular physical activity and consumption of healthy foods. However, in HC group good time management, being stress-free, vitality and self-respect were also mentioned. The associations of HC group show that they think about these expressions on a considerably wider scale.

### 2.2. Frequency of consumption – identification of preferred products

After explaining the notion of functional food, we assessed which functional product categories were consumed frequently and what products were preferred mostly. Main categories were based on the classification made by the European Commission, and divided into further subcategories based on the classifications by SZAKÁLY and co-workers (2012) and KÜSTER-BOLUDA and VIDAL-CAPILLA (2017). Table 1 summarises the ranking of product categories and distinct products the most frequently consumed by the groups of HC and NHC consumers. In HC group, *live flora/probiotic products* are the most frequently consumed due to their positive effects on intestinal microbiota and digestion. *Low-fat and low-cholesterol products* are also popular due to their efficiency in controlling body weight. *Wholemeal products* are rich in fibre, thus help in digestion; although, one person expressed his concerns about wholegrain products, because different fungi can attack the grain crust, and eating their toxins would be not healthy. *Products enriched with vitamins* were purchased mostly for children. The *products enriched with protein* are consumed because certain members use them to control their hunger for protein after exercise and to increase muscle mass, while others buy them because of craving for sweets and consider them healthier, since their carbohydrate content is lower. *Products enriched with omega-3 fatty acid* were also relatively frequently consumed; however, several respondents claimed that it was needless to enrich oil and margarine with any beneficial ingredients, since they considered them basically unhealthy. *Products enriched with minerals* were ranked to last place. Overall, in HC group, quality and components of product and its effect on health were found to play very important role in their purchasing decisions, as members of this group are active information seekers with regard to healthy nutrition and healthy lifestyle.

In contrast, NHC group chose only 5 categories to rank. Added ingredients only to a very little extent influence members of NHC group, and their decision is primarily based on taste, not even price is a substantive influential factor. They do not compromise on taste for health, which explains why they are not interested in *low-cholesterol and low-fat products*. Though, they are not motivated to care about their own health, information related to health provides them with incentives upon buying food for their children.

*Table 1.* The ranking of the product categories and distinct products the most frequently consumed by health-conscious and non-health-conscious consumers

Group of health-conscious consumers		
	Product categories	Products
1.	live flora/probiotic products	kefir, Caucasian kefir, yoghurt, pickles
2.	low-fat and low-cholesterol products	milk, cottage cheese, yoghurt
3.	wholemeal products	brown rye bread and rolls
4.	products enriched with vitamins	soft drinks, cereals
5.	products enriched with protein	protein bars, powders, pancakes
6.	products enriched with omega-3 fatty acid	canned fish, oil, margarine
7.	products enriched with minerals	drinks, sports drinks, cereals, cereal bars
Group of non-health-conscious consumers		
	Product categories	Products
1.	products enriched with omega-3 fatty acid	margarine, oil, fish sticks, canned fish
2.	live flora/probiotic products	yoghurt, kefir, Caucasian kefir
3.	wholemeal products	rolls, bread, other bakery products
4.	products enriched with minerals	mineral water, yoghurt for kids
5.	products enriched with vitamins	cereal balls and bars, soft drinks
excl.	low-fat and low-cholesterol products	-
excl.	products enriched with protein	-

### 2.3. Sources of information

Obtaining and processing information are important components of consumer behaviour, which influence purchasing decision-making process. HC group usually checks the origin of products and typically consume Hungarian or Central-European food, since they trust the quality assurance of these countries the most. It is also important for them to know the ingredients of products, since they plan their nutrition consciously. That is why they seek a wide spectrum of information including packaging, internet, family members, friends, colleagues (if they follow a health-conscious lifestyle), professional journals, books, TV programmes, physicians, workshops/lectures on a healthy lifestyle, dieticians. For NHC group, taste was found to be the only motivator; therefore, they are not particularly interested in information concerning the food. There are exceptions though, when a particular topic becomes widespread in the public mind, e.g. in the case of E-numbers. However, this factor was no longer considered important for respondents in the focus group when purchasing food. Thus, this group considerably narrowed down the sources of information to five elements: colleagues, family members, internet, shop assistants, and packaging. Also, a high priority is placed on experience as a source of information in this group. Consequently, it is crucial to have a positive feedback from the first purchase, on which further purchases are based.

### 2.4. Barriers and motivators of health behaviour

In order to assess the elements of barriers and motivators of health behaviour, and how they influence the consumption of functional foods, members of both groups put in order what

factors caused them to follow or not to follow health promoting behaviour, based on the model of DOWNES (2008). Regarding the motivators of health behaviour, HC group considered each statement very important and the ranking was a major dilemma. Table 2 shows the final order of statements. Of note, even the last motivational aspect was essential to them, since they usually seek the company of people like coaches, bodybuilders, companions doing sports, lifestyle consultants, who are capable of providing them with credible information. Importantly, members of HC group keep themselves constantly informed about healthy lifestyle, and they are confident of how to maintain their health and how to reduce the risks of developing certain diseases. Regarding the barriers of health behaviour, NHC group ranked only 5 statements, since they found that statements of not knowing what to do or living in an unsafe neighbourhood are not relevant in their cases (Table 2). The most important barrier was the lack of time, since collecting information about healthy lifestyle and doing physical exercise would take too much time and energy. Furthermore, they are convinced that only by consuming food rich in energy can they perform both intellectually and physically.

Table 2. The ranking of the elements of barriers and motivators of health behaviour

Members of health-conscious group are motivated to practice a healthy lifestyle because they...	
1.	feel more energetic
2.	want to be healthy
3.	want to manage body weight
4.	have seen others get sick from unhealthy behaviours
5.	may live longer
6.	have to take care of their body
7.	have someone to encourage or help them
Members of non-health-conscious group are NOT able to practice a healthy lifestyle because they...	
1.	have too many other things to do
2.	are not motivated
3.	do not have someone to encourage or help them
4.	have health problems
5.	are unable to afford healthy foods
excl.	don't know what to do
excl.	live in an unsafe neighbourhood

### 2.5. Attitude towards functional food

The attitudes towards functional foods were examined based on the four dimensions of the model created by URALA and LÄHTEENMÄKI (2007). Respondents were asked to assess 26 statements on a seven-point scale on a questionnaire, where 1 indicated complete disagreement and 7 indicated complete agreement. Considering the small sample size, it is not possible to make generalisations based on the survey; however, it was appropriate as a frame of reference. The results indicate that members of both groups have positive attitude towards functional food, although members of HC group gave slightly better values in this manner. Participants in both groups considered as a *reward* that functional foods are beneficial to their health, although, more importance was attached to taste than health effects in NHC group as they

claimed that they would not give up on sensory pleasures provided by the taste of foods. Taking the dimension of *necessity*, both groups find it important that these foods facilitate the better intake of vitamins, minerals, and trace elements that can prevent the development of numerous diseases. However, some members of NHC group mentioned that people did well without them 100–200 years ago as well. Regarding *safety*, participants find functional food safe at present, however, they express their hope that these foods will not turn out to have the opposite features later. Moreover, the food should be produced in Europe, especially in Central-Europe, as they trust the quality assurance system of these countries the most. Considering *confidence* in functional food, the groups were also asked which foods they trusted the most, functional food, organic food, GMO-free food, or e-free food. Both groups had definitely more confidence in functional food as compared to others. E-free products were thought to mislead consumers; they failed to believe that organic foods contain no chemicals at all due to the high level of environmental pollution; moreover, respondents found it difficult to track whether certain GMO products had been used for fattening of animals or not.

### 2.6. Hierarchical value mapping of functional foods

Consumers look for value in their purchasing decisions, and these values and their chains can be elaborated in the hierarchical value map. The hierarchical value map gives an explanation of why a consumer chooses functional food instead of its conventional equivalent. Based on responses collected from the HC group, we drew up the hierarchical value map, which contains aspects and connections mentioned at least three times (Fig. 1).

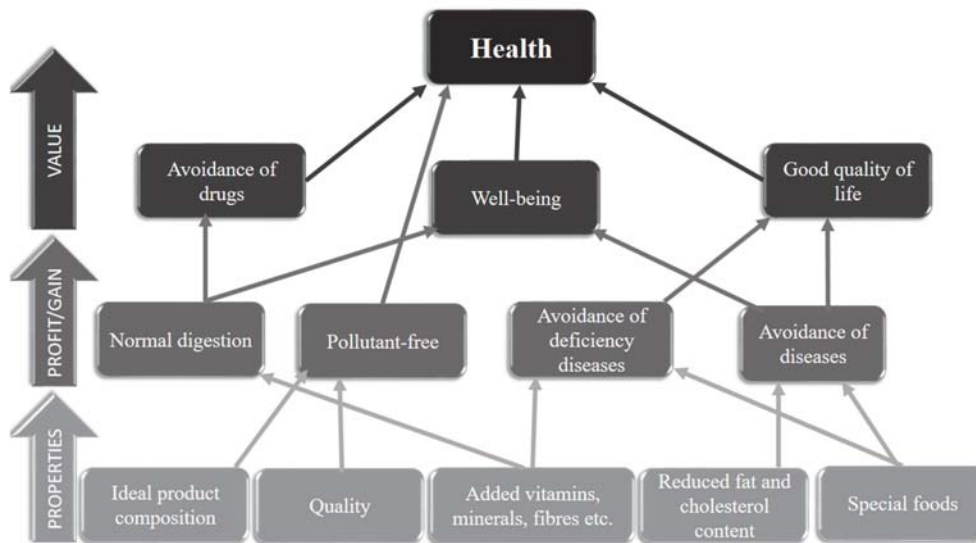


Fig. 1. Hierarchical value map of functional food purchases by health-conscious respondents (n=8)

Responses collected from the NHC group did not allow for a meaningful assessment, because although they consume some functional food, their purchases from this food category are not based on conscious decisions and it is primarily the taste that dominates their purchases.

Of note, our results outline basically only the main characteristics of HC and NHC consumers and should be reinforced by representative survey with a larger number of cases. Nevertheless, during the focus group discussions it has become evident that the health behaviour of a person plays a significant role in the choice of functional food. Members of HC group value functional foods beneficial to health much more than conventional ones and would even pay higher prices for them. Members of NHC group welcome functional foods; however, they would consume them only if the taste also meets their expectations.

### 3. Conclusions

Our findings suggest that completely different marketing activities should be carried out among the members of HC group and among those of NHC group. As shown in the hierarchical value map, for HC consumers, the core value of functional foods lies in their role played in health. Consequently, the marketing strategy for this target group should exclusively focus on the issue of health, while a much more complex set of actions is required to win NHC consumers. Although positive attitude towards functional foods was in NHC group, these factors do not encourage them to consume such products, as they are not committed to protecting their health. The motivators of their choice of food do not include concern for health, and the pleasure of flavours and eating is much more pronounced. According to the recent findings of SZAKÁLY and co-workers (2014), more than 50% of the Hungarian population are not willing to improve their eating habits and are not interested in following a healthy lifestyle. However, the re-structuration of food consumption patterns in Hungary would serve both the public health and ecologic goals (TOMPA et al., 2020); moreover, it would mean a huge potential market for companies producing functional food if this large segment of non-health-conscious customers could be made motivated. In order to achieve substantive success in this group, a complete change of mind is necessary. Since health knowledge increases the interest in functional foods, whereas the lack of health knowledge reduces it (NAYLOR et al., 2009), marketing specialists should use mental stimulation techniques by providing information that help consumers envisage the consequences of their behaviour and lifestyle on their health.

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