Media Messages and Eating Disorders. Taste and Price of a Message.

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Eating habits have become increasingly irrational in the last century; a variety of eating disorders have appeared. Obesity seems to be impossible to cure. Nowadays, the impact of media-marketing is the most powerful social influence on eating habits. Media has five main messages on eating and the body: 1. "Be thin!" 2. "Consume and eat!" 3. "Be afraid of food!" 4. "Food will disappear!" 5. "You are not feminine / masculine enough!" Most of these messages and directions are inconsistent with each other: e.g. "Buy and eat more, but remain thin!" The double-bind communication of media-marketing is pathogenic and schizoid. Food-related media messages are multi-layered and contradictory on many levels, so it would be more appropriate to talk about a multiple bind. The paper offers new communication strategies in order to manage the chaotic information on eating and to decrease the inconsistencies on the topic.

Keywords: eating disorders; glObesity; media; double bind; information technology

1. Introduction

Eating habits have become increasingly irrational in the last century: the various types of eating disorders bear evidence of this phenomenon. Obesity – on a global level – seems to be impossible to treat. People who suffer from it are increasingly younger and the number of patients is increasing (Forgács – Németh 2007: 147). Anorexia nervosa is pathological weight loss caused by the psychological rejection of food. Bulimia nervosa is a method of weight-control: the patient is constantly dieting, but when in a state of loss of control, s/he devours huge amounts of food, which s/he later tries to get rid of by purging (Russell 1979: 429-48). Muscle dysmorphia is mostly a problem among men. The patient is terrified that he is not masculine enough, which he tries to remedy via body building (taking anabolic steroids, etc.) (Pope et al. 1993:406-409); however, uncontrolled steroid abuse has serious physical and mental side effects. Orthorexia nervosa is a fanatic, dogmatic method of eating: the person is compulsive and obsessed about consuming only healthy food that is based on a belief system. Portions are precisely measured out and eaten at the 'right time' in a 'scientifically efficient' manner. The patient is not willing to eat anything that is not approved and lives in a constant fear of consuming unhealthy or even toxic foods. In an attempt to only focus on the 'healthy' diet the patient is apt to neglect his/her social, personal life (Bratman 1997). In the last few years more and more potential eating and body image disorders have emerged, mainly mentioned in tabloids (e.g. fatorexia, bridorexia, pregorexia, computorexia, vigorexia, tanorexia, drunkorexia, stressorexia).

Although eating disorders are not completely unprecedented, they can be considered as phenomena of the 20th century. In the last century, sociocultural changes have contributed to the abnormality of eating habits. People in the modern age tend to eat under the influence of media-marketing, instead of relying on physiological hunger. Formerly, parents determined children's eating habits, but in the last century, since obesity and various types of eating disorders have become real social problems, it is the marketing-media platform that takes control over our eating habits.

The first significant influence of the media appeared in the 19th century, when mothers needed to go to work, so elements of their housewife role were taken over by food engineers. Brands were created for mass produced ready-to-eat meals; these brands took off as the first brand names in the history of marketing (Knorr, Maggi, Coca-cola, Kellog's, Dr. Oetker). 'Scientific' feeding prescribed how often and how much a child should eat. This method made

it impossible to detect and to learn natural (physiological) hunger and satiety signals in early childhood. Instead, eating habits were ruled by artificially generated external stimuli (Grimm 1997: 99).

2. Media messages

Media messages about food can be listed into five main categories: 1) Be thin!; 2) Consume and eat!; 3) Be afraid of food!; 4) Food will disappear!; 5) You are not feminine/masculine enough! These will be discussed in detail in the forthcoming sections.

2.1. Be thin!

Since the 1960s, the number of obese people have doubled (even quadrupled in some regions). Mankind has never been this fat. Despite all the health measures put in place in the last one hundred years, more and more people are becoming overweight. The situation is deteriorating, as patients are increasingly younger and obesity is on the rise (Caballero 2007: 1-5; Wang – Lobstein 2006: 11-25). According to the data of IASO/IOTF (2010), there are around 1 billion people who are overweight (BMI 25–30) and 475 million people are obese (BMI >30). 200 million school-age children are overweight, and 20-25% of these children suffer from adiposity. By the turn of the millennium, 3% of the American population (i.e., 6 million people) had more than 50 kilograms of excess weight (Koplon – Dietz 1999). Between 1980 and 2000, the fuel consumption of flight companies has increased by 1.3 billion litres, due to the additional cost of carrying overweight people. Around 5-7% of health expenses are used to treat the consequences of obesity, which cost 70 trillion euros in the European Union, and 240 billion dollars in the USA (Fox 1999). On the other hand, obese people spend 33 billion dollars on various types of weight-loss programs (Jablon 1999). Obesity has become the cause of numerous diseases and it has also increased the mortality rate in the USA: it is the primary cause of death for 280,000 Americans each year (Price 2000). According to the WHO (2003), obesity is the main cause of diseases that spread globally. Thus, one of the biggest medical challenges is the prevention and treatment of corpulence, and acting against the problem is thus essential.

Contemporary mass media offers an important platform for advertising weight management. There are sources providing an account of successful attempts that changed obese people's health behaviors (Carter-Edwards et al. 2009; Kite et al. 2018). Social media and blogging may also serve as positive channels in terms of trading educational information about a healthy lifestyle (Evans et al. 2016; Jane et al. 2015:509). However, there are numerous

examples when the media tries to convince the consumers to reach a perfect body shape by using pressurising messages. We have collected more than 1,200 diet commercials in Hungary so far. The population of the country is less than 10 million; thus, one out of every 8,000 people can get a personalized diet plan. There are no other services advertised as much as diet programs. The industrialization of dieting has begun in the late 1960s. The number of advertisements related to diet increased by 70% in developed countries between 1968 and 1972. In 1979, 60 articles were published in the tabloids about dieting in the USA. In 1980, this number changed to 66 articles per month (Wolf 1990: 202-243). In 1984, there were already 300 books about dieting on the American market. The media implies that being thin means success, while being fat causes failure and depression. The goal is not to be healthy, but to be attractive. Out of the 1,200 analysed diet commercials only 120 took health issues into consideration, while the rest completely omitted them. The number of commercials about diets implies that everyone is capable of treating obesity, whereas the worsening epidemiological data proves just the opposite.

Until the beginning of the 20th century, full-figured women were the beauty idols. Only the waist was supposed to remain slim, causing serious health issues (due to the pressure of the tight-laced corset upon the organs). On the brink of the 20th century, Lady Constance Lytton (1869-1923) was sentenced for imprisonment, because she participated in a suffragette demonstration. She was 'stuffed' eight times in the prison because of her hunger strike. Since then, eating disorders and hunger strikes have become a form of fight for equality (Orbach 1993). The hunger strike of Lady Lytton serves as a model for young women.

This new trend is observable in contemporary art: Modigliani started to paint women with a tall, thin body shape. Dieting was drastic and harmful back then: intestinal parasites were put into the digestive tract.

In the 1920s physical appearance and beauty became a source of competition: Miss America was the first international beauty contest in 1921 (Wolf 1990: 202-243), followed by Miss Europe (1928), Miss Universe (1951) and Miss World (1951). Beauty contests shaped beauty idols, whose images made a huge impact on the masses through the media.

A new media platform, the radio, appeared in Philadelphia, in the early 1920s. Mass culture spread in a way like never before. There were only dainty programs – sponsored by perfumeries- in the first decade of radio broadcasting (the so-called 'soap opera' expression comes from these times). The new media and beauty industry thus has similar roots.

Being thin is in contrast with fertility; thus, it symbolizes a relief from reproduction (Orbach 1993). Women rebel against their 'traditional roles': raising the child, preparing food.

As a sign of this phenomenon, tabloids depicted women in aprons – to symbolize housework – less often in 1986 than 10 years before (Brabant – Mooney 1986: 141-48). Women would like to be free of the housewife stigma (Bordo 1990: 83).

At the end of the 1960s, the role model for women was Twiggy: the extremely skinny, successful and wealthy model. A lot of people would like to remain in their teenage years, both mentally and physically. Getting old is not a merit but a disgrace. The new beauty idol is also an adolescent: tall and anorexic. Mothers would like to look after their daughters and not vice versa. Twiggy seems to reincarnate in the Eating Disorder Fashion line, which uses jewellery, clothes and body painting to imitate ribs and spines, mimicking the morphological characteristics of anorexic patients.

This skinny cult extends through the new media channel. Patients suffering from anorexia and bulimia gather in forums, 'e-sects': 'Proana '(proanorexia), 'Promia' (probulimia), 'Proed' (pro eating disorders), etc. These pages want to present dieting as a potential lifestyle and to downplay – the potentially fatal – dangers of anorexia. The members give emotional and cognitive support to each other during – the more drastic– fasting. They provide strategic pieces of advice about how to be prepared against outsiders (family, teachers, doctors, peers) who try to exert influence on them; what to lie to the doctors; which are those meals that can be easily thrown up, etc. They also post images with the 'Thinspiration' tag on social media ('Thinspiration' is a blend, combined from: *thin* and *inspiration*) (Wilson et al. 2006: 1635).

12.6% of the girls and 5.9% of the boys between the age of 13-17, and 35.5% of patients suffering from an eating disorder visit Proana pages (Custers – Van den Buck 2009: 214-19; Wilson et al. 2006:1635). Visiting these pages decreases self-esteem, 'helps' to create a negative body image, increases the feeling of being overweight, induces diet plans and promotes new diet programs (Bardone-Cone – Cass 2007: 537-48).

Proana pages emerged at the end of the 1990s. Optenet, a company which deals with computer security and web filters, has carried out research on how various contents on the internet have developed. Child pornography increased by 18%, pages on drugs by 62%, pages supporting racism by 70%. However, none of the sites mentioned above can compete with the pages praising eating disorders: Proana and Promia sites increased by 470% (Optenet 2008). Controversial tendencies could be observed in the last couple of years: while from September 2009 to December 2010, the number of Proana sites has declined dramatically (from 1,300,000 to 71,200); there is now a steady increase again.

2.2. Consume and eat!

The essence of consumer society is consuming itself. It will be able to survive until the desire for consumption is sustainable. Media messages generate permanent dissatisfaction, as commercials never focus on the products that customers already have, but what they lack. There is always a newer and better product that the consumer does not own. If a meal is only delicious, it is not desirable enough. Commercials add extra value to food (and to other products as well). Some of these extra features or 'advantages' that appear when eating these foods are success, strength, health, love, happiness, etc. This way, meals that have these added values sell better (and can be sold at a higher price). The 'Buy and eat!' message is effective; 70% of food shopping is impulsive and not planned (Weinberg – Gottwald 1982: 48-87; Rook 1987: 189-99).

Similarly to the dieting market, the cookbook market is also thriving: 5-700 types of cookbooks are currently available on the Hungarian book market alone. There were 18,000 cookbooks in Louis Szathmary's culinary library in Chicago in the 1980s. Cooking shows and gastronomy-themed programs blossom on almost every media platform.

In James Vicary's experiment, who was a marketing expert in the 1950s, messages flashed imperceptibly on screen: 'Eat popcorn!', 'Drink coke!'. The participants ate 57.7% more popcorn and drank 18.1% more Coke after this experiment. The stimulation was subliminal and could not be recognized due to the short exposure, yet it influenced the subjects' behaviour. Hunger and thirst can be triggered without even noticing the manipulation (Pratkanis – Aronson 1992: 152-7). Global obesity, a new phenomenon, emerged in the 1960s; later on, it was renamed glObesity by the WHO in 2000. Although it turned out that Vicary was a fraud, subliminal commercials are banned in several countries. Any inner or external cue can serve as subliminal and alter behaviour without people noticing it. Appetite emerges seemingly with no reason. The influence of food commercials is beyond consciousness and makes an unintentional impact on the audience (Bargh – Morsella 2008: 73-9). Subliminal effects (e.g., a smiling face, words about hunger) increase the amounts of consumption (Strahan et al. 2002: 556; Winkielman et al. 2005: 121-35). Food commercials feature attractive models, who experience positive feelings during the act of eating (Folta et al. 2006: 244-8; Harrison – Marske 2005: 1568). Presenting desirable food even when one is not hungry enhances food intake (Cornell et al. 1989: 695-704; Lowe – Butryn 2007: 432-9). Some external cues also influence food consumption: the size and shape of packaging, the diversity of food, portion sizes, etc. (Wansink 2006).

It came to light in the 1980s that children are the optimal target audience. This was the time when TV channels for kids appeared, which covered the expenses with commercials. Companies place 12 billion commercials on the market of children's products. Three quarters of these commercials advertise food. An average child sees approximately 40,000 food commercials a year, out of which 75% are about "junk" food. The nutritive value of junk food is close to zero, but it has a high caloric density. The ingredient list typically contains sugar, salt, additives, colouring substances and preservatives (Powell et al. 2007: 576). Advertising for children is profitable for three reasons. First, they are independent consumers. Second, as 'advisors', they persuade parents to consume certain products. Children are present during shopping and are more likely to remember the commercials than their parents, and they try to have an effect (by using various 'techniques': begging, beseeching, or refusing food) on decisions made about nutrition. Third, there is at least 60 years of consumption ahead of them. Children believe in what they hear in commercials: that they cannot be healthy or happy if they do not eat certain foods. Significant food companies spend five times more on advertising their products than what WHO spends on popularizing healthy diets (McNeal 1992; Acuff 1997; Sapena 2005).

2.3. Be afraid of food!

In the 1980 s, sex became the centre of anxiety due to the AIDS epidemic, whereas in the 1990 s, food phobia took over this 'role'. Year after year, new phobias appear (fat, sugar, carbohydrate, cholesterol, gluten, lactose, etc.) Between 1994 and 1997, the market of low-fat products increased from 18 to 30 billion dollars (Smith – Clurman 1997: 278). Phobias related to animal products have become more frequent in the last 150 years (Atkins 2008). Concerns about food are well reflected in the media (which also generates phobias). In 2006 in the German press the word 'food scandal' was mentioned more times than the war in Iraq.

These worries have a real basis however, 70% of harmful substances (around one bucket per year per capita) get into the human body with food. The fact that ingredients are genetically modified heightens the anxiety (Evans et al. 2010: 390-3).

Food scandals have different communication layers. The reader wants to be terrified and the media needs the reader. Food scandals satisfy both the reader's and the media's needs. There is a high demand for scandals. Tabloids use them to keep their audience. Food scandals are more fascinating, as their subject is being consumed. From time to time, reports appear on toxic foods. The literature has even given a name for food with uncertain origins: UFO (Unidentified

Food Objects) (Grimm 1997). Google gives 438 million results for the expression 'food scandal'.

Food scandals entail a huge public interest; however, the results are usually not published. The number of cases revealed is much higher than the rate of mass diseases. Food scandals are thus rather virtual dangers. On the one hand, it means that the exposure is successful; on the other hand, the 'arena-effect' of the media enlarges the risks.

Several members of the food industry are trying to gain ground on the market with the help of the media. It happened in 1992 for the first time that Americans ate more beef than poultry (Schlosser 2001: 141-4). The market background of the phenomenon is Bovine Spongiform Encephalopathy (BSE), which generated huge panic. From 1997, bird flu (H5N1) caused worldwide panic. The human version of BSE caused the death of around 275 people per year (Centers for Disease Control and Prevention 2015). The probability that someone would die from BSE is 1.5 to 1,000,000. 633 people have been infected with bird flu in the world and 377 of them died (WHO 2013). The H5N1 virus developed from ill poultry in the 1970s, but it did not cause an epidemic, nor did it have a huge effect on the media or the people.

Food scandals have spread quickly since the 1990s and they intensify food phobias. Orthorexia nervosa was first reported twenty years ago (Bratman 1997). Orthorexia is a rapidly spreading attitude of eating, also being referred to as health food addiction. The patient is apt to do missionary work, dogmatically believes in the tenets (approved by him/her) and feels the urge to initiate others into it, too. The dogmatic person has a mission: to be the ordained pastor of his/her 'eating religion'. Such people submit their life to the sacred mission, and sacrifice themselves in the name of health. At the end of the 20th century, rigid beliefs about reform eating (as well as eating sects on the internet) started to spread under the influence of media-marketing. The number of dietary plans, detoxification practices, diets and fasting are now numerous and impossible to follow.

2.4.Food will disappear!

The history of humanity suggests that it is best to eat everything until it is possible to do so. Mankind is apt to eat as in time of a crisis, even when this would not be necessary. Consumer society made huge food supplies accessible (regardless of the seasons). Previous generations had experienced famine, and the fear of starvation is present as a subconscious transgenerative impulse. According to the Food and Agriculture Association (FAO), in 2006, the price of food rose by 12%, in 2008, this rate was 24% and in the first half of 2009, it was approximately 50%. According to the United Nations Food and Agriculture Organization (2012), around 870 million

people suffered from undernourishment between 2010 and 2012. Nearly all (around 852 million people) of starving people live in developing countries (FAO 2012). Out of the 300 million inhabitants of the USA, 28 million do not have the income to cover their daily meal. 50% of infant mortality (5 million deaths per year) is related to undernourishment. One child dies every six seconds because of starvation (Black et al. 2003: 2226).

The high number of starving people can be attributed to several causes, such as climate change (which is the primary cause) and bio power generation (which is more profitable than food production). In 2008, the UN suggested placing a restraint on bio-diesel production as food prices rose due to the alternative use of lands.

An average English woman spends 31 years of her life on a diet. Constant dieting (restrictive eating) indicates starvation to the human body, and the mental processes act accordingly. Famine is still a real problem for women in contemporary society, despite the abundance of consumption.

2.5. You are not feminine/ masculine enough!

It is the media that projects beauty idols. Models prepare for hours before public appearances, and only one or two photos are chosen from the hundreds made (which are also manipulated digitally). It is impossible to live up to the 'standard', to look like a model. 98% of women do not feel attractive, and only 2% of them chose the word 'beautiful' to describe their appearance (Etcoff et al. 2004).

The image of 'the ideal man' has also changed a lot and is impossible to reach. If an average boy wants to look like this image, he has to spend his life in the gym. The media had a key role in the emergence of muscle dysmorphia (which targets mostly men). The patient is terrified that he is not masculine enough, which he tries to remedy via body building (Pope et al. 1993: 406-409). As he is never confident about his look, he wears big coats – even in the summer – and is ashamed to go to the beach. Unsupervised steroid use has serious consequences.

3. Pathogenic media messages

Some of the message categories are congruent; one follows from the other, whereas there are some pairs which form double binds. Double bind is a kind of multilevel demand (message) in which one of the levels orders a certain action and the same action is forbidden by another level of the messages at the same time. There is no adequate reaction to this, as either action will violate one of the preconditions. Double bind communication can become harmful when the

sender of the inconsistent message is relevant. This is the case if a caregiver uses double bind communication during language acquisition (verbally prescribes but with his/her meta-communication forbids the same action), as the developing self-consciousness of the child will suffer from confusion: one part of the consciousness will answer to the verbal message while the other will react to the non-verbal. This confusion in communication will contribute to the emergence of schizophrenia (or other mental disorders) (Bateson et al. 1956: 251-64).

The media – replacing the caregiver's role – serves also as a double bind communicator and manipulates hunger signals. On one hand, it 'prescribes' a thin body, but on the other hand, it also orders to 'Eat and consume!' The double- bind message is permanent: *Think about food but stay skinny!'* Nevertheless, the tension generated by double bind communication can be eased by any of the following methods:

- *Exclusion of one of the communication channels:* In the case of anorexia, the patient ignores the urge to eat and only focuses on the 'Be thin!' message.
- *Exclusion of one of the messages:* In the case of orthorexia, the patient is not willing to acknowledge the messages which are against the preferred food and are in favour of the rejected one.
- *Dissociation:* Regulations are split. In the case of bulimia, 3 dissociated selves control behaviour: the dieting self, the devouring self and the vomiting self. Depending on the state of the illness, the patient fulfils different orders.

Media messages about food are multi-layered and contradictory on many levels, which means that it would be more appropriate to talk about multiple bind communication. It disturbs the regulation of eating on several levels (see Figure 1).

Figure 1. Contradictory messages about food (multiple bind communication) in the media.
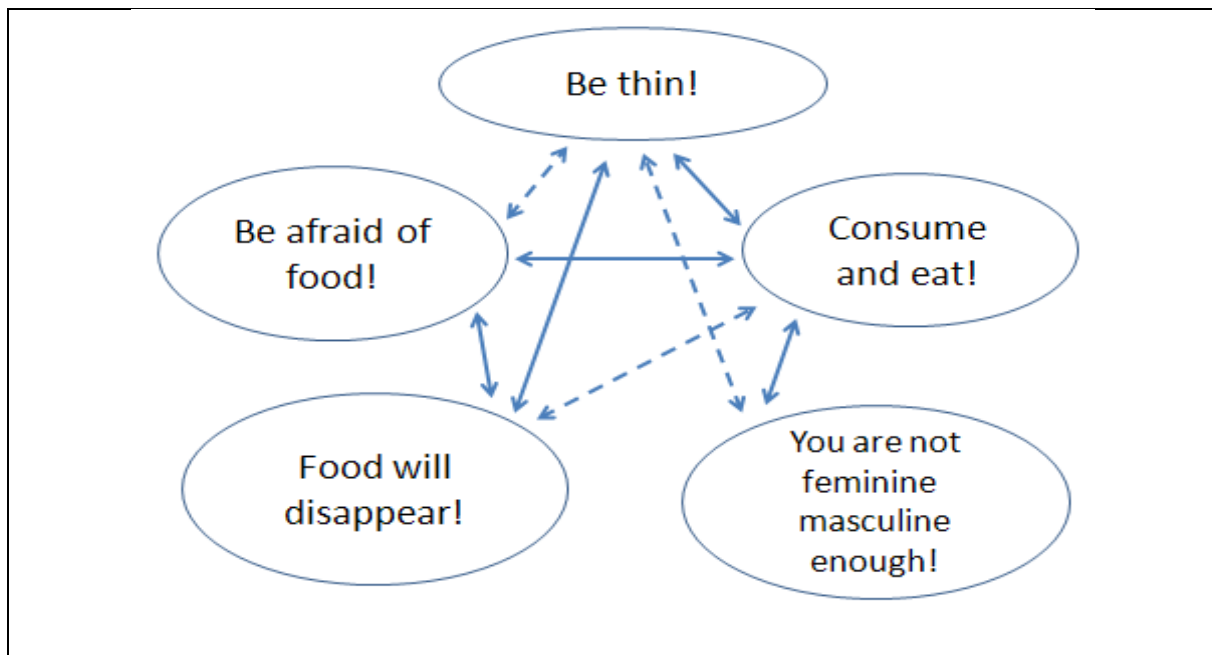
Media-marketing messages make an impact without the receiver realizing this. Most of the messages are encoded visually, metaphorically, symbolically and subliminally, without the person noticing, verbalizing, understanding, and in the end, being defended against them (Packard 1964). Rational suggestions from the health industry, via doctors and dieticians, are incapable of overwriting this psychological level.

4. Taste and price of a message: Gastro semantic experiments

We asked 200 students to rank the importance of different consuming aspects of mineral waters. The participants were asked to taste three cups of mineral waters, which were filled from three different branded plastic bottles. 98.5% of the subjects were able to rank the taste of the waters, while 1.5% of them did not notice any difference in the taste, although the bottles contained the same tap water. We filled the bottles before the experiment. The brand labels of the bottles were the only difference. The taste experience of the tongue senses were overwritten by the messages, thoughts and beliefs concerning the beverage brand. The previous, conscious ranking of the determinants of consumption were just the opposite of the real determinant of buying. The brand is the most important factor of buying, while it seems to be the most irrelevant factor in conscious answering. (Note that knowledge concerning gastro-psychology mostly relies on self-reported questionnaires. However, determinants are largely subliminal, belonging to the blind spot of self-awareness, especially when connected to mental disorders.) Based on not

sufficiently thorough research, one might think that the most important factor for consumer decision is the taste of the beverage. However, the brand is a precognitive message, which determines the taste of drinks, much more than the physiological aspect of the taste.

Subjects were asked how much they would pay for the mineral waters, and would they be willing to pay twice as much for the most delicious water than the worst brand. We used the Osgood semantic differential scale to measure the subliminal message and semantic structure of investigated brands, on a quantitative level. A semantic comparison of mineral waters was made by the application of quantitative SWOT analysis. Three main differences were found: The consumed brand is (1) thought to be happier (affective dimensions are more intense); (2) well-known (more powerful on the cognitive axis, because it is advertised in commercials); (3) thought to be more expensive than the refused brands. Strength and weakness show the market opportunities. It would be beneficial for the competitiveness of the less-consumed brand to increase the price. The extra revenue could be spent on advertising (awareness-raising). Finally, a smiling face should be put on the packaging (affection induction), as in case of the preferred brand.

Nowadays, consumers do not only buy beverages to satisfy their thirst, but also to achieve a pleasant feeling. Screening the blind spot of a brand and affecting alterations could increase the attractiveness and the value of the brand. The brand and the image contain messages that are able to determine the taste experience. Kurt Lewin (1943) has already drawn attention in his classic eating experiment to the fact that soldiers of World War II were more willing to eat animal liver if it was called *"the food of the heroic patriots",* than when it was called "*the food of poor migrants".*

5. Conclusions

Media marketing studies how to reach the masses. Using an appropriate message would help in spreading (healthcare) knowledge to people. The scientific sphere should use the power of media and information technology more efficiently.

A new concept of a mobile application seems to be taking form. It has medical, social, economic and national-security benefits. The information technology system decodes the bar codes or QR codes on the packaging of food and sends information to consumers about the ingredients and origins. The system sums up the data and – based on personal BMI and other characteristics of the person's eating habits (religion; preferences like vegetarianism; illnesses

such as diabetes, food allergy or intolerance; and other dietary prescriptions) – proposes ideas about a healthy diet, what to eat and what to avoid. The gadget could also forecast –based on the quantity and quality of the food being eaten – the possible future illnesses and BMI (if the person does not change his/her eating habits). The system would make the flow of information between the producer and consumer possible. This flow in information about personal consumption would be useful in the prospective-longitudinal follow-up of diseases related to nutrition. It would also be useful in the case of food security problems and would make possible the identification and personal, direct alert of the consumer if dangerous food is being eaten (Forgács et al. 2013: 65-75; Carter et al. 2013: 32).

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