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Eating healthy to impress: How conspicuous consumption, perceived self-control motivation, and descriptive normative influence determine functional food choices

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ABSTRACT

Functional foods are promoted as products that provide specific health benefits beyond basic nutrition. While a number of studies show that the motivation behind the purchase of such products is oriented towards health concerns, we argue that consumers' choice of functional food can also be driven by less health-related hedonic or social motives, such as a tendency for indulgence vs. self-control or the motivation to impress and show off. This proposition has not been systematically and empirically tested before. Hence, the aim of the present study is to reveal the relationship between conspicuous consumption, perceived self-control motivation, susceptibility to descriptive normative influence and the consumption of functional foods. Our results ($N = 900$) suggest that conspicuous consumption and susceptibility to descriptive normative influence are positively associated with functional food distinctiveness evaluation while perceived self-control motivation is negatively associated with such evaluation. Moreover, results further revealed the indirect effects of susceptibility to descriptive normative influence, conspicuous consumption and perceived self-control motivation on self-reported purchase rates of functional foods via the functional food distinctiveness evaluation. The findings support the relevance of social and hedonic motives for policy makers and marketers in the functional foods industry for marketing and health promotion.

1. Introduction

Recent trends in the food industry show that functional foods have become increasingly popular around the world and are becoming a part of our daily diet (Kaur & Singh, 2017). Food companies are producing new products enriched with 'functional' compounds such as probiotics or vitamins with promising health benefits for consumers. Consequently, the global functional food market has expanded dramatically over the past decade and is estimated to grow steadily and reach USD 255.10 billion by 2024 (Grand View Research, Inc., 2016), making the competition between producers to win a consumer even more intense (Annunziata & Vecchio, 2013; Hassan, 2011). This growth is led not only by innovation in the food industry, but also by changing lifestyles and increasing consumer awareness regarding their own health and the nutritional benefits of food. Given that health is becoming an

increasingly important personal and societal value, it is not surprising that consumers have started to pay more attention to the health benefits of food (Goetzke & Spiller, 2014; Marette, Roosen, Blanchemanche, & Feinblatt-Meleze, 2010; Vecchio, Van Loo, & Annunziata, 2016).

Functional foods are defined as foods that have beneficial effects on bodily functions and help to improve a state of health and well-being and/or reduce the risk of disease (Diplock et al., 1999), for example, yoghurts enriched with probiotics or cholesterol-lowering spreads. As functional foods promise consumers health benefits, this leads to an assumption that a salient health motivation is the main driver behind choosing these products. Numerous studies have concentrated on explaining this relationship between health orientation and functional food consumption; however, the results have been mixed (Kaur & Singh, 2017).

A number of studies show that consumer health consciousness,

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health information and the perceived healthiness of a product are positively related to functional food choices and evaluations (e.g., *Bech-Larsen & Grunert, 2003; Brecic et al., 2014; Chen, 2011; Szakály, Szente, Kövér, Polereczki, & Szigeti, 2012; Urala & Lähteenmäki, 2007*). However, other streams of research suggest that functional foods are perceived with skepticism, as untrustworthy, risk-related products (*Frewer, Scholderer, & Lambert, 2003; Gineikiene, Kiudyte, & Degutis, 2017; Landström, Hursti, & Magnusson, 2009*). Such products are perceived as disturbing the balance and perfection of original, unprocessed, natural food (*Devcich, Pedersen, & Petrie, 2007; Jonas & Beckmann, 1998*); and the artificially produced healthiness of functional food is not perceived as 'genuine' healthiness (*Niva, 2007*). Indeed, functional food might not necessarily be used only in the case of specific health concerns (*Niva, 2006*) and indeed consumption of such foods has been linked to a sedentary and unhealthy lifestyle (*Landström et al., 2009*).

More specifically, extant research argues that functional foods offer consumers a shortcut to health – a quick and convenient way to meet the moral obligations to stay fit (*Jauho & Niva, 2013*) and seek a healthier life without inconvenient dietary changes (*Cornish, 2012*), which would require a lot of effort, restraint, and self-control (*Koteyko, 2010; Niva, 2007*). However, with the exception of several exploratory qualitative investigations (e.g., *Landström et al., 2009; Niva, 2007*), which revealed that functional foods are understood both in the wider context of healthiness and in the context of the social organization, hedonic experience and morality of eating, none of these studies have empirically and systematically tested these notions. If health motivation is not always the main driver influencing people to choose food which offers health benefits, what other motives might drive consumer choices? In this project we offer an additional explanation of preferences for functional food – that another set of motives of a more social and hedonic nature may also underlie functional food choices. That is, because of their innovative nature, consuming these functional food products may also be a form of social signaling among peers. Therefore, we would expect consumers who care more about what their reference group thinks to evaluate these products more favorably in terms of distinctiveness and uniqueness and choose them more often. Similarly, we also expect consumers who want to signal status through consumption to evaluate functional foods' distinctiveness more favorably and purchase them more often. In addition, this distinctiveness may also serve a heuristic function for consumers with lower levels of perceived self-control motivation, (i.e., a general hedonic motive to indulge or exert self-control, see *Tangney, Baumeister, & Boone, 2004*). These consumers might evaluate functional foods' distinctiveness more positively and choose such products more often as a quicker and less effortful solution rather than committing to a more balanced diet or effortful exercising. Thus, the evaluation of functional foods' distinctiveness assists us in setting functional foods apart from conventional foods more clearly.

Indeed, the literature provides evidence that food consumption is a social matter and has symbolic significance by expressing one's identity or signaling a certain lifestyle (*Niva, 2006, 2007*). Functional foods, which are now perceived as a socially and culturally shaped phenomenon, help consumers to form positive impressions in the eyes of other people (*Goetzke, Nitzko, & Spiller, 2014; Urala & Lähteenmäki, 2004*) and achieve a desirable image as they usually seek identity-relevant items in order to signal their identity to others (*Wicklund & Gollwitzer, 1981*). By choosing functional products, consumers define themselves and extend their identities (*Belk, 1988*), thereby signaling to others their modern, healthy-minded orientation and habits.

To sum up, this study offers a systematic understanding of how social and hedonic motives are related to functional food choices. We show that previously unexplored social and hedonic factors beyond health-related motivation are associated with functional food preferences. First, we suggest that conspicuous consumption, which reflects a tendency to show off and impress others, is linked with

functional food choices, as purchasing these items not only demonstrates one's status, but also signals that a person cares about his or her health and diet. Second, we show that susceptibility to descriptive normative influence, i.e., consumers' sensitivity to the influence of other people in order to be liked and accepted, is also associated with functional food choices. Third, by evaluating the role of perceived self-control motivation, this study offers a deeper understanding, showing that consumers with lower perceived self-control motivation are more prone to use functional food. In addition, we analyze social and hedonic motives systematically together with health-related motivation, i.e., consumer health consciousness, which enables us to evaluate the relative role of different motives in consumer functional food preferences. Moreover, unlike in most of the previous studies on functional food preferences, this study is focused on self-reported purchase behavior rather than intended behavior or attitudes.

2. Conceptual background

2.1. Health consciousness

Health consciousness assesses the degree to which a person plays an active role in maintaining his or her health (*Gould, 1988*). Health-conscious consumers are aware of and concerned about their health. Moreover, they are motivated to improve or sustain their state of well-being by pursuing healthy behaviors, such as consuming healthy food (*Kraft & Goodell, 1993; Mai & Hoffmann, 2012*). Previous research shows that health consciousness stimulates preventive health care (*Jayanti & Burns, 1998*), positive attitude towards organic food (*Hughner, McDonagh, Prothero, Shultz, & Stanton, 2007*), purchase intentions (*Magnusson, Arvola, Hursti, Åberg, & Sjöden, 2003*), and increases focus on the health-related properties of food products (*Mai & Hoffmann, 2012*).

However, prior research findings on perceived healthiness and the use of functional food are mixed. Numerous studies show that consumer health consciousness, health information and perceived product healthiness are positively related to functional food choices and evaluations (e.g., *Bech-Larsen & Grunert, 2003; Brecic et al., 2014; Chen, 2011; Szakály et al., 2012; Urala & Lähteenmäki, 2007*). However, other streams of research suggest that functional foods are perceived with skepticism, as untrustworthy, risk-related products (*Frewer et al., 2003; Gineikiene et al., 2017; Landström et al., 2009*).

Although the relationship between health consciousness and attitude toward functional food is mixed, we nonetheless propose that because health-conscious consumers are more motivated to improve and maintain their health by choosing potentially healthier food products, they will also evaluate functional foods more positively and will have higher self-reported purchase rates of functional foods. Thus, the following hypotheses is proposed:

Hypothesis 1. Health consciousness is positively related to functional food distinctiveness evaluation

Hypothesis 2. Health consciousness is positively related to self-reported purchase rates of functional food

2.2. Conspicuous consumption

Food consumption is closely related to our social context as food through its symbolic value can help to successfully reveal our identities and demonstrate who we are and where we belong within society (*Landström et al., 2009*). Conspicuous consumption, which refers to spending money in order to gain status and impress others (*Griskevicius et al., 2007; Veblen, 1899*), is a mechanism through which consumers signal their desired identities and values. For a conspicuous consumer, the satisfaction derived from any purchase comes not from its value in use, but from their audience's reaction to it (*Mason, 1984*). Literature

suggests that a high socioeconomic position is related to eating 'modern', high-status foods, while a lower position is associated with more traditional, lower-status foods (Roos, Lahelma, Virtanen, Prättälä, & Pietinen, 1998). In line with these suggestions, the results of Niva's (2006) study showed that consumption of functional foods is associated with high socioeconomic status. Similarly, functional food consumption is a less-demanding way than dieting, for example, for consumers to gain reward through food choices (Urala & Lähteenmäki, 2003) and it helps to form positive impressions in the eyes of other people (Urala & Lähteenmäki, 2004). In line with this reasoning, some studies have shown that functional food consumers indeed generate different impressions compared to consumers of conventional food products: buyers of functional foods are seen as being more innovative than consumers of conventional foods (Saher, Arvola, Lindeman, & Lähteenmäki, 2004). When choosing functional food products, consumers can achieve a modern and positive impression of themselves and purchasing these items signals that one cares about his or her health and nutrition. Therefore, if functional food can offer consumers a desirable image and higher status, the stronger a consumer's tendency for conspicuous consumption is, the more positive the attitude towards functional food distinctiveness and the higher the self-reported purchase rates of such products should be. Thus, the following hypotheses are proposed:

Hypothesis 3. Conspicuous consumption is positively related to functional food distinctiveness evaluation

Hypothesis 4. Conspicuous consumption is positively related to self-reported purchase rates of functional food

2.3. Perceived self-control motivation

A number of studies have suggested that functional foods may be consumed by people who lead a sedentary lifestyle (e.g., Landström et al., 2009; Niva, 2007). However, these suggestions have mostly remained at the theoretical level and have not been systematically tested before. A few studies looked at perceived behavioral control in related contexts, e.g., willingness to buy a specific food product enriched with omega-3 (O'Connor & White, 2010; Patch, Tapsell, & Williams, 2005) and we aim to extend this work by focusing on an individual's perceived self-control motivation, which represents a form of generic hedonic motivation. While behavioral control reflects a sense of self-efficacy or mastery and is related to a person's ability to choose healthier or less healthy foods, self-control is related with a person's motivation to do so. If sedentary consumers do indeed prefer functional foods, this might be related to their perceived levels of self-control motivation, which refers to a person's capacity to override and inhibit socially unacceptable and undesirable impulses and short term temptations and to alter and regulate one's behavior, thoughts, and emotions (Baumeister, Heatherton, & Tice, 1994; Tangney et al., 2004).

In general, healthy eating is related to self-discipline and individuals need to exert self-control to resist unhealthy foods (Bech-Larsen & Grunert, 2003; Koteyko, 2010; Niva, 2007). If deviations from a well-balanced diet are closely connected with loss of control (Koteyko, 2010), functional foods offer an easier alternative in order to pursue a healthier life without changing eating habits (e.g., Bech-Larsen & Grunert, 2003; Cornish, 2012). Indeed, some studies show that consumers often use functional foods to mitigate any guilt resulting from unhealthy eating patterns (Cornish, 2012). Functional foods are even considered to mislead people into believing in simple solutions (Landström et al., 2009) and distract them from making long-term changes (Cornish, 2012). Therefore, functional foods may be used as a means to falsely compensate for a sedentary lifestyle and unhealthy nutrition (Landström et al., 2009; de Jong, Ocké, Branderhorst, & Friele, 2003) instead of leading to a healthy lifestyle with a balanced diet and exercise, which requires a high amount of self-control. Consumers with lower levels of perceived self-control motivation may more

easily turn to these promising solutions, thereby meeting the moral obligation to try to stay fit (Jauho & Niva, 2013). Therefore, if functional food offers an easier solution to pursue a healthier lifestyle, the lower the consumer's level of perceived self-control motivation, the more positive the attitude towards functional food should be. Moreover, the likelihood of self-reported purchase rates of such products should be higher, too. Therefore, this leads us to the following hypotheses:

Hypothesis 5. Perceived self-control motivation is negatively related to functional food distinctiveness evaluation

Hypothesis 6. Perceived self-control motivation is negatively related to self-reported purchase rate of functional food

2.4. Susceptibility to descriptive normative influence

Consumer susceptibility to normative influence is 'the need to identify or enhance one's image with significant others through the acquisition and use of products and brands, and the willingness to conform to the expectations of others regarding purchase decisions' (Bearden, Netemeyer, & Teel, 1989, p. 474). Generally, interpersonal influences are a significant explanatory variable in many consumer contexts (Kastanakis & Balabanis, 2012). Consumer choices in various situations are susceptible to the influence of reference groups, which are used as standards of comparison for self-appraisal or as a source of personal norms and attitudes (Batra, Homer, & Kahle, 2001).

As discussed above, functional foods are perceived as a socially and culturally shaped phenomenon that holds the desired symbolic significance (Niva, 2007). The results of prior research show that functional food consumption is related to positive social well-being in the context of friends and it can be assumed that consumers of functional foods attribute a high importance to social relationships (Goetzke et al., 2014). A few previous studies aimed to analyze the influence of subjective norms in the context of functional food (Patch et al., 2005; O'Connor & White, 2010). However, we aim to focus not on how people are susceptible to injunctive norms, but on descriptive norms. While injunctive norms reflect the extent to which individuals assess what individuals who are close to them approve or disapprove of, and the extent to which they are willing to conform to their values, descriptive norms reflect the extent to which one perceives a substantial number of other people making similar choices themselves, and using this observation as a motivation for one's own choices and behavior (Cialdini, Kallgren, & Reno, 1991). Indeed, injunctive and descriptive norms represent separate sources of motivation and usually have independent influences on behavior (Reno, Cialdini, & Kallgren, 1993; Smith et al., 2012). As functional food is becoming a popular choice, conveying the desirable image of a modern and healthy-minded person, the more susceptible consumers are to descriptive normative influence and the more they care what their reference groups think, the more positive their attitude towards functional foods is, and the higher their likelihood of buying these foods should be. Therefore, the following hypotheses are suggested:

Hypothesis 7. Descriptive normative susceptibility to peer influence is positively related to functional food distinctiveness evaluation

Hypothesis 8. Descriptive normative susceptibility to peer influence is positively related to self-reported purchase rate of functional food

Based on the literature review and hypotheses developed, the conceptual model of the current study is presented below (see Fig. 1).

3. Methodology

3.1. Sample

To achieve the research objectives, a total of 900 consumers in a

Fig. 1. Conceptual model.

medium-sized European country were surveyed. Data were collected in Lithuania¹ using an online panel consisting of consumers of 15–74 years of age. The panel was created and is maintained by a leading professional research agency which recruits more than 90% of their panelists over the telephone and continually performs certified quality assurance procedures. To ensure a nationally representative sample, we used gender, age, and income quotas which represented the composition of the Lithuanian population. The study was conducted between March and May of 2017.

3.2. Questionnaire

We used well-established scales for testing our hypotheses. First, we asked participants to select brands purchased during the past year from a list which included functional and filler products from the main food and drink categories: dairy products, baked goods, cereals, beverages, etc. The list of products (see [appendix 1](#)) was generated after analyzing the sales data of brands in different product categories in Lithuania ([Euromonitor, 2016](#)) and in total 18 functional food products were selected. We calculated the sum of all functional foods bought during the past year for each respondent and the final score ranged from 0 to 18 (e.g., if a person bought 5 functional food products, he or she received a score of 5). By assessing the sum of all functional food products purchased during the respective period, we arrived at our *self-reported purchase rate of functional food* measure (see [Gineikiene and Diamantopoulos \(2017\)](#) for a similar procedure). After having defined what functional food is, we asked participants to evaluate functional

food and obtained our *functional food distinctiveness evaluation* measure using a four-item 7-point Likert scale ranging from 1 = ‘strongly disagree’, 7 = ‘strongly agree’ ([Christodoulides, Michaelidou, & Li, 2009](#)) (sample item: I think functional food is distinctive, see [Table 1](#) for all items), with higher scores reflecting a more favorable evaluation of functional foods. The term ‘functional food’ was described as food with added ingredients (e.g., vitamins, minerals or active cultures) which has beneficial effects on bodily functions and helps to improve state of health and well-being.

Conspicuous consumption was measured using the scale developed by [Griskevicius et al. \(2007\)](#). Participants were asked to imagine that they had €5000 in the bank. Next, they indicated how much they were willing to pay for five items, each signaling one's status (e.g., watch, vacation, etc.). Each item was measured on an 11-point scale, with each point corresponding to a specific amount in Euro (a sample item: How much would you be willing to pay for a watch? Answer: ranging from 25 to 275 Euro). The higher score indicated a stronger tendency for conspicuous consumption.

To measure *susceptibility to descriptive normative influence*, a nine-item 7-point Likert scale ranging from 1 = ‘strongly disagree’, 7 = ‘strongly agree’ was selected ([Bearden et al., 1989](#)) (a sample item: To make sure I buy the right product or brand, I often observe what others are buying and using), with higher scores reflecting a stronger susceptibility to descriptive normative influence.

Perceived self-control motivation was operationalized using a thirteen-item 5-point scale ranging from 1 = ‘not at all like me’ to 5 = ‘very much like me’ where participants were asked to indicate how much each of the following statements reflected how they typically are ([Tangney et al., 2004](#)) (a sample item: I have a hard time breaking bad habits). The higher score indicated higher levels of perceived self-control. *Health consciousness* was measured with a four-item 7-point scale based on [Mai and Hoffmann \(2012\)](#), adapted from [Gould \(1988\)](#). The scale ranged from 1 = ‘strongly disagree’, 7 = ‘strongly agree’ (a sample item: I reflect about my health a lot), with higher scores reflecting higher levels of health consciousness.

4. Results

4.1. Sample characteristics

The sample consisted of 54% female and 46% male participants (according to census data from the Lithuanian Department of Statistics (2017), 53% of the population are women). They ranged in age from 15 to 74 years old ($M = 43.9$, $SD = 15.3$) (mean age of the population is 44.1 years). We used gender, age, and residence quotas based on the composition of the Lithuanian population to compile our sample (see [Table 3](#)). A systematic comparison between the general population and our sample reveals that the sample is indeed representative on these three key factors under consideration. Regarding participants' education, the sample consisted of more people with higher education, i.e. 61% compared to 33% of the population.

4.2. Statistical analysis

The analysis was completed in two sequential steps following the standard procedures of structural equation modeling. Firstly, a confirmatory factor analysis was conducted before the general model estimation in order to examine the measurement characteristics of analyzed constructs using LISREL 9.1. All reversed-score items were recoded prior to the analysis. Overall measurement model fit was acceptable: $\chi^2 = 1424.846$, $df = 395$, $RMSEA = 0.055$, $CFI = 0.960$, $SRMR = 0.049$. Based on the results of the confirmatory factor analysis, we removed one item with very low (< 0.40) factor loading ([Hair, Black, Babin, & Anderson, 2013](#)) from the conspicuous consumption measure ([Griskevicius et al., 2007](#)), which resulted in a final four-item scale. Next, we removed four items with very low factor loadings

¹ Although the food and beverage industry is one of the largest manufacturing sectors in Lithuania, the functional food market is a relatively new one as the first functional food products appeared in the country in the early 2000's. However, the development of functional food products is now among one of the most important priorities in the area of food and agricultural innovation and technologies in the country (Ministry of Economy of the Republic of Lithuania, 2018) and increasingly more new functional food products are introduced each year. For example, one of the main producers of dairy products with functional ingredients, “Danone”, accounts for 20% of the category's market share in Lithuania ([Gineikiene, Schlegelmilch & Auruskeviciene, 2017](#)). For functional food legislation, Lithuania follows the European Union's regulations on nutrition and health claims (e.g., *Regulation (EC) No 1924/2006*, *Regulation (EC) No 1925/2006*, and *Regulation (EU) No 432/2012*). Lithuanian consumers are more and more interested in functional food products and already have a basic knowledge about them (e.g., [Januškevičienė, Sekmokienė, & Lukoševičius, 2009](#)).

Table 1
Measurement of variables.

Construct	Items	Factor loading	Cronbach's α
Conspicuous consumption (Griskevicius et al., 2007)			0.63
	Watch	0.66	
	Dinner with friends in a restaurant	0.60	
	Cell phone	0.54	
	European vacation	0.42	
Perceived self-control motivation (Tangney et al., 2004)			0.81
	I have a hard time breaking bad habits (R)	0.52	
	I am lazy (R)	0.61	
	I say inappropriate things (R)	0.60	
	I do certain things that are bad for me, if they are fun (R)	0.57	
	I wish I had more self-discipline (R)	0.52	
	Pleasure and fun sometimes keep me from getting work done (R)	0.59	
	I have trouble concentrating (R)	0.48	
	Sometimes I can't stop myself from doing something, even if I know it is wrong (R)	0.65	
	I often act without thinking through all the alternatives (R)	0.59	
Susceptibility to descriptive normative influence (Bearden et al., 1989)			0.93
	If other people can see me using a product, I often purchase the brand they expect me to buy	0.70	
	I often identify with other people by purchasing the same products and brands they purchase	0.77	
	I rarely purchase the latest fashion styles until I am sure my friends approve of them	0.68	
	If I want to be like someone, I often try to buy the same brands that they buy	0.81	
	It is important that others like the products and brands I buy	0.78	
	To make sure I buy the right product or brand, I often observe what others are buying and using	0.80	
	When buying products, I generally purchase those brands that I think others will approve of	0.84	
	I like to know what brands and products make good impressions on others	0.83	
	I achieve a sense of belonging by purchasing the same products and brands that others purchase	0.83	
Health consciousness (Gould, 1988; Mai & Hoffmann, 2012)			0.89
	I reflect about my health a lot	0.75	
	I'm very self-conscious about my health	0.90	
	I'm generally attentive to my inner feelings about my health	0.81	
	I'm constantly examining my health	0.84	
Functional Food distinctiveness evaluation (Christodoulides et al., 2009)			0.93
	Distinctive	0.88	
	Special	0.87	
	Innovative	0.89	
	Unique	0.89	

Table 2
Means, standard deviations and correlations.

Variables	Mean	SD	1	2	3	4	5	6
1. Conspicuous consumption (scale ranging from 1 to 11)	4.68	2.17	1					
2. Perceived self-control motivation (scale ranging from 1 to 5)	2.94	0.72	0.01	1				
3. Susceptibility to descriptive normative influence (scale ranging from 1 to 7)	2.71	1.39	0.05	−0.28**	1			
4. Health consciousness (scale ranging from 1 to 7)	5.07	1.36	0.04	0.02	0.13**	1		
5. Functional food distinctiveness evaluation (scale ranging from 1 to 7)	4.12	1.71	0.15**	−0.18**	0.21**	0.20**	1	
6. Self-reported purchase rate of functional food (sum of functional food products bought, ranging from 0 to 18)	3.44	2.84	0.12**	0.05	0.08*	0.08*	0.30**	1

SD = standard deviation, *p < .05, **p < .01.

(< 0.40) from the perceived self-control motivation scale (Tangney et al., 2004), which resulted in a final nine-item scale. The results of the measurement model are presented in Table 1. Descriptive statistics (mean and standard deviations of each construct) and correlation among constructs are presented in Table 2.

Structural equation modeling (SEM) was used to analyze the data and test the hypotheses. The estimation of the model produced the following goodness of fit statistics: $\chi^2 = 1455.268$, $df = 420$, $RMSEA = 0.054$, $CFI = 0.961$, $SRMR = 0.047$, which indicated a good

model fit to the empirical data. Standardized parameter estimates as well as associated t-values are demonstrated in Fig. 1. For self-reported purchase of functional food, the proportion of variance explained was 10% and for functional food distinctiveness evaluation, the proportion of variance explained was 13%.

4.3. Hypotheses testing results

In line with hypothesis 1, health consciousness was positively

Table 3
Demographic characteristics of the sample (N = 900).

Variables	Frequency	Percent	Population
Gender			
Male	417	46%	47%
Female	483	54%	53%
Age group			
15–24	131	15%	16%
25–34	153	17%	17%
35–44	148	16%	16%
45–54	181	20%	19%
55–74	287	32%	31%
Residence			
Vilnius county	55	29%	28%
Kaunas county	314	20%	20%
Klaipeda county	257	10%	11%
Siauliai county	44	9%	10%
Panevezys county	25	7%	8%
Other counties	205	24%	23%

Note: standardized estimates shown, non-significant paths are dashed; all *p*-values < 0.05

Fig. 2. Hypotheses testing results. Note: standardized estimates shown, non-significant paths are dashed; all *p*-values < .05.

related to functional food distinctiveness evaluation ($\beta = 0.19$, $t = 5.25$, $p = .000$, see Fig. 2). However, no significant relationship between health consciousness and self-reported purchase rate of functional food products was found; thus, hypothesis 2 was not supported. In support of hypothesis 3 and hypothesis 4, conspicuous consumption was positively related to functional food distinctiveness evaluation ($\beta = 0.15$, $t = 3.73$, $p = .000$) and self-reported purchase rate of functional food products ($\beta = 0.08$, $t = 1.99$, $p = .024$). Next, in line with hypothesis 5, perceived self-control motivation was found to be negatively related to the evaluation of the distinctiveness of functional food ($\beta = -0.15$, $t = -3.75$, $p = .000$). However, no significant relationship between perceived self-control motivation and the purchase of functional food products was found; therefore, hypothesis 6 was not supported. Finally, in support of hypothesis 7, susceptibility to descriptive normative influence was related to functional food distinctiveness evaluation in a positive manner ($\beta = 0.18$, $t = 4.73$, $p = .000$). In contrast to hypothesis 8, susceptibility to descriptive normative influence was not related to self-reported purchase rates of functional food.

Additionally, as only conspicuous consumption of the hypothesized variables was directly related to the self-reported purchase rate of functional food, we further explored the indirect effects of individual variables on self-reported purchase rates of functional food via the

functional food distinctiveness evaluation. The analysis revealed the indirect effect of health consciousness on the self-reported purchase rate of functional food via the functional food distinctiveness evaluation ($\beta = 0.05$, $t = 4.39$, $p < 0.000$), the indirect effect of conspicuous consumption on the self-reported purchase rate of functional food via the functional food distinctiveness evaluation ($\beta = 0.04$, $t = 3.43$, $p < 0.000$), the indirect effect of perceived self-control motivation on the self-reported purchase rate of functional food via the functional food distinctiveness evaluation ($\beta = -0.04$, $t = -3.40$, $p < 0.000$), and the indirect effect of susceptibility to descriptive normative influence on the self-reported purchase rate of functional food via the evaluation of the distinctiveness of functional food ($\beta = 0.04$, $t = 3.68$, $p < 0.000$).

5. Discussion

The findings of the present research add to the understanding of motivating factors in the consumption of functional foods. We uncover several additional social and hedonic motivations behind the consumption of functional foods that are not necessarily health-related. Our model supports the relevance of conspicuous consumption, susceptibility to descriptive normative influence and perceived self-control motivation in explaining consumer functional food preferences.

First, we show that consumers' tendency for conspicuous consumption is positively related to both functional food category evaluation in terms of its distinctiveness and self-reported purchase rates of functional foods. Second, our findings suggest that descriptive normative susceptibility to peer influence is positively related to functional food category distinctiveness evaluation, though it is not significantly related to self-reported purchase rate of functional foods directly. However, further analysis reveals the indirect effect of susceptibility to descriptive normative influence on the self-reported purchase rate of functional food via the functional food distinctiveness evaluation. This implies that people who are easily influenced by others choose functional foods because they want to follow the expectations and opinions of their peers.

Third, we show that perceived self-control motivation has a negative effect on functional food distinctiveness evaluation, but no direct effect on the self-reported purchase rate of functional foods. However, further analysis reveals the indirect effect of perceived self-control motivation on the self-reported purchase rate of functional food via the functional food distinctiveness evaluation. This suggests that the relationship between perceived self-control motivation and self-reported purchase rate of functional food is indirect and this relationship is stronger when the evaluation of such food is more favorable. More importantly, studying the role of social and hedonic motives in conjunction with consumer health consciousness enables us to systematically evaluate the relative effect of different motives, i.e., health-related and social, hedonic motives, on consumer functional food choices.

Indeed, as food plays a symbolic social role in society, functional foods are in an especially good position to offer the desired image and lifestyle for consumers. This is confirmed by our research findings, suggesting that people who care about their image and the opinions of other people choose functional foods, seeking to make good impressions and look as though they are following a healthy lifestyle in the eyes of others. In addition, it is a much easier and less effortful solution for people who have lower levels of perceived self-control motivation compared to exercising or healthy diet. By choosing functional foods, they can easily achieve the sense that they are taking care of their health, thereby matching the moral norms of society to keep fit.

Furthermore, the present work extends the current literature by focusing on susceptibility to descriptive, rather than injunctive norms, and on perceived self-control motivation rather than behavioral control. More specifically, while subjective norms have typically been considered to capture the extent to which people are susceptible to

injunctive norms (i.e., the extent to which they assess what people who are close to them perceive as important, and the extent to which they are willing to conform to their values and preferences), our susceptibility to normative influence focuses not on injunctive, but on descriptive norms, i.e., the extent to which one perceives a substantial number of other (more or less relevant and similar) people actually making similar choices, and using that observation as a validation cue for one's own choices (Cialdini et al., 1991). With regard to behavioral control, while it captures a sense of self-efficacy or mastery, self-control is typically used as a term to denote one's capacity to override short term temptations, impulses and maintain a focus on longer-term goals. Thus, while behavioral control captures the ability to choose healthy (or less healthy) foods, perceived self-control captures the motivation to do so.

Some limitations of our study need to be addressed. First, the questionnaire for this study relied on subjective self-reporting measures of perceived self-control motivation, susceptibility to descriptive normative influence, and conspicuous consumption. Future studies are needed to further investigate the direct effects of perceived self-control motivation, susceptibility to descriptive normative influence and conspicuous consumption on functional food choices. Next, previous research (e.g., Chen, 2011; Niva, 2007) suggested that culture is an important factor in the acceptance of functional foods; therefore, our results should be generalized cautiously to other cultures, such as Asian cultures. Even for other European countries, the findings may vary because countries differ with regard to their acceptance of functional food levels and overall maturity levels of functional food markets, therefore it is another possible avenue for future researchers. For example, there are large regional differences in the use of functional foods, as the general interest of consumers in functional foods in Central and Northern European countries is higher compared to Mediterranean countries, where consumers have appreciation for fresh, natural foods and consider them better for health (Menrad, 2003; Siro, Kapolna, Kapolna, & Lugasi, 2008). Further research is also encouraged to expand the present findings by incorporating in the analysis not only functional food products, but also the corresponding set of conventional products as well. Finally, it is important to note that the regression coefficients, although significant, are fairly modest. While 'objective' criteria as to what constitute large or small coefficients are lacking (see Kelley & Maxwell, 2003), such modest values may signal a number of possibilities – that additional, non-measured factors may contribute to explaining functional food purchases, that the postulated relationships are qualified by unobserved moderators, that either observed or unobserved variables function as suppressors, obscuring (part of) the relationships, or that the coefficients signal that any effects are indeed significant, yet subtle. Future research could extend the present findings by including additional variables to tease out these possibilities.

From a practical perspective, the results of our study are relevant for marketers in the functional foods industry. Seeking to attract functional food consumers, they could highlight the symbolic image and status of such products in advertising and communication campaigns. Since current findings indicate that a person's tendency for conspicuous consumption and susceptibility to descriptive normative influence are important factors associated with a consumer's preferences for functional foods, these characteristics might successfully indicate which new functional product categories should be introduced. While some consumers use functional foods for health-related concerns (e.g., Bech-Larsen & Grunert, 2003; Urala & Lähteenmäki, 2007; Szakály et al.,

2012), others might use functional foods not only because of health-related motivations, but, additionally, also as a quick and easy choice to show off their healthy habits. Marketers can increase the choice of functional foods by creating communication campaigns which depict the usage of functional foods in social contexts and in the presence of others.

At the same time, policy makers should take into account the current findings, which indicate that people choose food products with health benefits in order to make impressions on others. The findings suggest that there is a need to develop programs that promote holistic understanding of healthy nutrition and well-being. Policymakers should emphasize that taking care of one's health consists of different activities, such as exercising or adhering to doctors' recommendations, and that using specific food products is only one part of this.

In addition, considering the effects of conspicuous consumption and social influences on functional food distinctiveness evaluation and self-reported purchase rate of functional food through evaluation, policy-makers and marketers are encouraged to consider protecting consumers from excessive purchasing of functional foods which may increase individuals' financial burden as well as ignorance of more effective standard medical care. Therefore, it is of high importance to develop the functional food market in safe and socially acceptable ways (for example, EU regulation on nutrition and health claims (e.g., Regulation No. 1924/2006, Regulation No. 1925/2006, Regulation No. 432/2012) provides the setting for functional food marketing in Europe). Both policymakers and marketers can gradually shift consumers' attitudes with targeted communication campaigns emphasizing a holistic view of healthy diet and well-being.

6. Conclusions

The present work improves the understanding of factors that are associated with functional food preferences. We argue that consumers' choice of functional foods can be driven not only by health-related motives, but social and hedonic motives as well. Our findings for a representative sample of 900 consumers provide support for this proposition. According to the results obtained, consumers' tendency for conspicuous consumption is positively related to both functional food distinctiveness evaluation and self-reported purchase rate of functional foods. Moreover, our findings suggest that susceptibility to descriptive normative influence is positively related to functional food distinctiveness evaluation and indirectly related to the self-reported purchase rate of functional foods via the functional food evaluation. Next, perceived self-control motivation has a negative effect on functional food distinctiveness evaluation and a negative indirect effect on the self-reported purchase rate of functional foods via the functional food distinctiveness evaluation. Overall, our proposed model supports the relevance of conspicuous consumption, susceptibility to descriptive normative influence and perceived self-control motivation in explaining consumer functional food preferences.

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Appendix 1. The list of functional and conventional food products

Functional food products	Conventional food products
Yoghurt “Danone Activia” Yoghurt “Actimel”	Yoghurt “Smilga” Yoghurt “Jo”

Cookies “Belvita”
 Bread with carotene “Gudobelė”
 Bread with seeds and fiber “Biržų duona”
 Drink “Vichy Vitamin”
 Mineral water “Norte”
 Juice drink with vitamins “Elmenhorster”
 “Vichy” Vitamin drinks
 Nemateko Probio meat products
 Rokiškio Bifi Active dairy products
 Vitaminwater drink
 NUTRILESS cereal bar with fiber, vitamins and minerals
 Hematogenas (snack bar)
 FITNESS breakfast cereals with vitamins and minerals
 Vilkyškių YOGA yoghurt
 Alpro Soya drink with calcium
 Vitamin drink Vitamin Well

Cookies “Selga”
 Bread “Sostinės”
 Bread “Bočių”
 Drink “Nestea”
 Mineral water “Rasa”
 Juice drink “Tymbark”
 Mineral water “Neptūnas”
 Biovela meat products
 Dvaro dairy products
 Gaja drink
 Snickers
 Breakfast “Oho”
 Coca-Cola

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