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Sustainable Value Creation in the Food Chain: A Consumer Perspective

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Abstract: The growth of diet-related diseases is becoming an important societal concern and a challenge for a more sustainable society. This has developed important trends in food consumption, including the increasing demand for food with a natural attribute and with health claims (e.g., enriched food). Consumers tend to evaluate these two attributes as superior ones and tend to pay a premium price for them. Accordingly, the value added by producers also will upturn if they take into consideration the consumers' preferences. However, to the best of our knowledge, consumer preference over the two types of products (natural and enriched) is not yet completely clear. The present study tries to contribute to reducing this gap by analyzing Hungarian consumer preferences for natural fruit juices over enriched ones and exploring the drivers which guide consumer choices for the two attributes. For this purpose, we analyze young consumers' willingness-to-pay (WTP) for natural and enriched fruit juices using a seemingly unrelated regression (SUR) to derive the two value-added activities. Our results show that the fruit juice with the natural attribute is preferred over the enriched one, and that there is a common feature behind the perception of the two attributes, namely the healthiness. Based on the natural fruit juice characteristic, these results open space for local production in gardens or in small-medium sized farms. This could have beneficial effects, both for sustainable development of rural areas and for the promotion of healthy food systems towards sustainability in food consumption.

Keywords: willingness to pay; enriched attribute; natural attribute; healthy attribute; seemingly unrelated regression (SUR); fruit juice; Hungary

1. Introduction

The growth of diet-related diseases is becoming an important societal concern and a challenge for a more sustainable society [1]. As a result, today, consumers are aware that their diet affects their health and so prefer to choose food that helps them to have a healthy lifestyle. [2,3]. This has contributed to the development of important trends in food consumption, which has seen, amongst others, the growing consumer interest towards foods with natural and health claims attributes [4]. The category of food with health claims includes food enriched with healthy components, such as polyphenols, vitamins, and other healthy components [2], while natural food is food without additives and human interventions, considered by consumers harmful for their health [5].

The Kampffmeyer Food Innovation Study [6] revealed that food naturalness is a decisive buying incentive and that the majority of the consumers perceived a strong connection between “natural” and

“healthy.” Furthermore, it has been demonstrated that consumers living in developed countries prefer natural foods over the conventional ones, as they are considered to have positive health effects [7]. Similarly, foods with health claims have registered a growing market success. According to the latest available data [8,9], 27% of global respondents, on average, are very willing to pay a premium price for health claims. This percentage is slightly higher in western countries and particularly in the U.S., where the majority of consumers believe that health claim foods give real benefits in improving and maintaining overall health, and nearly 30% indicate that they buy products with health claims on the labels [10].

The growing consumers’ interest towards these product characteristics has pushed the food industry to provide healthier products [11,12]. The use of health as a selection criterion has already been offering new possibilities to the food market and continues to provide new challenges for producers [13]. One of these challenges for the food industry is to give consumers product options with a natural and healthy image.

From a consumers perspective, interest shown towards these two attributes (natural and health claims) is due to the common will of consumers to improve or maintain their health, although the two attributes have different exceptions [14]. Health motivations as factors for purchasing natural and health claim products have already been investigated in several studies [14,15]. However, to the best of our knowledge, consumer preference over the two types of attributes is not yet completely clear.

The present study tries to reduce this gap, by analyzing consumer preferences for the attributes natural and health claim, and exploring the drivers affecting consumer choices for both attributes. Knowing which attribute is more valued by consumers could give important indications to the food industry more oriented to provide products with a health image. Furthermore, understanding the drivers behind consumer preference could be useful for planning successful marketing strategies for those enterprises oriented to satisfying those consumers’ needs.

Based on these premises, three objectives have been set in this study: 1. to investigate which attribute, between natural and health claims, is more appreciated by consumers; 2. to explore the drivers behind consumers’ choice for both health attributes, and 3. to verify whether the price premium of two types of attributes is explained by common factors.

To answer these research questions, the present study used a laboratory experiment in order to derive the consumer’s willingness to pay (WTP) for natural and enriched attributes. The remainder of the paper is organized as follows: after the introduction, Section 2 explains the theoretical framework and consumer choices on healthy products in Hungary; Section 3 shows the data collection and methods; Section 4 presents results and discussion and, finally, in Section 5, we conclude, and the study limitations are provided.

2. Theoretical Framework

Consumers consider the naturalness of foods as a highly valued quality characteristic [16]. They interpret the food naturalness as an indicator of the healthiness and quality of the product, derived from the ‘integral integrity of the product’ [17]. As a result, natural products are perceived as good for your health as they are free of additives and other synthetic substances, perceived to reduce the healthiness of food [18–21]. Furthermore, the idea of natural eating seems to generate a perception of physical and emotional well-being [22]. This is supported also by Rozin [18], according to whom natural food evokes a positive association in consumers’ minds, following the idea that ‘natural entities are inherently better than non-natural entities’. According to the literature, higher natural food consumption seems to be associated with the perception that processed food can cause high health risks [20,23].

Similarly, health claim products have registered a faster market growing in the last few years, responding to consumers concerns on health and providing messages about specific benefits of products that potentially increase perceived wellbeing [24]. Indeed, enriched foods communicate their health-related benefits with the help of claims that may contain a bulk of information [25].

The typical elements that health claims may be built from are the components that trigger the function by generating physiological and psychological benefits [1]. Enriched food looks similar to conventional food and is consumed as part of a regular diet and has been shown to have health benefits and/or reduce the risk of chronic diseases beyond the basic nutritional functions of food [26].

However, how consumers respond to enriched food varies from product to product. From a consumer's perspective, enriched foods are not a homogenous category of products, and consumers' attitudes seem to affect the purchasing intention for various enriched products differently [15]. Moreover, some enriched foods are perceived as less natural, since the beneficial components which trigger the function are derived from technology-based enhancement, and they may include foods with chemical additives and preservatives.

Thus, consumer perception is influenced by both the health element that has been added in food and the process by which this addition happened [2]. Acceptance of food products depends on the health image of the product category or the ingredients [27], on the production method [1] and how the product was enriched and 'tampered with' [28]. According to Lähtenmäki [1], the familiarity with the product greatly influences the perception of the consumer. In fact, familiarity is a key factor in acceptance of enriched food [27]. However, although it may be thought that natural and enriched foods are contradictory (for example due to the difference in health-related message), there are several studies that indicate a link between the two concepts, because both are chosen by consumers to improve or maintain their health [29]. For example, Caracciolo and colleagues [30] investigated consumer preferences for the two attributes and their empirical findings revealed that consumers evaluate both attributes, natural and enriched, similarly.

Among the products having a health image, fruit juices are among the most recognizable, thanks to their natural contents of vitamins and minerals [31]. The fruit juice market is one of the most innovative and competitive segments of the food sector [31]. Manufacturers striving to expand sales are focusing on product diversification, developing fruit juices that go beyond the taste of the product and providing general health benefits. Since fruits are the primary source of ascorbic acid in the diet, the enrichment of fruit juices has been concerned mainly with this vitamin [32]. In this context, vitamin enrichments are more accepted by consumers compared to other types of fruit juice enrichment, for example with calcium, since the latter is perceived an unnatural type of enrichment [28,33]. This would position vitamin-enriched fruit juices closer to natural food, creating a more "holistic health image" [28]. Similarly, consumers are increasingly preferring fruit juices with the natural attribute, containing 100% in fruit. These drinks are free from added sugars and artificial colors or flavors, and they represent an opportunity for those companies that want to create a competitive advantage in the fruit juice market. Furthermore, to create a strong sense of community and add value to the product, the local origin of the ingredients is often emphasized and well specified in natural fruit juices. As a result, there is a growing consumer interest in local products that position these fruit juices as healthier and more sustainable than their conventional counterparts [31]. However, to date, it is not clear which type of attribute (enriched or natural) is more preferred by consumers in fruit juices. This information could be very helpful for those companies operating in those market segments where healthy products are becoming of primary importance in consumers' buying behavior. For this reason, we carried out an experimental study in Győr, Hungary, because this country is among those where consumers are starting to pay more attention to their health [34,35]. Indeed, in Hungary, alongside economic growth, the healthy diet and lifestyle are becoming increasingly important for consumers [36]. Literature reveals that health issues represent the main reason for purchasing health food and that health attributes have become as important as sensory ones, during the buying decision-making process [37]. For example, Balázs [38] in his study showed that more than half of the respondents were willing to pay an extra 10% for healthy products. Moreover, Balázs's findings showed that consumers of healthy food generally have higher levels of education and higher incomes, while their age ranged between young and middle-aged. Furthermore, according to the literature young consumers seem to exceed all prior generational expenditure [39], making a large direct contribution to the economy [40] and an even larger indirect

economic impact, by influencing the majority of family purchase decisions [41]. In addition, young consumers have significant current and future impact on the Western economies and are accordingly considered the most powerful consumer group in the marketplace [42]. For this reason, we have focused our attention on the university student generation in Hungary, in order to understand which health attribute, enriched or natural, is preferred in fruit juices. Knowing the theoretical framework is fundamental to developing this research, which may contribute to better marketing design strategies and, successively, contribute to creating a competitive market advantage for food companies.

3. Materials and Methods

3.1. Experimental Auctions

The experiments were conducted over a two-week period, in autumn 2018, at the “Széchenyi István” University (Hungary). The consumers of this study were students, who were recruited randomly and informed they were participating in a consumer preference research study for different types of fruit juice. Using the Vickrey auction methodology [43], an experimental evaluation process was chosen, which is identified in the fifth-price auction. Ten 25-min experimental sessions involving ten people each were organized. The choice of the fifth-price auction allows, at the same time, the number of participants in the auction and their degree of involvement to be increased. Lusk et al. [44] showed that bidders would generally be more involved if at least half of them could potentially win the product at auction. In addition, participants were told that only one round and one product would be binding, to avoid reductions in demand and effects on wealth in subsequent rounds [45]. Each participant in the auction received 2000 Hungarian forints (HUF) (approximately € 5.50) as a reward for his/her participation in the auction. All respondents rated the three fruit juices containing the same amount of information.

In the initial phase, participants were selected from among those who said they had been drinking fruit juice for the past two weeks. In the second phase, every individual received the monetary compensation and signed a consent form and a form committing him/her to buy the product in the case of a victory. In the third phase, the auction mechanism was explained, and in the fourth phase, a researcher described the three fruit juices' characteristics. The three products were (1) conventional fruit juice, used as a control product, compared to the other two types of fruit juices, (2) 100% natural fruit juice made from fruit straight from the garden, with no dilution and no concentrate and (3) fruit juice enriched with sea buckthorn to strengthen the immune system and with a high vitamin C content. The three fruit juices were packaged in three white and unbranded packs, to avoid the effects of the brand and the label. In the fifth phase, the participants wrote their sealed bids on anonymous tickets. Finally, in the last phase, everyone completed a questionnaire and one fruit juice and one price (market price) were randomly extracted. Those participants who bid more for the auctioned fruit juice compared to the market price won the fruit juice, paying the extracted price for it.

3.2. Questionnaire

The questionnaire included two main sections. The first section collected information on consumers' socio-demographic characteristics (age, gender, number of household members and monthly net income), on their consumption frequency of fruit juice and the characteristics that are sought in the product (good taste and smell, vitamin and mineral content, geographical origin, nice appearance, calories content, free from artificial materials, price and brand name). The second section included three psycho-attitudinal scales: natural product interest (NPI), general health interest (GHI), and reward from using functional food (RFF). These scales are widely used in the literature [46,47]. More precisely, GHI and NPI scales were developed by Roininen, Lähteenmäki and Tuorila [48]; the first consists of eight articles that reveal the consumers' attitude towards healthy eating, while the second scale includes six articles aimed at capturing the consumers' attitude towards the consumption of unprocessed food. The RFF scale was proposed by Lähteenmäki [49] and includes seven items that explain the declaration

of gratitude deriving from the use of enriched foods. These validated GHI, NPI and RFF attitude scales were collected by means of 7-point Likert scales, where 1 corresponds to totally disagree and 7 to totally agree.

3.3. Statistical Analysis

The data collected were processed in four distinct phases, using the STATA 15.0 (Budapest, Hungary) integrated statistical software. In the first phase, the socio-demographic characteristics of the sample were defined, through descriptive analyses; in the second phase, the psycho-attitudinal scales were interpreted, checking their internal consistency (alpha-coefficient) and calculating the average of each item. In the third part, a description of the WTPs detected for the three types of fruit juices was made; in addition, by means of parametric (t-test) and non-parametric tests (Wilcoxon tests), it was verified whether the three WTPs were significantly different, and therefore, two deltas (premium prices) were calculated. The two premium prices were obtained, one at a time, by first calculating the difference between the WTP for natural and conventional fruit juices and then the difference between WTP for enriched and conventional fruit juice:

$$\begin{aligned}\Delta WTP_{NAT} &= (WTP_{NAT} - WTP_{CONV}) \\ \Delta WTP_{ENR} &= (WTP_{ENR} - WTP_{CONV})\end{aligned}$$

Later, the seemingly unrelated regressions (SUR) [50] were presented, together the Breusch-Pagan test of independence, to measure how the price premium of the two fruit juices can be influenced and, at the same time, to verify whether the price premium of the two types of juices is explained by common attributes.

This stochastic model may be expressed by the following relationship:

$$y = X\beta + u$$

where y and u are vectors with n elements, X is a matrix with n rows and $k + 1$ columns (with k the explanatory variables + 1 for the constant) and β is the vector containing $k + 1$ unknown coefficients.

4. Results and Discussion

4.1. Sample Description

The consumers participating in the experiment were 100 students of the “Széchenyi István” University of Győr (Hungary), including 29 males and 71 females, between 18 and 28 years of age (mean age = 22; S.D. = 2.23). The number of family members the students had ranged from 1 to 5, where 1 indicates that the student lives alone and 5 indicates that he/she lives with more than 4 people. The average number of members per family was 3 people. Finally, the monthly net income was in a range from “below 60 thousand” and “more than 350 thousand”, with an average of about 120 thousand HUF (about €360). The socio-demographic characteristics of the participants are shown in Table 1.

Table 1. Socio-demographic characteristics of the sample.

Variables	Mean	Std. dev.	Min	Max
Gender ¹	0.29	0.50	0	1
Age ²	21.65	2.23	18	28
Family Members ³	2.77	1.12	1	5
Monthly Income ⁴	1.81	0.64	1	3

¹: dummy variable, 1 = male and 0 = female; ²: continuous variable; ³: categorical variable, 1 = single, 2 = two members, 3 = three members, 4 = four members, 5 = family with more than 4 members; ⁴: categorical variable, 1 = <60 thousand HUF; 2 = 60–120 thousand HUF; 3 = 121–220 thousand HUF; 4 = 221–350 thousand HUF; 5 = >350,000.

4.2. Psycho-Attitudinal Scales

Attitudes have been shown to have a great effect during the consumers' decision-making process, and for this reason, they were used in the present study to explain consumers' food choices, through appropriate attitudinal scales [51]. In particular, the GHI scale was chosen because it is expected to correlate positively with attitudes towards enriched foods [48]; the NPI scale is hypothesized to have a positive correlation with natural product consumption [48], while the RFF is expected to have a positive correlation with the consumer's willingness to feed himself/herself with enriched foods in order to improve or maintain a state of health [52,53]. Furthermore, for those items with negative meaning, Likert scale scores were reversed to improve the attitude scales' readability.

The Cronbach's alpha value was 0.85 for natural product interest, 0.83 for general health interest and 0.89 for reward from using functional food, indicating a good internal reliability (Table 2).

Table 2. Internal reliability of the scales.

Scale	Cronbach's Alpha
GHI	0.83
NPI	0.85
RFF	0.89

The results show a high awareness of consumers about the health consequences of their food choices. Indeed, the higher GHI item scores were: "The healthiness of food has little impact on my food choices" (reversed mean = 5.00) and "I am very careful about the healthiness of food I eat" (mean = 4.51). Concerning NPI, the items with the highest scores were: "Foods containing artificial flavor enhancers are not harmful to health" (reversed mean = 5.98) and "Organically grown vegetables are no healthier than others" (reversed mean = 6.10). The items with the highest values for RFF were: "I get pleasure from eating functional foods" (mean = 5.77) and "The idea that I can take care of my health by eating functional foods gives me pleasure" (mean = 6.01).

Finally, correlation coefficients were computed and the presence of a positive and statistically significant correlation was found among all the three scales (Table 3).

Table 3. Correlation coefficients of the scales.

	GHI	NPI	RFF
GHI	1.0000		
NPI	0.5890	1.0000	
RFF	0.6601	0.4233	1.0000

The descriptive statistics of individual items composing the three scales are shown in Tables 4–6.

Table 4. Items' statistics of general health interest (GHI) scale.

	General Health Interest (GHI)	Mean	S.D.	Min	Max
GHI_1	The healthiness of food has little impact on my food choices.	5.00	1.6	1	7
GHI_2	I am very particular about the healthiness of food I eat.	4.51	1.39	1	7
GHI_3	I eat what I like, and I do not worry much about the healthiness of food.	4.06	1.67	1	7
GHI_4	It is important for me that my diet is low in fat.	3.53	1.40	1	7
GHI_5	I always follow a healthy and balanced diet.	3.85	1.54	1	7
GHI_6	It is important for me that my daily diet contains a lot of vitamins and minerals.	4.67	1.49	1	7
GHI_7	The healthiness of snacks makes no difference to me.	3.64	1.94	1	7
GHI_8	I do not avoid foods, even if they may raise my cholesterol.	3.78	1.66	1	7

Table 5. Items' statistics of natural product interest (NPI) scale.

Natural Product Interest (NPI)		Mean	S.D.	Min	Max
NPI_1	I try to eat foods that do not contain additives.	3.98	1.70	1	7
NPI_2	I do not care about additives in my daily diet.	4.33	1.72	1	7
NPI_3	I do not eat processed foods, because I do not know what they contain.	3.42	1.83	1	7
NPI_4	I would like to eat only organically grown vegetables.	5.59	1.56	1	7
NPI_5	In my opinion, artificially flavored foods are not harmful for my health.	5.98	1.16	1	7
NPI_6	In my opinion, organically grown foods are no better for my health than those grown conventionally.	6.10	1.37	1	7

Table 6. Items' statistics of reward from using functional food (RFF) scale.

Reward from using Functional Food (RFF)		Mean	S.D.	Min	Max
RFF_1	I get pleasure from eating functional foods.	5.77	1.35	1	7
RFF_2	The idea that I can take care of my health by eating functional foods gives me pleasure.	6.01	1.17	1	7
RFF_3	Functional foods make me feel more energetic.	5.12	1.43	1	7
RFF_4	Functional foods help to improve my mood.	4.69	1.53	1	7
RFF_5	My performance improves when I eat functional foods.	4.81	1.43	1	7
RFF_6	I actively seek out information about functional foods.	4.27	1.57	1	7
RFF_7	I willingly try even unfamiliar products if they are functional.	4.04	1.63	1	7

4.3. Willingness to Pay (WTP)

Consumer bids describe how much participants are willing to pay for conventional, natural and enriched fruit juice. The estimated average WTPs were the following: 646.76 HUF (about €1.93) for the conventional fruit juice, 794.09 HUF (about €2.37) for the enriched fruit juice, and 957.93 (about €2.86) for the natural fruit juice (Table 7).

Table 7. Consumers' willingness to pay.

	Mean	S. D.	Min	Max
WTP_{CON}	646.76	322.32	50	1800
WTP_{ENR}	794.09	369.98	100	2000
WTP_{NAT}	957.93	489.08	200	2500
ΔWTP_{ENR}	147.32	178.91	−500	1050
ΔWTP_{NAT}	311.17	287.97	−270	1400

By means of a t-test and Wilcoxon test, it was possible to verify that there are statistically significant differences between the two attributes and that the natural attribute was preferred to the enriched attribute. Indeed, ΔWTP_{NAT} , that is the differential value between the natural fruit juice and the conventional one, has an average value of 311.17 HUF (about 0.93€), while ΔWTP_{ENR} , which is the

differential value between the enriched fruit juice and the conventional one, has an average value of 147.32 HUF (about €0.44) (Table 7).

4.4. Drivers Behind Consumers' WTP for Both Attribute

It is clear that consumer choice depends on many factors [48]. By performing a SUR between the two WTP for natural and enriched fruit juices and the other variables collected through the questionnaire, such as the consumer characteristics and psycho-attitudinal scales, it was possible to understand which are the drivers affecting consumer WTP for the two attributes. In Table 8 drivers behind consumers' WTP for both enriched and natural attributes, and the estimated coefficients as well as their statistical significance, are shown.

Table 8. Drivers behind consumers' willingness to pay.

Equation	Obs	Parms	"R-sq"	<i>p</i>
ΔWTP_{ENR}	95	4	0.1675	0.0007
ΔWTP_{NAT}	95	4	0.1093	0.0201
ΔWTP_{ENR}	Coef.	Std. Err.	<i>z</i>	<i>P > z </i>
GHI	−61.76	23.05	−2.68	0.007
NPI	−0.56	21.35	−0.03	0.979
RFF	70.81	19.62	3.61	0.000
INCOME	37.01	15.02	2.46	0.014
ΔWTP_{NAT}	Coef.	Std. Err.	<i>z</i>	<i>P > z </i>
GHI	−21.24	38.34	−0.55	0.580
NPI	−16.61	35.50	−0.47	0.640
RFF	72.22	32.64	2.21	0.027
INCOME	60.09	24.97	2.41	0.016

Breusch-Pagan test of independence: $\chi^2(1) = 63.129$, $Pr = 0.0000$.

For the section on consumers' WTP for vitamin-enriched fruit juice as a dependent variable, the results showed that the participants' preference is mainly affected by participants' attitude towards healthy eating (through their importance attributed to the items of the general interest scale for health (GHI)), towards the reward from using enriched foods (RFF) and consumers' monthly net income. Looking at this in more detail, RFF attitude and the monthly net income are positively correlated with the dependent variable; therefore, as the value of these independent variables increases, the average of the WTP for the enriched fruit juice tends to increase. On the contrary, the negative coefficient of GHI attitude suggests that as they increase, the dependent variable tends to decrease. This means that the attitude towards healthy eating negatively affects the preference for the enriched fruit juice. This research is in line with other studies that describe the choice for the two attributes to improve or maintain a state of health [14,54,55].

Relatively to the consumers' WTP for the natural fruit juice, the results show that, contrary to what was showed by Caracciolo and colleagues' study, the preference for natural fruit juice is not explained by the NPI attitude. According to the results, the WTP values for natural fruit juice seem to be also affected by RFF attitudes, which in this case is related to the rewards from using natural fruit juice rich in vitamins. This suggests the interest for both attributes (enriched and natural) seems to be affected by common drivers, that is, rewards from using fruit juices richer in vitamins compared to the conventional one. Differences in results, compared to other research findings, may depend on consumers familiarity with the product [1], suggesting, in line with Urala and Lähteenmäki's study [15], that effects on consumer choice have to be studied not as one homogenous group of product, but rather as separate products within the various food categories. Furthermore, monthly net income positively affects consumers' WTP for both products. This is in line with Bruchi and colleagues' study [50]

showing how as the level of monthly net income increases, the WTP for natural and enriched fruit juice increases.

5. Conclusions

The present study had multiple objectives: to investigate the preferences for natural and enriched products and to understand which drivers affect their preference and if there are common drivers between the two WTP. To respond to these research questions, consumers' preferences for enriched and natural attributes were measured via an experimental auction on fruit juices. Outcomes point out that consumers prefer natural fruit juice more than the enriched ones, but the motivations underlying consumers' preferences for both products are the same (the perceived reward from consuming fruit juices richer in vitamins compared to the conventional one).

These results can help us to understand how much and how consumers accept innovations in the food market, and therefore, help companies put their products on the markets.

Our analysis also reveals the primacy of natural fruit juice against the enriched fruit juices at WTP level. Regarding the participants' cohort and the way the juice was produced (fresh apples direct from the garden/local farms, without burdening the environment) we can also conclude that producers along the food chain may create additional value if they consider the consumer preferences of the younger generation.

Furthermore, the preference for natural fruit juice opens space for local production in gardens or in small-medium sized farms. This could have beneficial effects, on one hand for sustainable development of the rural area due to the resulting lower CO₂ emissions from short-distance transportation and the recirculation of financial capital in rural areas. On the other hand, the preference for the natural attribute could be a leverage for the promotion of healthy and sustainable food systems more oriented towards sustainability in food consumption. This direction is very much in line with the sustainability requirements of the globe. The study carries significant implications for consumer research on the preference of sustainable fruit juices, as well as practical management implications. Regarding the former, our study is one of the first to analyze consumer behavior towards fruit juices with health attributes, thus enriching extant literature on the willingness to pay a premium price for health attributes, and reinforcing business literature, which supports that consumers have a positive attitude towards sustainable products. In addition, our results corroborate the importance of consumer attitudinal characteristics in explaining the purchasing decision process for products with sustainable characteristics. As for the managerial perspective, our results offer entrepreneurs suggestions to differentiate their product offerings. In fact, considering the growing awareness, among consumers, of the importance of healthy food consumption, the Hungarian fruit juices industry is called upon to develop effective marketing strategies that will help consumers identify and distinguish fruit juices on the market. From this point of view, the ability of industries to develop innovations in this direction, which could boost the competitive performance of companies, is particularly important.

Although the study offers much food for thought, it has some limitations, such as having used a non-representative sample; thus, the generalizability of the results is limited. Furthermore, the RFF attitude in explaining the preference for both attributes in fruit juices opens space for further analysis in order to validate the results of the present study or overcome its limitations. Therefore, further studies have to take into account statistically representative samples in order to capture a full picture of consumers' preferences for healthy fruit juices. Moreover, further research could be repeated in different markets also for comparison. This would offer cross-cultural insights and help adapt marketing strategies to the individual and/or global perspectives.

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