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CONSUMER PREFERENCES ON MILK MARKET: EVIDENCE FROM SLOVAK REPUBLIC

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ABSTRACT
Today the issue of healthy nutrition is very popular among consumers. The main task of nutrition is to ensure sufficient intake of substances that are necessary for the proper functioning of the human organism. These substances are divided into two types: sugars, fats and proteins, which are the source of energy and minerals, vitamins and water, which are substances necessary for metabolic processes. We distinguish five main food categories, from which people can obtain these necessary substances: cereals, fruits, vegetables, proteins and last but not least milk. Milk is a white liquid secreted by female mammals for feeding, and which is used (mainly from cows) as human food. Milk is sometimes even called a "super-food", as it contains all the necessary ingredients mentioned above. Its most important component is calcium, which is a key building block of bones and teeth. Milk sugar called lactose, in turn, is involved in the construction of brain cells. Among other things, the milk also contains 87% of water, making it suitable for maintaining a daily drinking regime, unfortunately its consumption is in Slovak Republic insufficient, so the main objective of this paper was to evaluate consumer preferences on the milk market to understand our consumers better. Based on the results od marketing and neuromarketing research we can state that 76.98% of respondents puchase milk, milk expenses range from 11 to 20 € (42.06%), it is purchased mainly in hypermarkets and supermarkets (36.71%), admissible price per liter is on average 0.89 € and decide according to milk quality taste and durability.

Keywords: milk; milk market; consumer; consumer behavior; Slovak Republic

INTRODUCTION

Animal source foods are important for people as they provide essential micro and macro nutrients for human development and functioning **(Iannotti et al., 2017)**. Since man domesticated ruminating animals 8,000 – 10,000 years ago, people started consuming milk and fermented milk products. Over the last 20 years milk consumption has plunged in developed countries. Adults in developed countries typically consume more milk than those in developing countries **(Petherick, 2016)** and adolescents and young adults tend to consume less milk than older adults because they replace milk with sweetened beverages or fruit juice **(Singh et al., 2015)**.

From a consumption point of view, dairy products have many benefits and are considered as key nutritious sources of proteins, fats and micronutrients with positive health impacts **(Garcia, Osburn and Cullor, 2019)**. On the positive side, milk contributes a significant proportion of daily requirements for protein and calcium at a population level **(Huth et al., 2013)**. When fortified, milk also contributes to vitamin D intake. As discussed further on, calcium, vitamin D, and dairy proteins are key nutrients for bone health **(Dawson-Hughes et al., 2010)**. Adequate vitamin D status has also been associated with a lower risk of some cancers and mortality, but conclusive evidence

awaits the results from ongoing large trials of vitamin D supplementation. Milk consumption also contributes to dietary intake of magnesium, potassium, phosphorus, vitamin B12, riboflavin **(Lamarche et al., 2016)** and vitamin A, which is underconsumed nutrient **(US Department of Agriculture, 2015)**. Moreover, cow´s milk lower amount of vitamin C in human body **(Zeleňáková and Golian, 2008)**. Several recent reviews pinpoint a protective effect of dairy products on health outcomes **(Weaver, 2014)**, body weight **(Wang et al., 2014)** and obesity related comorbidities, including type 2 diabetes and cardiovascular disease **(O´Connor et al., 2014; Markey et al., 2014)**. Even though milk is a valuable nutritional resource, when collected, stored, distributed, and/or consumed under certain unhygienic conditions, it can serve as a favourable medium for pathogenic bacteria and thereby increase risk for foodborne illness **(Wu et al., 2018)**.

Because milk provides a direct and rich source of nutrients, it is a valuable dietary supplement **(Millward, 2017)**. Most countries have quantitative recommendations that usually range from 2 to 3 servings or cups of milk or another dairy product **(Weaver, 2014)**. Unfortunatelly, milk consumption has a downward trend (Figure 1) the average Slovak drank only half of what they should in last

year (**VUEP, 2019**). It is a consumer who ultimately influences the existence and prosperity of milk business in the future, hence studying consumer behavior and its influencing factors is interesting for both academicians and practitioners (**Kurajdová, Táborecká-Petrovičová and Kaščáková, 2015**).

Scientific hypothesis

For the purpose of this paper, the following research assumptions were defined, respecting the main objectives:
-there is a relationship between the gender of the respondent and whether he/she purchases milk,
-more than 80% of consumers consume animal milk,
-consumers are willing to spend a maximum of 1 € per liter of milk,
-consumers are mostly affected by the quality and price of milk,
-factors affecting consumer behavior when buying milk affect women and men differently,
-the impact of factors in the purchasing process differs from the respondent's age.
-there is a relationship between the gender of the respondent and whether he/she consider milk as food beneficial to human health,
-there is a correlation between the age of the respondent and whether he/she believes milk consumption is beneficial to health.

MATERIAL AND METHODOLOGY

The main objective of this paper was to evaluate consumer preferences on the milk market.

To process the theoretical part of this paper, literature of domestic and foreign authors as well as professional articles were used. The questionnaire survey served as a source of primary information. The aim of this survey was to determine consumer habits when purchasing and consuming milk. Questions were trying to find out whether respondents buy and consume milk, what size of package, fat content and type of packaging they prefer, which factors influence them the most, how much money they spend per month to buy milk, how much are they willing to spend per liter of milk and whether they think that consumption of animal milk is part of a healthy diet. The Google Forms questionnaire was sent to potential respondents electronically in the form of a hyperlink. The questionnaire form included a greeting, an introduction of authors and the survey, description of the purpose for which obtained information will be used, and a request to complete an anonymous questionnaire. Firstly, people were asked to answer 9 classification questions and then 26 factual questions, which were primarily closed with pre-selected options for answering. Data were collected from 504 respondents in the time period from 22.4.2018 to 4.12.2018.

In total, 228 men and 276 women joined the questionnaire survey. Expressing these numbers in percentages, 45.24% of respondents were the male and 54.76% were female. Maintaining representativeness was also important when categorizing respondents by age. Respondents of all ages were approached in order to copy the structure of the population of Slovak Republic. Respondents aged from 36 to 45 (20.43%) represented the

largest share. Approximately the same percentage of respondents (15%) have chosen the options "18 – 25 years old" and "46 – 55 years old". About 2% more (17.46%) were between 26 and 35 years of age. The lowest representation (11.31%) was in the age category over 66 years and the remaining 19.44% belonged to the age group from 56 to 65 years old. Since we itended to use statistical methods to evaluate questions, it was necessary to test the representativeness of the sample by Chi-square goodness of fit test. In terms of gender, the structure of sample was identical to the main population (p-value = 0.192 and alpha = 0.05). When it came to the age, the acceptance of the null hypothesis (p-value = 0.149 and alpha = 0.05) meant that the results also corresponded to the distribution of the main population. The questionnaire form also included a question about the highest educational attainment. 13 respondents completed primary education, 15.67% secondary education without a school-leaving examination and 50.60% secondary education completed with matricular exam. The rest of the respondents completed higher education of the 1st, 2nd or higher degree. When it came to the economic activity of respondents, the sample contained 71.72% economically active people (employees, employers, self-employed). Other 28.28% consisted of mothers at maternity leave, students, pensioners or unemployed. One of the classification questions categorized respondents per the number of people living in the household with the addressed individual. There were 30 people living alone (this alternative was mainly marked by pensioners), about 130 respondents inhabit a household with two, three or four members. Option "five family members" were chosen by 12.30% and a minority (3.7%) marked the response "more than 5". Based on the monthly income of household, respondents were divided into 6 income categories: up to 500 € (4.96%), 501 – 1000 € and 1001 – 1500 € (almost 30%), 1501 – 2000 € (22.22%), 2001 – 2500 € (7.54%) more than 2501 € (5.95%). In terms of place of residence, 69.64% came from the Western part of Slovakia, 13.89% identified with the option "central part of Slovakia" and the other 16.47% were inhabitants of Eastern Slovakia.

These data were supplemented by information obtained by neuromarketing research using eyetracker, which took place in the Czech Republic in February 2018 and was attended by 30 respondents. However, only 26 (19 women and 7 men) respondents were included in the results since 4 respondents did not meet the conditions for correct calibration values. Device called SMI RED 250 was used, which was produced by the German company SensoMotoricInstruments (SMI). During processing, we used SMI Experiment Center (for design research) and SMI BeGaze (for evaluation of data). The eyetracking device was controlled using sw: SMI iView X.

Statistic analysis

The results of each question were arranged in pivot tables and described in percentage and verbal terms. For a better understanding of the correlation relationships, pairs of hypothesis (null and alternative hypothesis) were formulated and were accepted or rejected using qualitative statistics methods by program XLStat. In the case of finding the dependence between two characters, we also

calculated the coefficients to determine the strength of the dependence. More specifically, the following methods have been used:
-Chi-square goodness of fit,
-Chi-square test for independence,
-Fisher´s test,
-Z-test
-Kruskal-Wallis test,
-Mann-Whitney U test,
-Wilcoxon test,
-Nemennyi test.

RESULTS AND DISCUSSION

For this survey, in the first place it was essential to find out whether consumers purchase milk (Figure 2). 76.98% of the respondents were milk buyers. 23.02% does not buy milk at all, or it is bought by another person living in the same household as a respondent. This option was chosen mainly by students or men. For this reason, we wondered whether there was indeed a statistically demonstrable difference in milk purchases between genders, for which Fisher's exact test was used:

H0: there is no dependency between the fact whether the respondent purchases milk and respondent´s gender.
H1: there is a dependency between the fact whether the respondent purchases milk and respondent´s gender.

p-value = 0.001
alpha = 0.05

The assumption of the dependence between purchasing milk and respondent's gender was confirmed because the value of alpha exceeds the p-value. It was also necessary to determine the strength of the dependency using the Cramer's V coefficient (0.156), which showed a weak dependence between chosen variables.

Participants of the questionnaire survey were differentiated based on their average monthly expenditures on milk as well. Mostly (42.06%) they were categorized between 11 and 20 €. Respondents who purchase milk worth less than 10 € per month were represented by almost 10%. 18.56% had costs between 21 and 30 € and the largest amounts of milk was purchased by 7.34%. The checked values increased in proportion to food expenditure.

The following question concerned the reason why people buy milk. In this question, respondents could mark more answers, so the results are expressed in relative values to the total number of respondents. Slovak consumers use milk mainly for direct consumption, when it is consumed by the individual or his/her family member (80.16%) or as a raw material for cooking or baking (75.40%). 18.45% are aware of the positive effects of milk on human health and therefore consume it as part of a healthy diet. The smallest group has chosen the variants "cosmetic purposes" and "other" and said that they do not consume milk directly, they use it only for their coffee, or buy it for visitors or other family members.

Moreover, respondents were differentiated based on the periodicity of buying milk. The majority (36.71%) buys milk into the stock. This option was mainly selected by residents of suburban areas and villages where local stores is usually owned by private individuals, where milk prices can be overestimated. Therefore, they usually make their large family purchases in a nearby town and take advantage of potential discounts in supermarkets. A similar amount (approximately 28%) visits a store to buy milk several times a month or several times a week. The smallest group (6.15%) goes to the store with intention of buying milk every day.

When it comes to the frequency of drinking milk, over half the group consumes milk with high frequency (29.17% daily and 34.72% several times a week). 13.30% identified with the answer "several times a month". These high percentages may be caused due to the fact that dairy represents important industry in many European countries **(Buleca, Kováč and Šubová, 2018)** and milk drinking and dairy consumption in Slovakia have historical origin. 22.82% of respondents discarded milk from their diet. They could choose this option for a variety of reasons: they do not consider drinking milk healthy, it is difficult for them to digest milk, they have a milk allergy or simply they do not like it´s taste.

The main aim of the following question, was to find out how many liters of milk a person consumes on average per week (this question was answered only by milk drinkers).

Since this question had open character, respondents were able to freely write the volume of milk in liters and a variety of answers were obtained. The lowest recorded value was 2 dL and the highest was 7 liters. The most frequently respondents said that they consume from 1 to 2 liters of milk per week. The following question addressed the respondents' opinion on their milk consumption. 82.14% consideres their consumption to be sufficient and according to 17.86% is their consumption unsatisfactory. Unexpectedly, respondents whose consumption was low have declared their consumption to be sufficient and on the other hand, there were a lot of respondents declaring insufficient consumption even though, their consumption is well above the recommended annual intake reported by experts.

Consumers (97.02%) prefer to buy and consume cows' milk. This option was preferred perhaps, because customers find cow's milk on the store shelves the most. Goat's milk was selected only by 1.19%, but this is quite a detriment, as many studies point to the positive effects of this kind of milk, and even people who are allergic to lactose can drink it. The option "sheep milk" was not selected at all. 1.79% indicated the option "other" and wrote that they consume lactose-free milk (which can be classified as cow's milk) or plant based milk (coconut, almond and soybean), even though these drinks have "milk" only in their name, since only the liquid produced by the mammary glands of female mammals is considered to be milk and these beverages are produced by leaching and mixing the above mentioned ingredients.

In terms of durability 78.97% of consumers prefer to purchase durable pasteurized milk, because of its extended expiration date, which is often even half a year from filling the milk into packaging. 20.63% favored fresh milk that is only treated with basic pasteurization (not heated to 135 °C). It has a higher nutritional value than durable milk, but **Kunová et al. (2017)** claimed than the raw milk can sometimes contain undesirable microorganisms, so it can be dangerous for human consumption. Specific groups

in the society like the elderly people with aweakened immune system, young children and pregnant women (theunborn child) are recommended not to consume any raw milk or rawmilk products **(Baars et al., 2019)**. Two respondents (who were on maternity leave at the time) of the questionnaire survey marked the answer "dried milk", so we assume they meant baby formula.

More than half of the respondents (51.59%) prefer to purchase 1.5% semi-skimmed milk from a fat content point of view. Whole milk was also chosen by a relatively large proportion of respondents (41.47%). These two alternatives are the most advantageous purchase in terms of price and quantity of fat. The group represented by 2.78% chose the option low-fat and 0.40% defatted milk. These respondents were most likely careful about their daily fat intake and therefore choose alternatives with it´s lower proportion. Raw milk, which can be purchased mainly from dairy machines or directly from the farm, and which amount of fat is not artificially treated, specifically targets 3.80%. Although this is the original form of milk and it contains the most nutrients, its price is the highest and perhaps for that reason it has been chosen by such a small proportion of surveyed people.

One question was also dedicated to reveal which milk packaging is the most purchased from the consumer's point of view. Milk packaged in tetrapak (76.79%) clearly wins. Its greatest advantage is its very composition. It is made of cardboard that is recyclable (most commonly made from kitchen towels), polyethylene, which is impermeable to water and microorganisms and aluminum to protect milk from light, oxygen and bacteria. Another of its advantages is its relatively low weight and low production costs. In second place was a glass bottle (14.48%). It is also recyclable and thanks to the thread can be reused, but it is one of the more expensive materials, what is reflected in the price of milk packed this way. Only 11.37% of respondents prefer milk in a plastic bottle. This percentage is low because many people are skeptical of plastics because they can release harmful substances into the fluid.

The volume of milk packaging was also a point of interest of this survey. The current one-liter milk package suits the largest percentage of respondents (87.30%). 7.34% would like to buy a smaller package and only 5.36% would agree with enlargement of the packaging. From the consumer's point of view, the size of package which is currently offered in the market is the right one, so there is no significant reason for companies to change the volume milk is sold in.

For research purposes respondents, who were given multiple options, indentified places where they buy milk. Almost four fifths purchase milk mainly in hypermarkets and supermarkets, which are currently located on almost every corner in Slovakia, and moreover, they come up with a new flyer promoting discounts every week to lure as many customers into their stores as possible. In smaller villages where super and hypermarkets are not yet present, their role is represented by small local grocery stores, which are attended by 40.08% of respondents. Wholesale stores are visited with the aim of buy milk by 20.44%. While these stores are primarily designed for enterprenours, they are nowadays also visited by regular customers. Fewer respondents chose answer "milk from dairy machines" (10.32%), even though autors **Pereira et al. (2018)** highlight positives araising from short character of this supply chain because there are no intermediaries between the producer and the final consumer and all actors are geographically close to each other. Only 6.15% purchase milk directly from producers probably because of limited representation of farms in urbanized zones. Just 3 respondents from the sample order milk via the Internet. Yet such a form of food purchasing is not sufficiently developed in Slovakia and it is currently preferred to purchase electronics.

The fourteenth question of questionnaire form was conceived to find out how much euros is an individual willing to spend per liter of milk. Respondents who consider milk consumption to be unhealthy and do not buy it at all are willing to spend at least (0 €). The maximum value was 5 €. This respondent also stated that he prefers buying raw fresh farm milk, but its price is currently not so high, so he overstated the amount he was willing to pay. It can be concluded that this customer is ready and willing to continue buying milk even if the price increases. The average price was calculated at level of 0.90 €. This fact was proven even by neuromarketing research (Figure 3), when heat maps show that consumers payed more attention to free gift promotion when buying specific product, rather than a discounted cheap milk showed on A-board which was placed next to the entrance of the store "Môj obchod". We also tested the assumption that consumers are willing to spend a maximum of 1 € per liter of milk by Wilcoxon's one-sample one-sided test (more specifically, the one-sample t-test when normality is not met):

H0: consumers are willing to spend just € 1.
H1: consumers are willing to spend less than € 1.

p-value = <0.0001
alpha = 0.05

The results provided by the statistical program XLSTAT showed that the null hypothesis is rejected and the alternative hypothesis H1 is accepted. Since the alpha is higher than the p-value, we conclude that with a 95% probability, consumers are willing to spend less than 1 € per liter of milk, and any price higher than one euro is overstated.

The country of origin is an important criterion at the milk purchasing process for 79.37% of participants, of which 98.00% want to support domestic milk producers and only 2.00% prefer to buy foreign milk. The information about the country of production on the packaging is not important for 20.64% as they make their decision on the basis of other factors.

One of the questions compared the quality of Slovak and foreign milk. The answer "Slovak milk is better than foreign" was chosen by more than 60% of the sample. The second most frequent response (32.34%) was "Slovak and foreign milk have of the same quality". The other 5.95% consider the quality of foreign milk better. The following question was devoted to the opinion of the respondent on the quality of milk on the Slovak market. Using the Likert scale we found out that almost half of the respondents (42.26%) were satisfied with the milk quality and 33.14% were rather satisfied. These results show that consumers

have no major reservations about the quality of milk on the domestic market. Even the survey of **Zajác et al. (2012)** showed that the quality and safety of cow's milk in Slovakia was satisfactory from quality point of view. On the other hand, only 1.39% were dissatisfied and 3.77% were rather dissatisfied. 19.44% of respondents were left without opinion. This answer was mainly marked by individuals who do not consume milk, so they can not objectively assess this fact.

Each respondent was asked to rate 10 predetermined factors influencing them when buyingmilk by using) a number from 1 (does not affect me when buying milk) to 7 (has the greatest impact on me). It can be said that taste and quality of milk are influencing consumer decisioncisions primarily, because if a person does not like the taste or lack the quality of milk, they will most likely not buy it for the second time. As far as the price is concerned, even if milk is not a big item in the consumer's shopping budget, individuals like to save and spend the saved amount to buy another product he/she might not otherwise be able to afford. Advertising and milk packaging have the least impact on decision-making process. In the last few years, everyone is exposed to innumerable advertising, which is perceived by customers rather negatively. Although milk is not widely promoted in the media, due to advertising supersaturation, buyers perceive these campaigns disapprovingly and therefore think their decisions are not affected. The packaging is also not a key factor in the selection in the shop, as its content (as described above) is more important.

We wondered whether there was a statistically proven difference of the impact of these factors. For this purpose, the Nemenyi method was used:

H0: there are no differences between the impact of individual factors on consumer purchasing process.
H1: there are differences between the impact of individual factors on consumer purchasing process.

p-value = < 0,0001
alpha = 0.05

P-value is significantly smaller than alpha, and therefore we confirm the alternative hypothesis. The impact of factors on consumers' purchasing and consumption decisions varies. Table 1 has again confirmed that durability, quality and taste have the greatest impact, and advertising and packaging are the least significant. Repeatedly, also these results were confirmed by gaze plot, which shows the location, rank and time spent looking at selected stimuls (Figure 3). As was mentioned before,

customers care about objective features of milk and not marketing ones, so they purchase milk based on their previous experiences and do not pay any attention to its merchandising.

In connection with this issue, the Mann Whitney test was also used to investigate the dependence of gender on ranking of each factor. This test showed no dependency since the p-values of all factors were greater than alpha. Men and women therefore place the same importance to different factors in buying and drinking milk. The Kruskal-Wallis test was used to determine the relationship between age and selected factors. The graph shows the p-value of individual Kruskal-Wallis test applications for each factor is depending on age (Figure 4). The factors indicated by the red bars were evaluated significantly differently at the level of acceptance 0.05.

Using the Dunn method (Table 2 and Table 3), we can tell that people over the age of 66 and those between the ages of 18 and 25 rank factors brand and advertisement differently (there is a significant difference between these groups). For the youngest respondets they were more important than for the oldest ones. When testing the packaging and country of origin, no significant differences were confirmed.

The questionnaire survey also asked for consumer behavior when buying and consuming special types of milk. More specifically, the questions targeted flavored and lactose-free milk. Flavored milk favors 25.40%. The most sold flavor is chocolate (50.78%), 22.66% prefers vanilla, followed immediately by strawberry (17.97%), bananas (6.25%) and raspberries (2.34%), but authors **Park et al. (2019)** warn that sugar content within flavoured milk can cause chronic diseases such as obesity. Lactose milk purchases on a regular basis only 12.90% of the sample. The reasons for its purchase are: lactose intolerance of the respondent or family member (80%), 13.85% tastes more than traditional milk, and 29.23% is easier to digest.

The next open question was the expected recommended weekly milk consumption (in liters per person). One should drink up to 1 liter of milk according to 7.14%. One fifth of the respondents believe that everyone should consume from 1 liter (inclusive) to 2 liters of milk per week. The largest percentage of respondents (48.02%) thought that people should drink from 2 to 3 liters of milk per week. However, there have also been found individuals who consider optimal consumption of 3, 4, 5, 6, 7, 10, 12 or even 15 liters per week. As the recommended annual consumption is 91 liters per person, all of these people have exceeded the recommendations of specialists.
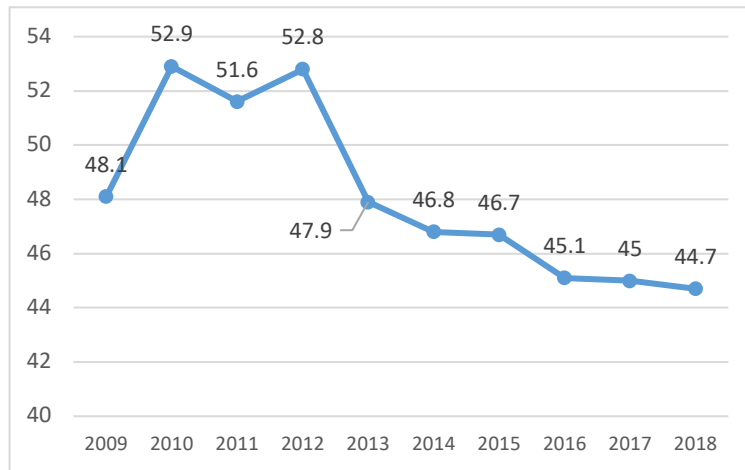
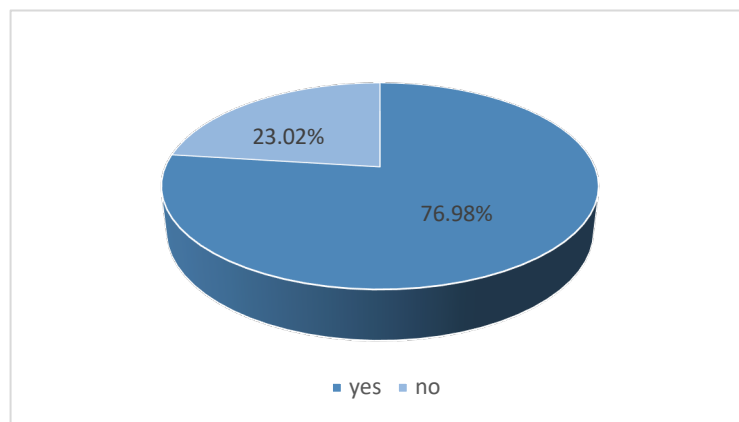**Figure 1** Annual milk consumption per person in liters.

Figure 2 Fact, whether respondend purchases milk.

Figure 3 Stimul 3141 Heat maps; Stimul 3178 Gaze-plot.

Table 1 Importance of chosen factors when purchasing milk.

Factor	Mean	Groups				
Advertisement	3.432	A				
Packaging	3.912	A				
Size of packaging	4.668		B			
Brand	4.780		B			
Country of origin	5.886			C		
Fat content	5.912			C		
Price	6.243			C	D	
Durability	6.479			C	D	E
Quality	6.788				D	E
Taste	6.902					E

Table 2 Evaluation of brand by different age categories.

Sample	Mean of ranks	Groups	
over 66 years old	205.289	A	
from 26 to 35 years old	241.034	A	B
from 36 to 45 years old	246.218	A	B
from 56 to 65 years old	249.663	A	B
from 46 to 55 years old	267.419	A	B
from 18 to 25 years old	296.494		B

Table 3 Evaluation of advertisement by different age categories.

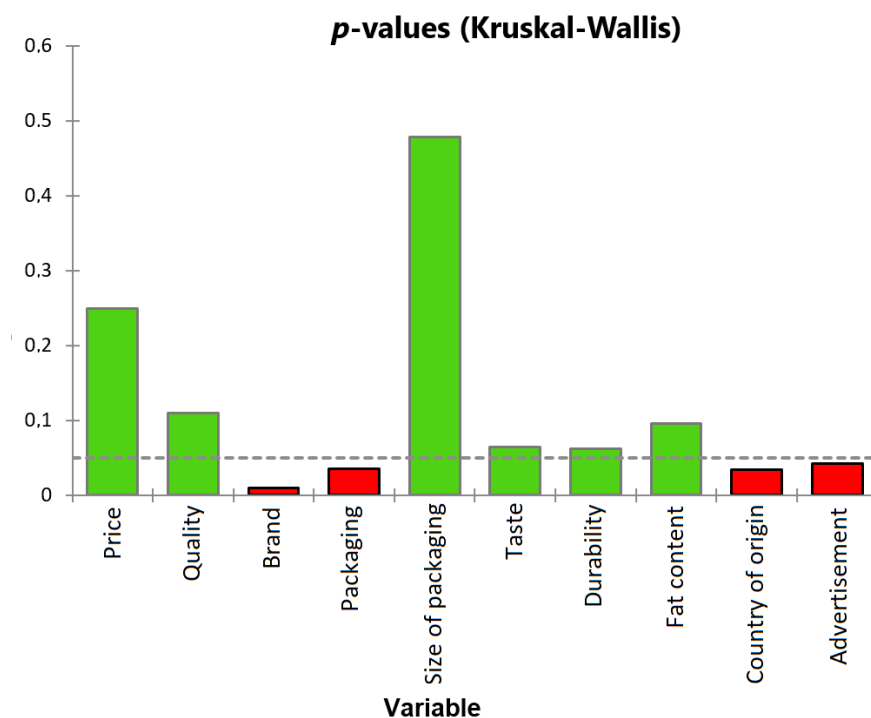| Sample	Mean of ranks	Groups	
from 36 to 45 years old	227.796	A	
from 56 to 65 years old	239.163	A	B
over 66 years old	248.263	A	B
from 46 to 55 years old	252.263	A	B
from 26 to 35 years old	261.636	A	B
from 18 to 25 years old	294.910		B

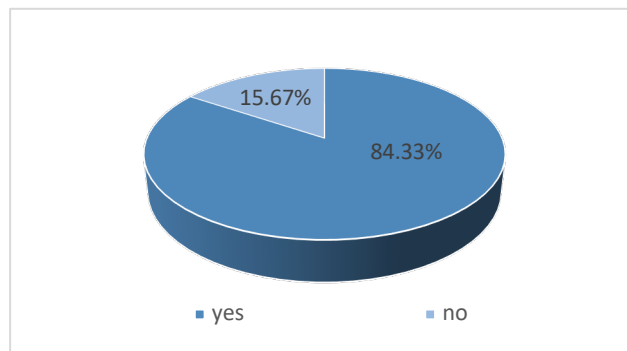**Figure 4** Results of Kruskal-Wallis test.

Figure 5 Perception of milk consumption as part of healthy lifestyle.

The last part of the questionnaire was focused on the issue of milk as a part of a healthy diet. 84.33% perceived consumption of milk positively, on the other hand 15.67% had opposite opinion (Figure 5). A consumer survey was also conducted by **Kubicová, Predanocyová and Kádeková (2019)**, in which they identified that 80% of consumers include consumption of milk and dairy products in a healthy lifestyle. When justifying positive impact of milk consumption, following responses were most commonly seen:
-strengthens bones and teeth,
-contains important nutrients for our organism,
-it is natural,
-easily digestible food,
-provides nutrients to the body,
-provides calcium and iron supply,
-supply the body with the necessary protein,
-vitamins and minerals,
-natural baby food,
-boosts immunity,
-no acid reflux,
-is simply tasty,
-fat content,
-source of fatty acids,
-in the case of goat's milk, it has medicinal properties.

Subjects who thought that milk should not be part of the human diet explained their belief as follows:
-the content of drugs and antibiotics consumed by animals,
-it is unnatural to consume breast milk of another species intended for the proper growth of the calf and not of human beings,
-milk is not as important as other foods,
-is not healthy because it contains dangerous bacteria,
-healthy nutrition is not about milk,
-diluted with water, so it´s quality is lower than in the past,
-personal beliefs,
-creates mucus in the body,
-for adults, it is useless, it should only be consumed by children,
-cow's milk decalcates, which is the exact opposite of what is presented to consumers,
-milk is healthy just when it is purchased directly from the breeder, because it is without additional treatment.

We tested the penultimate question using chi-square test for independence to find out if men and women and different age groups responded contrarily.

H0: there is no correlation between gender and whether the respondent considers milk as part of a healthy diet.
H1: there is a correlation between gender and whether the respondent considers milk as part of a healthy diet and its gender.

p-value = 0.99
alpha = 0.05

H0: there is no correlation between respondent´s age and whether he/she considers milk to be part of a healthy diet.
H1: there is correlation between respondent´s age and whether he/she considers milk to be part of a healthy diet.

p-value = 0.660
alpha = 0.05

Both tests showed that there is no significant dependence between variables, because p-value was greater than alpha and we accepted zero hypotheses. Thus, we can conclude that gender and age categories do not affect whether respondents consider milk consumption as part of a healthy diet.

CONCLUSION
The results of the questionnaire survey and conducted neuromarketing research showed the following: 76.98% of respondents purchase milk, but this does not mean that other households do not buy milk, it can be purchased by another person residing with the respondent. Most often (42.06%) milk expenses range from 11 to 20 € per month and the admissible price per liter is, on average, 0.89 €. Milk is mainly purchased in hypermarkets and supermarkets (36.71%) and 79.37% of the survey participants decide based on the country of origin (of which 98.00% wants to support domestic producers and only 2.00% buy foreign milk). Other important factors are taste and quality of milk. To characterize the most frequently purchased milk, the current liter packaging of milk suits the majority of respondents (87.30%) and they prefer cow (99.02%), long-life milk (78.97%), in a tetrapak packaging (76.79%) with 1.5% fat content

(51.59%). 84.33% believe that milk has a positive impact on their health.

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