

STUDENT PREFERENCES ON THE MILK MARKET

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INTRODUCTION

Consumer preferences are defined as consumers' choices motivated by the perceived utility of products. Consumer preferences are also subjective relations inherent in the choice of products in given conditions [Kudelka and Marzec 2004]. They do not have a constant character and they undergo constant changes. The existence of preferences means that consumers' decision making is influenced by numerous internal and external factors. The analysis of preferences makes it possible to determine the conditions that are necessary every time an individual consumer makes a decision, while preference attributes make it possible to determine the solutions to decision-making problems. The consumer choice theory is of great theoretical and practical value [Szapiro 1993]. Changes in consumer preferences on the market depend on numerous factors, including a wide range of products, the health and ecological awareness of customers, their purchasing power and the possibilities that exist for creating substitute products on the market [Adamczyk et al. 2002].

According to G. Antonides and W.F. van Raaij, consumer behaviour includes all activities, both physical and mental, connected with purchasing, obtaining, applying and consuming goods. These activities allow consumers to solve problems and become fully content [Świątowy 2006]. The science that investigates consumers' activities and behaviour is very broad. It collects information about all the elements of the process of buying and analyzes it. Everyone is a consumer – from a small child spending money on toys to the president of a big company who spends millions on the equipment he requires. A similar all-inclusiveness happens with products, as everything that allows for the achievement of satisfaction and the fulfillment of desires can be consumed [Solomon 2006].

The assumptions of consumer choice theory are based on neoclassical and behavioural economics. Neoclassical economics holds that the behaviour of economic entities can be described with the following assumptions [Solek 2010]:

- individuals act rationally;
- individuals act in such a way that would be widely comprehended as being in their own interest;
- individuals have consistent preferences;
- individuals act on the basis of full and relevant information;
- individuals treat reserves and income interchangeably.

In neoclassical theory, the consumer's behaviour can also be described using the concept of expected utility, which consists of the following rules:

- preferences are complete, i.e. it is possible to compare them;
- preference is transitive, i.e. if we prefer a to b and b to c, we will prefer a to c;
- invariability exists, i.e. the nature of the presentation does not influence the price.

However, in behavioural economics, we deal with limited rationality that assumes that a consumer has limited information as well as problems analyzing it. That is why consumers are not able to maximize their satisfaction [Solek 2010].

Research on consumer preferences is particularly important in analyzing the milk market because dairy products are among the most important sources of calcium in most people's diet. It is said that in Poland, due to a low intake of dairy products, people have a considerable deficiency of the macro-element hypocalcemia – of up to 50%. Two glasses of milk contain sufficient calcium and protein for an adult's daily needs [Adamczyk et al. 2009]. A deficiency of these elements contributes to numerous ailments, diseases and conditions, osteoporosis foremost among them, but also nervous disorders, uncontrolled cramps, tetany seizure and cardiac arrhythmia [Zaręba et al. 2009].

There have been notable differences in the level of milk and dairy product consumption over the past few decades in Poland. In the 1980s, milk consumption was 270–280 l per inhabitant per year while by the end of the 1990s milk and dairy product consumption had dropped to 198 l. In 2004, there was another drop to 174 l per person and in 2013 there was a small rise to 193 l per person. The reason for the decrease should be sought in the comparatively faster growth in dairy product prices than in consumer income and inflation [Świątkowska 2009]. The second reason for the fall in milk consumption is that people have been able to get their protein from greater consumption of meat and other products and are now more readily available [Adamczyk et al. 2002].

With the great changes that have characterized milk consumption in mind, the research described in the following pages was conducted. While consumer preferences in milk consumption undergo constant changes, more and more people consume processed food, which has a higher value added.

AIM, SUBJECT AND METHOD OF THE RESEARCH

The main aim of the research was to learn consumer preferences in milk and dairy products. As the main aim, the following objectives were achieved:

- to determine the frequency with which milk is bought;
- to recognize the factors consumers consider when buying milk;
- to estimate the value of the factors consumers consider while buying milk and dairy products.

The subject of the research was a group of 98 students that do the shopping in Ostrołęka for themselves and their families. The research group constituted second and third year students of management in the Higher School of Economics and Social Sciences in Ostrołęka. In the research, no probability sampling was used in order to convince the students, all of whom were studying second or third year management, to participate in the research. A questionnaire and interview were used. The questionnaire included open-ended questions, closed-ended questions and mixed questions. The factors that determined the consumers' choices were graded from 1 to 5, where 5 was the highest mark. Tables, diagrams, and description methods were used in the analysis of the data.

RESEARCH RESULTS AND ANALYSIS OF THE RESEARCH

The characteristics of the respondents were first determined. At 76.5% of respondents, women were the majority. The largest group was between 21 and 35 years of age (79.5%) while the smallest group was made up of individuals under 21 (9.2%). There were also individuals over 46 years of age in the group of respondents (Table). Unsurprisingly, in the Higher School of Economics and Social Sciences in Ostrołęka there are students who elect to study at night or on weekends because they work but are required by their employers to raise their qualifications.

Most respondents live in villages (45.9%) and in towns with up to 50 thousand inhabitants (25.5%). Only 11 respondents lived in a city of from 100 to 500 thousand inhabitants. Most respondents were single (72.4%).

TABLE. Characteristics of the respondents

Features	Amount	Percentage
Sex		
Women	75	76.5
Men	23	23.5
Age		
Under 21	9	9.2
21–35	78	79.5
36–45	8	8.2
46–55	5	5.1
Over 55	1	1.0
Place of residence		
Village	45	45.9
Town of up to 50 000	25	25.5
Town of 50 000–100 000	18	18.4
City of 100 000–500 000	11	11.2
Marital status		
Single	71	72.4
Married	25	25.5
Widow/Widower	2	2.1

Source: own study.

Numerous changes have recently occurred in the milk market lately, including to both supply and demand, and how they are adjusted to consumer needs. In addition, many new products have been introduced to the market and technologies have been modernized to meet consumers' expectations [Adamczyk et al. 2009].

The type of product is only one of the basic factors that shape consumer preferences. Therefore, the questionnaire included the following types of milk: pasteurized milk (which expires quickly after opening) and UHT milk (ultra-high temperature), i.e. condensed milk and milk "straight from the cow", which can be bought straight from producers or in small local shops in special containers.

The respondents were asked to indicate the milk they buy most frequently (Fig. 1). Most indicated UHT milk (70.41%), which began to be produced in the 1990s and has a long expiry date, which perhaps accounts for its popularity. Pasteurized milk was the second most frequently purchased type. It is most often chosen by people who often buy milk and who are attached to a given brand and producer. Definitely, the smallest percentage of respondents chooses milk "straight from the cow" (20.41%), which has the shortest expiry date. Moreover, its distribution and availability is limited only to selected sales points.

The students were asked to indicate how often they bought milk. Most respondents bought it every day (39.8%) or once or twice a week (22.45%). The high purchase frequency shows that the consumers use milk every day. Because milk is perishable, it should be consumed within 24 h of being opened, which creates the need to buy milk more often. Only 14.29% of respondents bought milk less than once a week (Fig. 2).

In the questionnaire, the respondents indicated the factors they consider while buying milk (Fig. 3). The most important according to the respondents were the container (2.84), the brand (2.81) and information on the container (2.76). The type of container matters not only to the milk producers, but is also important for transportation and sales considerations. The ability to open and close the container numerous times is another important factor for consumers as it enables them to use the product many times. The container should have printed on it the information needed to allow consumers to know basic information about the product, and hence reduce the risk in buying it. Such information includes the date of expiration, composition of ingredients, the percentage of fat and other ingredients, and a bar code. That consumers assess price as such an important factor in their decision to purchase a particular type or brand of milk speaks and what they are sensitive to.

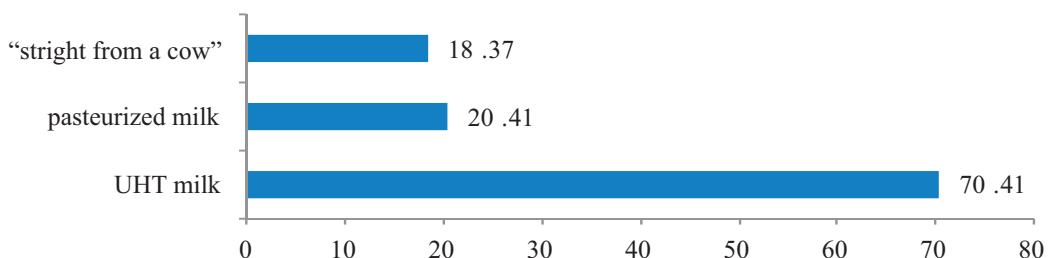


FIG. 1. Types of milk most frequently bought by the respondents (%)

Source: own study.

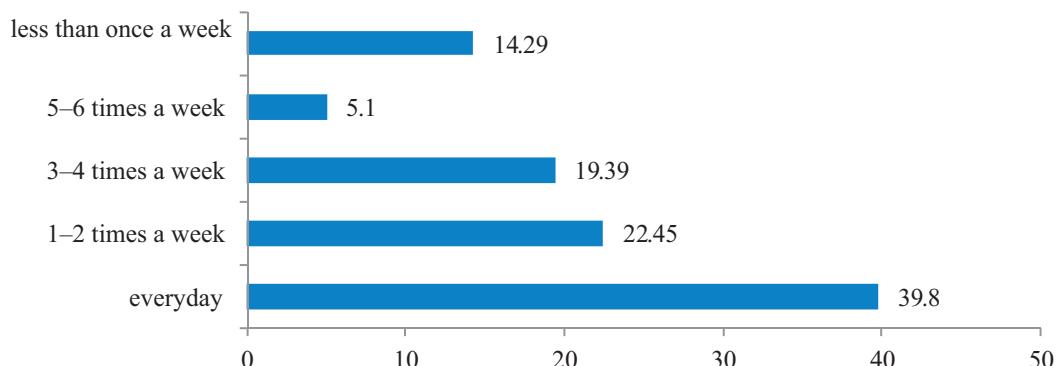


FIG. 2. Frequency of buying milk (%)

Source: own study.

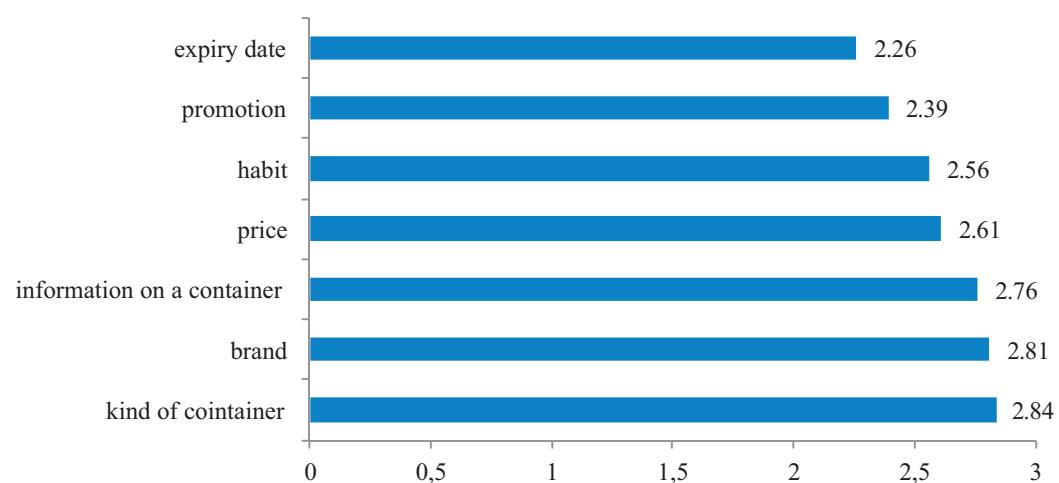


FIG. 3. Factors taken into consideration while buying milk (marks from 1 to 3, where 3 is the most important factor)

Source: own study.

Brand is important to consumers who pay attention to quality. They usually exhibit an attachment to the products they buy in the belief that they guarantee good quality [Grabowski et al. 2010]. The research results indicate attachment to brand, proving that, in the case of routine shopping, the container and the brand compel consumers to repeat particular purchases. The next factor that consumers take into consideration when purchasing milk is price (2.61). The result indicates a high sensitivity to price.

One of the least important factors that motivated the respondents to buy milk was habit (2.56) and special offers (2.39). The latter do not matter in buying milk as consumers choose the brands they know and value. Consumers also indicated that the expiration date does not matter, suggesting that they trust the sales points where they shop to offer fresh products. An additional factor in not regarding the expiration date as important is

that consumers most often choose UHT milk, which has a long expiration date and makes for a safer purchase.

The most important information placed on a container was the brand (89.8%) and the percentage of fat (83.67%). These two factors determine the choice of milk to a large degree (Fig. 4).

The information about the percentage of fat in milk is particularly important for consumers that pay attention to product quality and healthfulness. According to an Agricultural Market Agency analysis, the most popular milk has 3.2% fat, and is chosen almost 50% of the time. The second is milk with 2% fat, which consumers buy nearly 20% of the time, and the third is 1.5%, which is bought by 18% of consumers. Low-fat milk (0.5% fat content) is purchased by only 8% of shoppers [Świątkowska 2014]. The respondents then indicated container type (38.78%), the expiration date (32.65%), and the nutritional value (22.45%) as being the most important factors in their decision to purchase a particular milk, further corroborating the results reported above. Knowledge about the product and the individual reaction of consumers are the other factors that shoppers take into consideration when purchasing dairy products.

The quality of milk is determined by a group of features that determine its value in use. Those features are organoleptic properties, empirical formulas, microbiological and cytological quality and processing quality. Consumers' perception of these factors definitely differs from that of nutritionists. It is important that there are numerous other features beyond the four factors that have an influence on milk quality at the end of the production process. Unfortunately, consumers are still unaware of them. While consumers may be sure of the nutritional value of dairy products, in reality they know very little about it and do not consider that value while shopping. Results of the research further indicate that a majority of consumers identify the high quality of dairy products with a brand. Apparently, the brand guarantees that the product will be of high quality, fresh and healthy.

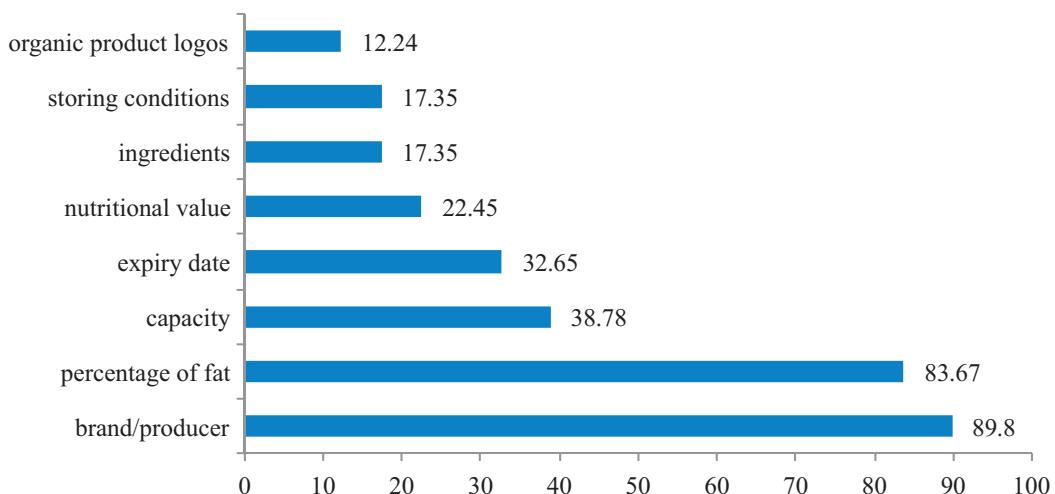


FIG. 4. Information placed on milk containers that respondents pay attention to (%)
Source: own study.

On the other hand, quality does not play such a definitive role: The vast majority of consumers do not know the quality systems (ISO 9001, ISO 22000, HACCP), meaning they do not realize what a quality management system is and that it can not only have a real influence on the quality of a product, but also, and most importantly, guarantee that it is safe for one's health.

The respondents were asked to name the places where they buy milk (Fig. 5). Most respondents indicated local shops (39.81%), discount stores (35.71%), and supermarkets (35.71%), though hypermarkets (29.59%) and farmers selling directly to consumers (11.22%) also commanded their portion of consumers. The smallest group of respondents buys milk at other sales points such as markets and straight from farmers.

The students indicated the factors that help them in choosing milk, ranking ease of purchase highest (4.19), which suggests it was the most important to them, followed by high product quality (3.99). The respondents' highlighting this factor reflects a positive attitude to the subject of product quality (Fig. 6).

The next factors evaluated by the respondents were stores offering a large number of products and a wide choice of products. The results show that respondents buy milk together with other food products.

The consumers' decisions were strongly influenced by advertising and promotions offered by milk producers. Consumers learn about a given brand from commercials. The more intensive and attractive the promotion, the more popular the product becomes. While consumers claim that price is one of the main factors in quality, it is highly probable that discounts are the most important incentive to make a purchase – in reality consumers always buy cheaper products.

Producers of dairy products face a great challenge: they have to plan and then properly market products that will bring to consumers' attention a means of properly identifying technological and consumer quality, among other things. A real promotion would be the most effective path to improving consumers' knowledge; it would inform them about

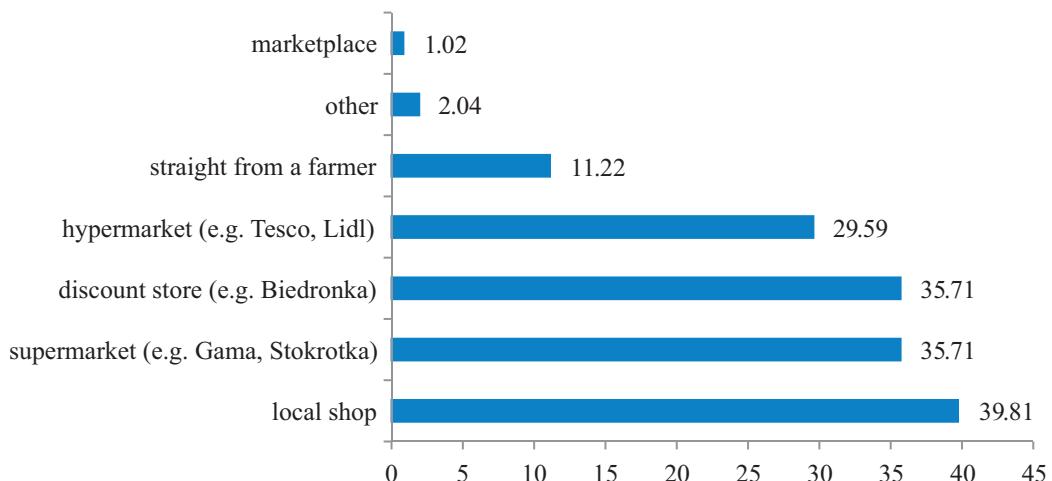


FIG. 5. Places where respondents buy milk (%)

Source: own study.

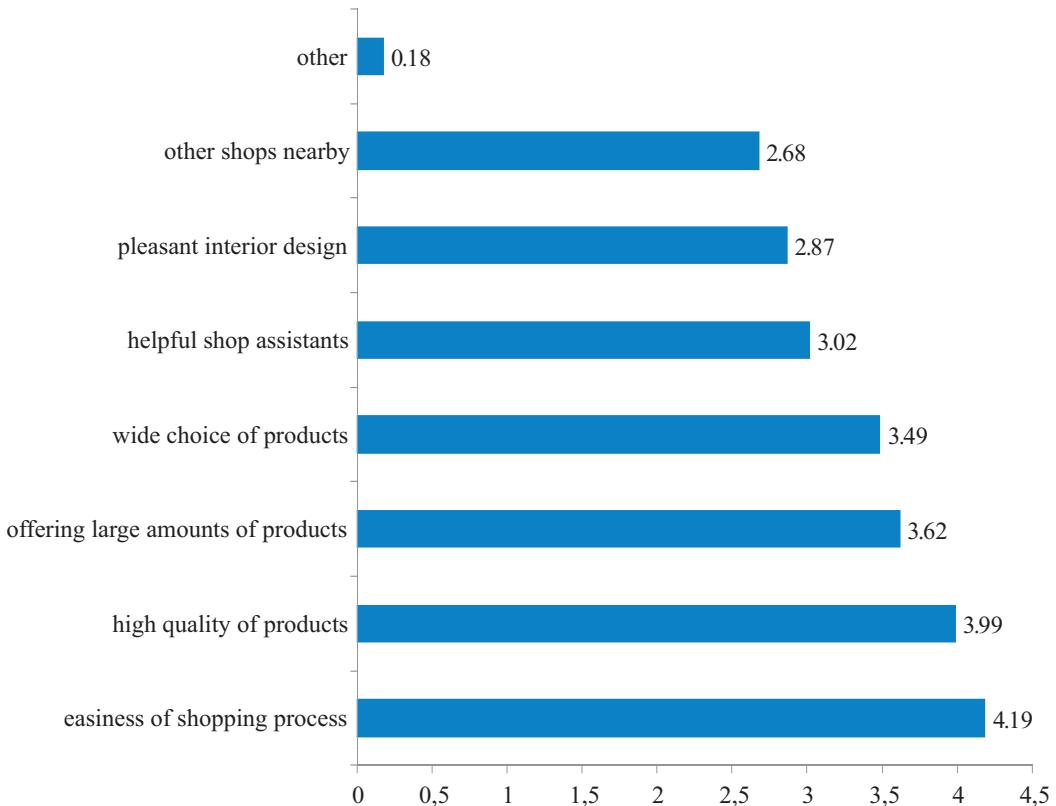


FIG. 6. The evaluation of factors that help in buying milk (marks from 1 to 5, where 5 is the most important value)

Source: own study.

the nutritional and health value of dairy products while at the same time appealing to consumers' senses.

SUMMARY AND CONCLUSIONS

Milk is one of the most frequently purchased products. The analysis of the collected data allows the following conclusions to be drawn:

1. The respondents bought milk every day or 1–2 times a week. High purchase frequency indicates high consumption of milk and dairy products, and suggests milk is seen as a healthy product.
2. The research group values quality and functionality as well as convenience in buying milk and dairy products. Other products, mainly food, are often bought along with milk.
3. Consumers' milk preferences change constantly. The quality, price and nature of products matter to young people more.
4. The biggest group of respondents buys UHT milk (ultra-high temperature processed milk) for its long expiration dates and convenience.

REFERENCES

- ADAMCZYK G., TARANT Sz., TRĘBACZ A., 2002. Zachowania konsumentów na rynku mleka spożywczego (Consumer behaviour on liquid milk market), Roczniki Akademii Rolniczej w Poznaniu 343.
- ADAMCZYK G., ANIOŁA P., CZUBAK W., 2009. Preferencje młodych ludzi na rynku mleka (Preferences of young people on the milk market), Journal of Agribusiness and Rural Development 4 (14), 1–7.
- GARBOWSKI M., RADZYMIŃSKA M., GARBOWSKA B., 2010. Konsument na rynku produktów mlecznych z uwzględnieniem jogurtów (Consumer on the market of dairy products with the yoghurts regard), Zeszyty Naukowe Ostrołęckiego Towarzystwa Naukowego 24, 149–156.
- KUDEŁKA W., MARZEC M., 2004. Preferencje studentów dotyczące spożywczych mlecznych napojów fermentowanych (The students' preferences for consuming fermented milk drinks), Żywność. Nauka. Technologia. Jakość 3 (40), 63–76.
- SOLEK A., 2010. Ekonomia behawioralna a ekonomia neoklasyczna (Behavioural Economics vs Neoclassical Economics), Zeszyty Naukowe Polskiego Towarzystwa Ekonomicznego 8, 21–34.
- SOLOMON M.R., 2006. Zachowania i zwyczaje konsumentów (Consumer behaviour and habits), VI edn. Helion, Gliwice.
- SZAPIRO T., 1993. Co decyduje o decyzji (What makes the decision), Wydawnictwo Naukowe PWN, Warszawa.
- ŚWIATOWY G., 2006. Zachowania konsumentów. Determinanty oraz metody poznania i kształcenia (Consumer behaviour. Determinants and methods of recognizing and shaping), PWE, Warszawa.
- ŚWIĄTKOWSKA M., 2014. Mleko – podstawa diety i gospodarki żywieniowej (Milk – the basis for diet and nutrition economy). Biuletyn Informacyjny, Agricultural Market Agency 3.
- ZAREBIA D., ZIARNO M., HAUZER A., 2009. Postawa młodych konsumentów wobec produktów mlecznych i probiotyków (Young consumers' attitudes toward dairy products and probiotics), Bromatologia i Chemia Toksykologiczna 3, 954–958.

Summary. The article presents consumer preferences on the milk market. The research was conducted on a group of 98 students studying management at the Higher School of Economics and Social Sciences in Ostrołęka in 2014. The research showed that the respondents are young and they pay the greatest attention to: quality, brand and price. The respondents buy milk every day or several times a week. The students ranked ease of purchase, product quality, and wide choice of products as the most important factors in their decision to buy a particular milk from a particular vendor. They also indicated the most important information on a container was the percentage of fat and the expiration date.

Key words: preferences, consumer, milk market

JEL: D11, Q13

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