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## **CHILDREN'S FOOD PREFERENCES INCLUDED AND OFFERED IN THE „SCHOOL SCHEME”**

*PREFERENCJE DZIECI DOTYCZĄCE KONSUMPCJI PRODUKTÓW SPOŻYWCZYCH  
OFEROWANYCH W „PROGRAMIE DLA SZKÓŁ”*

**Key words:** “School scheme”, education, consumption, children

*Słowa kluczowe:* „Program dla szkół”, edukacja, konsumpcja, dzieci

*JEL codes:* I21, I24

**Abstract.** The aim of the studies was to gather the primary school teachers' opinion about the „School Scheme” and its effectiveness, as well as children's food preferences and the reasons, why some of the schools didn't take part in the program. The empiric studies were conducted in 2017 and 6,413 teachers from primary schools took part in them. The results show that students prefer to eat fruits than vegetables. If some of them chose vegetables, they ate tomatoes, radish, carrot rather than kohlrabi or sweet pepper. When it comes to dairy products, they took: milk and cottage cheese. Some of the Polish schools didn't take part in the program, because they claim not to have enough suitable place to store fruits and vegetables at their entities and children's parents weren't interested in that matter.

### **Introduction**

The tendency for obesity in among children is constantly increasing in developing countries, including Poland, and is becoming a big health and economic problem. WHO and the Imperial College London issued a report in October 2017 showing data concerning the obesity phenomenon among children and young people aged 5-19. It turns out that the amount of obese people between the age of 5 to 19 has increased 10-fold over the years. The rate of children and adolescents defined as obese in 1995 was at 1% (11 million), whereas in 2016 it reached 6% and 8% (124 million) among boys and girls, accordingly. Unfortunately, currently there are 213 million obese children [Paształeniec 2018]. The number of obese and overweight children is growing rapidly, also in Poland, and the ratio is one of the fastest in Europe. The research conducted by the Institute of Mother and Child in Warsaw, under the auspices of WHO, in 2017, show that 31.2% of eight-year-old children had excess body weight, 12.7 were obese and 18.5% were overweight [Fijałkowska 2017]. The reasons for this massive problem are: lack of physical activity and bad eating habits. Good nutrition habits influence the health condition and decrease cardiovascular and digestive diseases. Malnutrition also causes a variety of physical and mental disorders [Dziwisz 2017]. Prevention and education are the most important values to reduce the number of people who suffer because of bad eating habits. The most vital factors strengthening good eating habits are family and school. That is why, while shaping these good eating habit, not only children but also teachers and parents should be involved. According to research carried out by the Food and Nutrition Institute, the sources of knowledge on healthy nutrition are: school (82%), parents (74%), literature (47%), doctors (45%), mass media – TV and radio (29%), the Internet (25%) and advertisement/commercials (22%) [Kocon 2017]. Children should be educated in this area and gain information about health and nutrition at and after school, as well as during their free time. A healthy lifestyle and good eating habits might reduce the number of obese people and the risk of health problems. The question arises: how can the current nutrition lifestyle be improved and how can better eating habits be observed?

The World Health Organisation recommends people eat 400 grams of fruit and vegetables per person, but unfortunately most Europeans fail to apply this rule [Bisz, Niewiarowska 2010].

Moreover, the European Commission paid attention to obesity among children and young people and admitted that the change of nutritional habits might be crucial in solving the issue. As a result, the European Commission founded the school programmes “School Milk Scheme” and “School Fruit Scheme” within the framework of the Common Agriculture Policy (CAP). The aim of the first programme, invented in 1977, is to provide schools with dairy products at considerably lower prices and the latter program, which is co-financed by the European Commission, enabled schools to distribute fruit and vegetables as of 2009/2010 [ECA 2011]. Since 2017/2018 the “School Scheme” has replaced the “School Milk Scheme” and the “School Fruit Scheme” [Trajer, Krzyżanowska 2012].

Furthermore, in 2005, the European Commission created “the Green Paper on promoting healthy diets and physical activity to prevent obesity, being overweight and chronic diseases” and the White Paper, which is a strategy for Europe on nutrition, being overweight and obesity-related health issues in 2007 [KWE 2007].

Recently, the European Commission implemented a “School Scheme” in primary schools to shape healthier eating habits among students. The funds for the school year 2017/2018 amounted to PLN 242.9 million. PLN 114.8 million was donated by the EU and PLN 128.1 million was granted by the Polish government. Poland was one of the major beneficiaries of the scheme in the EU and was in fourth place considering the number of subventions given (just behind Germany, France and Italy) [Portal Spożywczy 2018]. The main goal of this programme is to teach children and young people how to shape good eating habits by providing them with fresh fruit and vegetables in everyday life. It is thought that a diet full of fruit, vegetables and dairy products is crucial for children's health. The programme teaches how to plant and distribute these goods, as well as what to do in order not to waste food. To promote this project at schools and encourage children to eat healthily, a package of educational materials was created and supported by the well-known Chrumas' Team (Ekipa Chrumasa). The materials consist of:

- four educational videos about culinary workshops in four different seasons: Spring-Summer and Autumn-Winter (two videos for students grade 1-3 and two videos for grade 4-5),
- a guide for teachers,
- a pamphlet for children,
- a guide for parents,
- a manual for schools on how to use the educational materials.

The “School Scheme” has an educational form and connects the following aspects of human life: health, education and agriculture.

The aim of the studies was to gather the primary school teachers' opinion about the „School Scheme” and its effectiveness, as well as children's food preferences and the reasons, why some of the schools didn't take part in the program.

### **Material and methodology of the empiric studies**

To assess the „School Scheme” and its perception, the Consumption supporting department (Departament Wspierania Konsumpcji – KOWR) delegated 13,602 primary schools to conduct a survey regarding the implementation of the program. It was also vital to discover why some of the schools failed to take part in the programme. To gain the answers to these inquiries, the National Agricultural Centre (KOWR), supported by a respective department, carried out a survey on the “School Scheme” in 13602 primary schools. The schools that took part in the survey were ones where the former programmes (the School Milk Scheme and the School Fruit Scheme) were conducted and few where none were present. The empiric studies took place between 15<sup>th</sup>-28<sup>th</sup> November 2017 and were conducted in 6413 primary schools, which constitutes 47% of all schools in and out of the programme. 96% of schools surveyed were ones where the school programmes

were implemented, 63.5% were schools from cities and 36.5% were rural. Most of them were big schools, above 100 children, and made up 68% of all schools; 23% constituted schools with 50-100 children. The third group were schools under 50 children – 9%.

### Results of the empiric studies

The author of the studies made an attempt to define children's preferences when it comes to fruit and vegetables consumed while having the "School Scheme" at school. The data were presented in figure 1 below.

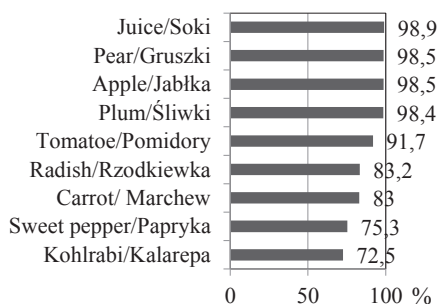


Figure 1. Children's preferences concerning fruit and vegetable consumption

Sources: own study based on the survey [KOWR 2018b]

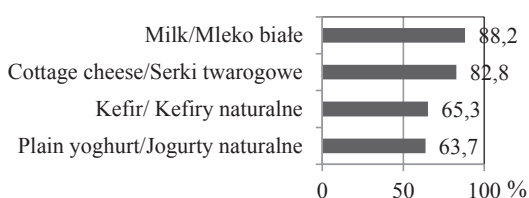


Figure 2. Children's preferences concerning dairy product consumption

Sources: own study based on the survey [KOWR 2018b]

\* the respondent might have given more than one answer

The surveyed students were more eager to take fruit than vegetables. When opting for vegetables, they preferred tomatoes, radishes and carrots rather than kohlrabi or sweet pepper. There is a possibility that children were not familiar with some of the products before and that is why they did not choose them. The research also aimed at finding out what kind of dairy products children prefer. Figure 2 shows the results concerning this matter.

When it comes to dairy products, children preferred fresh milk and/or cottage cheese. They did not want to eat plain yoghurts or kefir – products without sugar added. It seems that it is crucial to educate children and explain to them that long-lasting consumption of dairy products is very important for a sustainable diet and healthy lifestyle. Only by assuring and encouraging positive eating habits may teachers and parents support their children and prevent them from obesity.

Table 1. The reasons why children do not want to eat fruit, vegetables and/or dairy products

The reason	Fruits and vegetables		Dairy products	
	n = 301	ratio	n = 494	ratio
I don't like the product	166	55.3	212	43.0
The product is boring	57	19.0	136	27.6
The product doesn't look good	28	9.2	-	-
The product doesn't taste good	22	7.2	-	-
The portions are too big	15	4.8	123	24.8
Other	13	4.5	23	4.6

\* the respondent might have given more than one answer

Sources: own study based on the survey [KOWR 2018b]

The researchers estimated that children who took part in the "School Scheme" eagerly took all fruit and vegetable portions (95.2%) and all prepared dairy products (92.3%). Children were also asked why they do not chose certain products and the results were presented in table 1.

Children gave many reasons why they do not want to eat the above-mentioned products. Most of the time they were uninterested in the product or the

offered product was boring/ not diversified. When it comes to dairy products, children claimed that the portions are too big. The results are essential for the organisers. Thanks to them they might adjust the offer to children's needs.

One of the aims of the “School Scheme” is to promote children eating prepared products at schools together with peers. It is an advantage of the programme because, at that age, children need full support from their peers. It might be described as a domino effect. One of the peers eats fruit, vegetables and/or dairy products then others are more willing to consume such products, too. In this way the school may contribute to shaping good eating habits.

77% of all fruit and vegetables eaten by children were consumed at school and 73% of dairy products were also only consumed at school. The school representatives admitted that some of the products were eaten at school, but some of them were taken home. Taking into consideration the percentage of this phenomenon, it may be presented as follows: fruit and vegetables 23% and dairy products - 26.5% [KOWR 2018a]. Some of the invited schools failed to take part in the programme because of various reasons, such as:

- lack of space to store fruit and vegetables 20%,
- logistic problems/ lack of a suitable deliverer 16%,
- children already received fruit and vegetables while having lunch at schools, thus meeting their needs 13%,
- lack of parental interest 11%,
- children come from families which have their own farms and parents provide them with fruit and vegetables daily 10% [KOWR 2018a].

The results show that the “School Scheme” should be improved in some areas. To encourage schools to take part in the programme, deliveries should be run more often, so that the school does not need to take care of product storage. Most schools do not have enough storage space, fridges or coolers to store the offered products- mainly dairy products.

### Summary

The informational and educational activities concerning eating habits among children should cover two areas: school and home. That is why the “School Scheme”, where the educational path about consumption takes place at schools, is compatible with projects addressed towards parents and seems to be a very good solution.

If children observe healthy eating patterns in their early childhood, there is a possibility that they will not be obese or overweight in the future and the risk of suffering chronic diseases is also lower. If a high rate of obesity and overweight occur, this influences a country's economy. In Poland, it reflects Polish GDP amounting to 2.8% [Zgliczyński 2017]. This number consists of: direct medical treatment costs regarding obesity and its complications and the indirect costs such as: incapacity for work as a consequence of being obese, payment of social benefits and premature death. The conclusion is that it is crucial to educate children from the earliest years and show them the right eating habits i.e. by addressing them through the “School Scheme” and other programmes dedicated for schools.

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### Streszczenie

*Celem badań było poznanie opinii nauczycieli szkół podstawowych dotyczącej zasadności i efektów realizacji „Programu dla szkół”, preferencji dzieci w zakresie konsumpcji oferowanych produktów żywnościowych, a także powodów nieuczestniczenia szkół w tym programie. Badania empiryczne zrealizowano w 2017 roku i objęto nimi 6413 nauczycieli szkół podstawowych. Z przeprowadzonej analizy wynika, że w szkole uczniowie chętniej spożywali owoce niż warzywa. Wśród warzyw częściej zjadane były pomidory, rzodkiewki i marchew niż kalarepa i papryka słodka, a do preferowanych produktów mlecznych należały mleko świeże i serki twarogowe. Wśród głównych powodów nieuczestniczenia szkół podstawowych w programie wskazywano brak odpowiedniego zaplecza do przechowywania dostarczonych produktów owocowo-warzywnych i brak zainteresowania ze strony rodziców.*

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