

# Consumer Behavior of Young People in the Context of Health and COVID-19 Pandemic in Slovakia

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**Abstract** – Following the outbreak of the COVID-19 pandemic, which affected the whole world, including Slovakia, there were changes in people's habits and consumer behavior, as well as an intervention in a healthy lifestyle. As a result of the extremely rapid spread of the COVID-19 pandemic, habits have changed in terms of consumer behavior and health, which has also affected young people's lives. The main objective of this study was to identify consumer behavior of young people including their lifestyle, eating habits, and purchasing behavior during the COVID-19 pandemic. In total, 300 respondents up to 35 years participated in the questionnaire survey. Nonparametric and multivariate statistics were applied. The results showed that young respondents did not record decrease in physical activity nor increase in weight. However, the majority of them increased the consumption of nutritional supplements. The most important factors during purchase of healthy food were the taste from previous experiences and the quality.

Furthermore, respondents indicated that they did not record an increase neither in using online platforms for fast food delivery nor purchasing food online.

**Keywords** – consumer behavior; young people; COVID-19; health; quality of life.

## 1. Introduction

Since the outbreak of the COVID-19 pandemic in 2020, people's lives in many European countries, including Slovakia, have changed as a result of various government measures that Slovak citizens have not experienced before. Many governments have put in place emergency measures to combat the spread of the pandemic [1]. In Slovakia, the government measures mainly concerned regulations of the Office of the Government of the Slovak Republic, the Ministry of Health of the Slovak Republic, the Ministry of Social Affairs and Family of the Slovak Republic, and the Public Health Office. Based on the unfavorable epidemiological situation and the recommendation of the Crisis State of the Slovak Republic, the Government of the Slovak Republic approved a proposal for a declaration of a state of emergency in Slovakia on 30 September 2020. According to the adopted resolution, the state of emergency came into force on 1 October 2020, which was subsequently extended several times [2], [3]. Based on the improving pandemic situation in Slovakia, the Government of the Slovak Republic decided to end it prematurely on 14 May 2021. The state of emergency in Slovakia lasted continuously for more than 7 months. The adopted measures [4] restricted the freedom of movement of citizens in Slovakia by a curfew, the shopping time of grocery stores was defined, the establishments of gastronomy, sports and cultural facilities, tourism and many other establishments with specific restrictions were even closed. Due to the unexpectedly rapid spread of COVID-19 pandemic,

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people were forced to adopt new life habits. A large part of the population was forced to stay at home and work remotely [5]. The consequences of a pandemic can be demonstrated by changes in several spheres of life. These changes concerned restrictions on the use of various services, changes in work habits, as well as changes at home and family care regime [6]. The coronavirus pandemic also affected the eating habits and overall lifestyle of young people not only in Slovakia, but in other European countries as well [7], [8]. It is important for the government of each country to understand the changes in the behavior of the population before adopting new measures related to improving the quality of life of the population. The main goal of the presented study is to determine the consumer behavior of young people in the context of health and the COVID-19 pandemic in Slovakia. We will achieve the formulated goal of the study through research questions related to changes in young people's consumer behavior.

### **1.1. Literature Review**

According to UNICEF, there are 1.8 billion young people in the world [9]. In 2020, the share of young people represented 15.9% of the population in Slovakia [10], [11]. The share of young people in OECD countries is 17.7% of the population and the share of young people in EU countries (27 countries) represents 15.1% of the population [12], [13]. The World Health Organization (WHO) defines young people as individuals aged 15-24. Adolescents and young people together form a group known as young people, and the age limit may be shifted to 30 years. Young people are lively, dynamic and energetic [48], they represent a generation full of potential and strength, they are the most valuable human resource, which forms the basis for the future development and basic pillar of every nation or society [14], [9]. According to Šubová, Mura, Buleca [15], young people usually establish their households, they are driven by materialistic values and borrow early. Youth is a complex, continuously evolving transition period in a person's life in which many factors can endanger and affect their health. Participation makes possible for young people to influence the processes and decisions that affect them, resulting in changes in their lives and their environment (e.g., peers, services, communities, and politics) Magaly Aceves-Martins et al. [16], [46].

Significant changes in a person's life take place in relation to the health condition of the individual. Health has a key importance not only for the individual but for the society as well. According to the World Health Organization (WHO), health is defined as a state of physical, mental, and social well-being. It cannot be strictly defined as the

absence of disease and presence of weakness. Health is perceived as an overall (physical, social, mental, and spiritual) state of a person, which allows the individual to achieve an optimal quality of life [17], [18].

Quality of life has become a modern phrase, which is frequently used both in our everyday and professional vocabulary. The phrase has recently been adopted by several scientific disciplines. Its meaning is associated with several attributes. At present, the term is increasingly contracted. In a broader sense, the quality of life represents a person's self-understanding in terms of evaluating his living environment. The concept refers to all spheres of human life, so it is present in many areas of our life [19]. Veenhoven [20] identifies quality of life with subjective well-being and states that the term quality-of-life (QOL) has two meanings. The first is the existence of conditions that are essential for a good life. The second is related to the survival of the good life. Krivohlavý [21] perceives quality of life as a subjective well-being, which is based on goals the individual would like to achieve in order to satisfy his/her needs and the theory of the biological basis of well-being. The most important criterion of quality of life is the diversity of needs and the possibilities of meeting them, whether they are physiological, psychological or social ones. Predictors and determinants of personal well-being include the health condition of the individual, objective indicators, and subjective assessment of overall health and physical function. Other indicators are socio - economic status and age [22]. From a sociological point of view, age can be considered an individual's trait that contributes to the definition of a given person, regardless to his or her environment. One of the three basic criteria for quality of life in international comparison is the standard of living, operationalized to the time needed to purchase a basic consumer basket [23].

Optimal quality of life can also be achieved through physical activity. Physical activity has been the driving force throughout human life, as the human body has suitable preconditions for physical activity. Regular physical activity is also a determinant of quality of life, which plays a key role in the lives of today's young people in maintaining their health and physical activity. Physical activity plays a dominant role in the prevention of diseases of civilization, as well as in creating the conditions for longer working age [24]. The COVID-19 pandemic period affected both the physical activities and mental health of young people. Conducting physical activity was limited during the pandemic. Physical activity can be perceived as a protective factor that reduces the burden of COVID-19 [5]. According to the recommendations of the World Health

Organization, moderate physical activity (e.g., running, cycling) lasting at least 150 minutes a week, can significantly improve their mental and physical health of the individual [25], [26].

Eating habits also contribute to the optimal quality of health [27], which significantly affects the quality of life. The COVID-19 pandemic caused various constraints, which was reflected in a change of young people's consumer behavior [28]. Eating habits also include a balanced and optimal amount of healthy food consumed, including vitamins, which reduce the risk of disease, and at the same time increase and strengthen the young person's immune system [47]. In this context, the WHO recommended food and nutrition tips during quarantine [29].

COVID-19 has not only affected people's lives in terms of health, compliance or lifestyle changes, but has also affected their consumer behavior. The fear about limited access to food lead people to start buying basic foodstuff and stockpiling more than usual. It often happened that grocery stores were unable to secure food supplies [30]. The COVID-19 has also influenced the shopping habits of young people. In order to overcome the barrier of closed brick and mortar shops, young people find it easier and more natural to use the online platforms since more experienced customers in technical skills and familiar with flexibility of online shopping. Globally, consumers are differentiated based on the following aspects: gender, age, education, income, and personal preferences, which has led us to examine young people's consumer behavior. Understanding consumer behavior is a key formula for reaching consumers and motivate them to purchase [31].

The main aim of this study is to map the behavior of young Slovak people in terms of healthy lifestyle, eating habits and purchasing behavior during the COVID-19 pandemic.

## 2. Materials and methods

### 2.1. Research Design and Data Collection

Primary data were obtained by conducting an anonymous questionnaire survey, which was performed online using emails and social media platforms. Data were collected in November 2021, using snow-ball techniques and targeting young generation (mostly students). The questionnaire was divided into three sections. First part was devoted to socio-demographic characteristics of the respondents. The second part involved questions targeting health aspects, healthy lifestyle, healthy eating habits and consumption pattern in selected product categories. Respondents also answered questions related to influence of Covid-19 pandemic. The last section contained questions regarding the purchasing

behavior of healthy food including the assessment of selected factors, which are being considered during purchase of healthy food.

### 2.2. Research Sample

In total, 325 respondents participated in the survey. By applying age criteria (elimination of respondents older than 35 years) only 300 respondents remained in the research sample. The average age of the respondents in final sample was 23.59 years. The main socio-demographic characteristics are showed in Table 1. It can be concluded that 70.7% of the respondents were female, with either secondary or tertiary education living in urban areas (57.7%). Approximately 50% indicated personal income up to net 400 Euros.

Table 1. Socio-demographic profile of respondents

Gender	Male	29.33%
	Female	70.67%
Level of education	Secondary	57.00%
	University	43.00%
Economic status	Student	66.67%
	Employed	25.33%
	Other	8%
Place of residence	Urban areas	57.67%
	Rural areas	42.33%
Net personal income	up to 400 EUR	49.67%
	401-600 EUR	17.00%
	601-1000 EUR	25.67%
	> 1000 EUR	7.67%

### 2.3. Statistical Analysis

Data were analyzed in IBM SPSS 25 and XLSTAT, version 2021.1. Descriptive statistics were used in case of categorical data, while ordinal data were tested using non-parametric and multivariate statistics. Friedman test and its post-hoc test called Nemenyi test were applied on studying the differences between the respondent's evaluation of selected factors during purchase of healthy food using a 5-point scale (1-very unimportant, 5-very important). Categorical Principal Components Analysis (CATPCA) was used to identify the latent factors. The Cronbach's alpha coefficient of internal consistency was 0.950 (relatively high internal consistency). Variance accounted for was 60.5%.

## 3. Results

The results of questionnaire survey among young people in Slovakia showed that most of the

respondents consider health aspect when selecting food. Approximately 78% of our respondents select food which is part of a healthy diet, however they also buy unhealthy food. 67.7% of the respondents try to respect the health principles of nutrition if possible. Most of the young respondents reported that they eat healthy food only sometimes (69.7%), practice healthy lifestyle only sometimes (67.3%) and do sport irregularly (56.3%). In general, fruit and vegetables range from 11 to 50 % of the overall diet. The common diet of young people comprises rich range of food categories. The survey results (Figure 1) show that the most frequent type of food are: vegetables, fruit, bakery products, dairy products, meat and meat products, milk, and mineral waters. In category less frequent food belong the semi-finished products, fast food, juices, soft drinks, honey and cereal products. During Covid-19 pandemic most of the respondents indicated that they had not increased the consumption of fast food (83.7%), semi-finished products (81.3%), fruit (52.7%) and vegetables (59%). Most of them did not record an increase in weight (70.7%) and no decrease in physical activity (54.3%). However, increasing consumption of nutritional supplements was recorded by 55%.

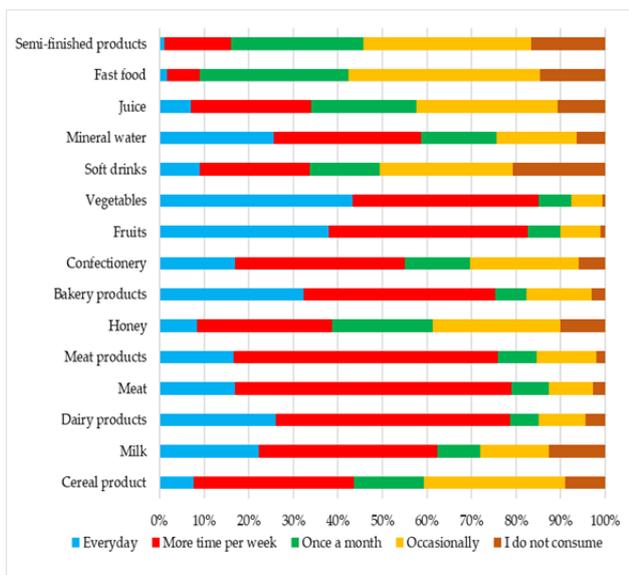


Figure 1. Consumption patterns of selected food categories

The second section of questionnaire survey was focusing on purchasing behavior. Respondents mostly purchase healthy food on weekly basis (56% - few times per week, 27% - once a week). Further results showed that fruit, vegetables, dairy products, bakery products, meat and meat products are purchased more times a week. Honey, fast food, semi-finished products, juices and soft drinks are consumed occasionally or once a month. Milk, confectionary and mineral water are purchased few times a month. Retail stores and small shops were

preferred for shopping. Food from local farmers is purchased occasionally. During Covid-19, respondents did not record an increase neither in using online platforms for fast food delivery (70%) nor in purchasing food online (82%). In addition, respondents evaluated the importance of several selected factors which are being considered during purchasing of food. Our hypothesis assumed statistically significant differences. By applying Friedman test, these statistically significant differences were confirmed (p-value=0.0001). Furthermore, a post-hoc test called Nemenyi test was used, which is applied to identify the differences between the factors. Based on the results (Table 2), it can be stated that young generation consider the taste based on previous experiences and quality as the most importance factor when purchasing healthy food. It is followed by considering the price, country of origin, discount and references from experts or acquaintances. The factors such as label, product promotion, packaging material and organic certificate were the least important.

Table 2. Results of Nemenyi's procedure

Factors	Average	Mean of ranks	Groups				
Label design	2.32	4.91	A				
Product promotion	2.48	5.32	A				
Packaging material	2.64	5.86	A	B			
Organic certificate	2.68	5.87	A	B			
Brand	2.95	6.93		B	C		
Ecological aspect	3.09	7.30			C		
Packaging size	3.18	7.56			C		
Producer	3.15	7.59			C		
References (acquaintances / experts)	3.24	7.79			C	D	
Discount	3.27	7.92			C	D	
Country of origin	3.32	8.04			C	D	
Price	3.55	8.80					D
Quality	4.08	10.55					E
Taste from previous experience	4.11	10.56					E

Respondents assessed importance of chosen factors on a 5-point scale (1- absolutely unimportant, 5-very important); different superscripts mean statistically significant differences.

In addition, the Categorical Principal Components Analysis (CATPCA) identified three latent factors/ dimensions (Table 3). The first component contains

factors such as producer, country of origin, organic certificate, ecological aspect, brand, and packaging material. Taste from previous experience, price and quality belong to second dimension. The last dimension comprises product promotion, label, discount, packaging size and references (acquaintances / experts).

Table 2. Rotated components loadings of CATPCA

Factor	Dimension		
	1	2	3
Producer	0.779		
Country of Origin	0.747		
Organic Certificate	0.729		
Ecological aspect	0.663		
Brand	0.608		
Packaging material	0.547		
Taste from previous experience		0.834	
Price		0.788	
Quality		0.775	
Product promotion			0.748
Label			0.709
Discount			0.604
Packaging size			0.568
References (acquaintances / experts)			0.549

The first dimension represents important aspects, which have certain influence on intrinsic properties of products perceived by consumers (country of origin, organic and ecological dimension). Moreover, producer and brand name may influence the opinion of customer how healthy the purchased products are, therefore these are being considered as an important external factor in the case of product evaluation. However, the price, product quality and taste from previous experiences are assumed to be decisive factors in the purchasing process. The last dimension involves several tools of marketing communication and the extrinsic product characteristics (packaging size and label), which are being applied as a marketing stimulus by many companies or retailers [32].

#### 4. Discussion

In the observed category of healthy lifestyle, which inevitably includes physical activity, we found that more than half (54.33%) of the respondents did not experience a decrease in physical activity during the COVID-19 pandemic. Young people involved in this study showed that 90.33% are engaged in physical activity. Although government measures limited the physical activity, the examined target group found other options how to remain engaged in physical activities [26]. In this context, we can state that

physical activities act as a protective factor that reduces the burden of COVID-19 [5]. A global study conducted in 30 countries confirms our findings as more than a quarter (27%) of people worldwide have trained more. Since the outbreak of the pandemic in China, more than half of the people (57%) have been involved in physical activities [30]. In addition to these findings, a research has been conducted around the world (UK, Russia), which suggests that people are finding ways to exercise, but it does not reflect their real physical performance. Many people did not engage in any physical activity during the measures taken. Even among the younger participants (18-30 years old), four out of five people stated that they did not engage in any physical activity [26]. COVID-19 pandemic had a negative impact on the level of physical activity of university students in Russia, where there was a significant ( $p < 0.01$ ) reduction in the overall level of physical activity. Young people report a decrease in total physical activity of more than 1,000 minutes per week on average. An interesting output of the research was that the largest decrease in physical activity occurred in the group of the physically most active (before the pandemic) young people [33]. According to the above mentioned findings, differences may be the result of different government measures introduced during the pandemic (lockdowns, curfews, etc.), as well as different mentality of the people in individual countries.

The next group of questions focused on monitoring the eating habits related to food consumption during the COVID-19 pandemic. As the study showed, young people in Slovakia (78%) selected products supporting healthy diet. At the same time, more than half of the respondents said that they were trying to follow the principles of healthy nutrition. Healthy food include the consumption of fruit, vegetables, bakery products, dairy products, meat and meat products, milk and mineral water. Fresh and healthy food, such as fruit and vegetables, are also recommended by the World Health Organization (WHO [29]. The EU also identifies with this within the Farm to Work strategy, which aims to ensure that people have easier access to fresh fruit and vegetables [34]. The latest study revealed an unexpected positive finding, according to which, after the outbreak of COVID-19, consumers in the European Union (EU) started buying healthy products, and 58% of Europeans consumed more fruit and vegetables. The study showed that consumers in Europe started to focus on purchasing healthier and local sustainable food [35]. The trend towards consuming healthier food was also confirmed by a Romanian and Italian study [34], [36], [37]. The importance of a healthy diet is also reflected in other research that confirms and informs

about the need to maintain a healthy diet during the COVID 19 pandemic [38,39]. Another British study confirmed that young people consume more fruit and vegetables as a result of the pandemic. More than 55% of young people in Slovakia reported increased consumption of nutritional supplements during the pandemic. This is confirmed by a British study which states that 66% of young Britons (under 30) believe that consuming vitamin C helps support their immune system [40].

The last issue examined in the study was the consumer behavior of young people during the COVID-19 pandemic. The results of the study shows that 82% of young people did not practice online shopping and 70% did not use online platform to buy food during the pandemic. This means that the COVID-19 pandemic was not a reason to increase young people's online shopping habits, however many representatives of young generation spend lot of time on various online platforms. The outbreak of the COVID-19 pandemic changed the behavior of young people not only in Slovakia, which was confirmed in our study (63.67%), but also in surveys conducted in other countries (USA, Italy, Spain, France, Germany, United Kingdom) [41]. Statistics show that more than a third of Slovaks (34%) can confirm that their share of online purchases has increased compared to a year ago. According to the same survey, up to 62% of young Slovaks aged between 18 and 21 have increased their online purchases compared to last year, confirming changes in young people's shopping behavior. A similar survey was conducted by the Slovak Academy of Sciences, according to which more than half of Slovak consumers changed their shopping behavior during the COVID-19 pandemic [42]. Similarly, the research in Russia has shown that almost two-thirds of consumers 64% report declining income, which has led to changes in consumer purchasing behavior due to the COVID-19 pandemic [43]. The Future Consumer Index study was conducted in Russia as well as in 18 countries around the world, with a change in shopping patterns among Russian consumers (64%) due to fears of disease and measures taken [44]. One of the elements examined was to determine the level of consumption of fast-food products during the COVID-19 pandemic. Our results showed that the consumption of fast-food products did not increase, which is declared by 83.7% of young people in Slovakia. This situation was also confirmed by the research of Grace Bennett et al. [45], which points out the specificity that a pandemic can also lead to positive lifestyle habits, including more time spent with cooking and reduced consumption of fast-food products. Research in Italy under the leadership of Rosa Maria Fanelli [37] states that consumers have reduced their purchases and consumption of ready-made meals, while adhering to a healthy diet adding more fresh fruit and vegetables to the diet.

The set of respondents who were part of the research sample had different economic status, for example employees in SMEs. Young people also work in this sector, whose consumer behavior is also influenced by emotional intelligence (EQ), which in our case manifested itself in the context of food selection and consumption during the COVID-19 pandemic, where our study showed that young people in Slovakia (78%) choose a type of food products that belong to a healthy diet in connection with their current emotional state. The results of the research by Mura, Zsigmond, Machová [49] show that *“according to employee opinion, the EQ has positive impact on knowledge sharing, while it is not affected by ethics. Most owners also agreed with the positive impact of EQ. The attitude of employees and owners differ in different aspects. The results have shown that gender plays an influential role in EQ”*.

The consumer behavior of young people is also reflected in their eco-behavior, which means that research by Drabik, Rehak, Vernerova, Kukura [50] points to the importance of building environmental literacy among young people and strengthening the responsible consumer approach to our planet. The findings of our research show that the consumption of fast food had not increased during the pandemic period, as declared by 83.7% of young people in Slovakia, who preferred home-made meals.

The added value of our research lies primarily in pointing out and identifying the impacts of COVID-19 on young people in Slovakia, who are the most vulnerable social group in the society. Young people are most likely to quickly adapt to various social changes. Young people like trying new things, develop new habits even eating habits that might influence their lifestyle and consumer habits.

## 5. Conclusions

The global pandemic COVID 19 is one of the most discussed issues nowadays. The spread of coronavirus pandemic is almost unstoppable in many countries, despite the advanced world health system, with globalization contributing substantially.

Countries, in an attempt to prevent the spread of the virus and protect their populations, are introducing various restrictions. The measures have also affected the consumer behavior of young people. Consumers in Slovakia have also been forced to change their consumer behavior as a result of the measures taken. This study highlights the changes in the consumption behavior of young people in Slovakia in terms of health during the pandemic period. It also highlights the impact of the pandemic on health, healthy lifestyles, eating habits and the consumer purchasing behavior. The findings point to those aspects and sub-categories, where some changes have occurred among young people.

It might be interesting to continue the research after the measures are released, in order to see whether the changes that have occurred in consumer behavior will continue to prevail.

In general, the individual findings of the empirical part showed that there has been a change in consumption behavior of young people, which is reflected in prioritizing the health aspect in selecting types of food promoting a healthy diet. During the pandemic, young people increased the purchase of dietary supplements. Most of the respondents did not experience weight gain, and more than half did not experience reduced physical activity during the pandemic period.

The results obtained can provide valuable information on the basis of which the government and experts in individual departments can adopt solutions to improve the situation of young people. At the same time, they can be of benefit to the creation of individual areas of youth policy. It enables young people to participate in order to promote health, research and policymaking [16].

Based on Friedman test ( $p$ -value = 0.0001) and Nemenyi's procedure (significance level  $\alpha$  = 0.05) it can be concluded that taste based on previous experience and quality are the most important factors during purchase of healthy food.

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