

ASSESSMENT OF THE COVID-19 PANDEMIC IMPACT ON PEOPLE'S LIVES IN NORTH MACEDONIA³

Within the paper, an analysis of the situation in North Macedonia caused by the emergence of the new coronavirus (SARS-CoV2) was performed. The first part of the analysis is based on the official statistics in the country related to the occurrence of the infection and the intensity of its spread, number of infected cases, number of deaths, etc. The second part of the analysis is based on the results of our own survey conducted in order to obtain additional information to assess the impact of the pandemic on human lives in the country. The questionnaires used as an instrument for data collection were distributed electronically to the respondents (adult population). The data collection period was one week (from 15 to 21 May, 2020). The survey was responded by 313 participants. The survey results give us a more comprehensive picture about the situation in the country, referring to: the familiarity of the population with the coronavirus and with the potential health and economic implications from the virus; the impact of the new situation on the people's lives and on the daily habits; the pandemic impact on employment and income; the population risk perception regarding the COVID-19 infection and regarding their personal concerns about the uncertain future.

Keywords: COVID-19; survey; economic and social implications

JEL: D01; I18; J64

Introduction

The coronavirus pandemic has inflicted on the world the worst impact in the last hundred years, testing the resilience of modern societies, economies, health systems and welfare systems like never before.

The initial spark that marked the beginning of the health crisis was the first identified pneumonia case infected of unknown cause on November 18, 2019, in Wuhan, China. After this, on December 31, 2019, Chinese health authorities notified the World Health

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Organization (WHO) of a pneumonia cluster of unknown cause in Wuhan. On January 9, 2020, a new coronavirus was identified, for which genetic sequencing determined that it belonged to the beta-corona strain.⁴

The coronavirus epidemic that started in China quickly spread to Europe and the United States and affected many countries worldwide and a relatively large percentage of the world's population, gaining scale of a pandemic. At the end of January 2020, just over a month after the outbreak of the coronavirus in China, according to WHO data, 20 countries had reported cases of COVID-19 infected persons, in order to at the end of February 2020, the number of countries that have reported the existence of the virus to increase to 54 countries.

The COVID-19 pandemic, which was officially declared on March 11, 2020 by the WHO Secretary General, affected 213 countries worldwide by mid-May 2020. Although the infection has spread worldwide, it has not affected all countries equally. Among the hardest hit are the highly developed countries, led by the United States, Great Britain, Italy, Spain, Germany, France and Turkey, where the number of infected people, by country, reached more than 100.000 by May 2020.

As of May 20, 2020, in 213 countries worldwide, more than 5 million cases of infection have been registered and over 320 thousand deaths have been recorded as a result of the COVID-19 pandemic. After the reduction of restrictive measures in mid-2020, almost all countries reported a new growing wave of spread of infection and by the end of September the number of infected cases in the world reached 32 million, the number of recovered exceeded 22 million and the number of deaths exceeded 980.000 people.

The new strong (autumn) wave of spread of the infection by the end of November 2020 resulted in close to 62 million confirmed infected cases and almost 1.5 million deaths globally, and by the end of 2020 the total number of confirmed infected cases worldwide exceeded 80 million people (<https://news.google.com/covid19/>).

With the discovery of the severe acute respiratory syndrome coronavirus 2 (SARSCoV-2) in late 2019 (Zhu et al. 2020) and very recently with the subsequent pandemic of COVID-19 (JHCRC 2020), society and economies worldwide are experiencing an unprecedented exogenous shock (GDA 2020). Although the occurrence of a pandemic caused by a new virus is unsurprising for virologists, the infection control measures such a social distancing (Glass et al. 2006) taken to slow the spread of COVID-19 exert tremendous pressure on large parts of the national economies.

The countries efforts to slow the spread of the virus and to save human health have resulted in the closure of numerous economic activities. The need to maintain social and physical

⁴ Coronaviruses (CoV) are a large family of viruses that cause diseases ranging from the common cold to more severe diseases (SARS-CoV, MERS-CoV). The coronavirus (SARS-CoV2) is a new type of coronavirus that has not been previously identified in humans and causes a disease called COVID-19. Common symptoms and signs of infection include fever, cough, and difficulty breathing. In more severe cases, the infection can cause pneumonia, severe acute respiratory syndrome, renal failure and even death. There is no specific treatment, similar to most viruses. However, many of the symptoms can be treated and therefore treatment should be based on the patient's clinical condition (<http://zdravstvo.gov.mk/wp-content/uploads/2020/03/info-COVID-19-22.03.pdf>).

distance, quarantines, self-isolation of people, job restrictions, severance of trade ties and isolation of countries have contributed to the closure of entire economic sectors, especially the hospitality and tourism sectors, parts of the transport sector, trade and processing industry, as well as education, culture, sports, etc.

All this contributed the new crisis caused by the COVID-19 pandemic, which initially appeared as a health crisis, quickly to grow into an economic and social crisis.

1. Overview of the Situation in North Macedonia Related To the COVID-19 Pandemic

North Macedonia is one of the countries where people infected with the COVID-19 virus are registered, and according to the number of infected cases per 100.000 inhabitants and the number of deaths per 100.000 inhabitants, it belongs among the severely affected countries by the COVID-19 pandemic, with the widespread transmission in the community.

COVID-19 infection that was rapidly spread from China to Europe, to the United States and to the other parts of the world, in a short time was transmitted to North Macedonia, where the first positive case of COVID-19 (zero patient) was reported on February 26, 2020. The quick reaction of the health authorities and the numerous lockdown measures taken as a response to the spread of the new coronavirus, such as: interruption of the educational process, prohibition of mass public events and prohibition of travel to high-risk countries, recommendations for work from home, closure of all cinemas, theatres, playgrounds and museums, closure of all sports facilities and complete ban on the operation of catering facilities, closure of the two airports in the country, except for state, military, humanitarian, hospital and cargo flights, etc., enabled the situation in the country to be kept under control in the first few months after the start of the pandemic. Namely, in March 2020, the number of newly infected cases remained low and did not exceed 50 infected persons on a daily basis, and in April 2020 the peak was reached on April 16, recording 107 new cases in 24 hours, after which the number of newly infected persons by the end of May remained low.

The reduction of the infection control measures just before the summer period, on the other hand, resulted in an increase in the number of infected people on a daily basis and its maintenance in triple digits in the summer months. During June, the largest number of newly infected persons on a daily basis was registered on June 5 (179 persons) and on June 17 (194 persons). In July, a total of 4.424 confirmed cases (or 206,7 cases per 100.000 inhabitants) and 179 deaths of COVID-19 were reported on the territory of North Macedonia, compared to a similar number of 4.144 infected people with 178 deaths in the previous month – June 2020. The course of the pandemic in North Macedonia, from its beginning until July 31, 2020, resulted in a total of 10.883 reported cases of COVID-19, i.e. 526,5 cases per 100.000 inhabitants (http://www.iph.mk/wp-content/uploads/2020/09/BILTEN-7_2020.pdf).

During August and September, there has been registered some decline in the number of infected people on a daily basis, while the number of new cases amounted 3.561 persons in August and 3.689 persons in September 2020. According to the official data of the Institute of Public Health, as of September 30, 2020, in North Macedonia, a total of 18.133 cases of

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COVID-19 or 876,3 persons per 100.000 inhabitants were reported (http://iph.mk/wp-content/uploads/2020/11/BILTEN-9_2020.pdf).

The situation with the spread of COVID-19 infection has been significantly worsened in mid-October 2020, when the number of new confirmed cases on a daily basis in some days was greater than 500 people, and the pandemic reached its peak on October 30, 2020, when 1.085 people positive on COVID-19 were officially registered in one day. According to official data, in October 2020, a total of 32.489 cases of COVID-19 were reported on the territory of North Macedonia, which indicates a number of 1.570,1 infected persons per 100.000 inhabitants and 1.011 deaths. These dynamics of the spread of the virus continued in the next two months of 2020, and in the first month of 2021 there was an evidently slower pace of transmission of the infection. In November, a record number of confirmed new cases per day were recorded on November 17 (1.406 persons), which is actually the highest number of reported cases during the pandemic on a daily basis. According to the data of the Institute of Public Health, as of January 24, 2021, a total of 90.717 cases of COVID-19 or 4.384,2 cases per 100.000 inhabitants have been reported in the country (<https://www.iph.mk/sostojba-so-covid19-od-18-do-24-1-2021/>).

Analyzed by cities, the highest cumulative incidence per 100.000 inhabitants, in the period until January 24, 2021, was registered in Stip with 6.599,2 confirmed cases per 100.000 inhabitants, Skopje (6.389,1/100.000), Kavadarci (5.744,3/100.000) and Sveti Nikole (5.201,8/100.000), and the lowest incidence with 2.098,9 confirmed cases per 100.000 inhabitants was registered in Krusevo (IPH 2021).

Regarding the distribution of the infection by gender, 46.237 males and 44.480 females positive on COVID-19 were registered. The specific morbidity in males is 4.460,8 persons per 100.000 inhabitants, and in females 4.307,31 persons per 100.000 inhabitants.

The age of the patients, on the other hand, ranges from 0 to 101 years (average – 45.4 years). Most patients – 21.323 persons are over 60 years of age (23.5%) with an incidence of 5.563,2 persons per 100.000 inhabitants, and the highest specific incidence of 5.979,1 persons per 100.000 inhabitants is registered in the age group of 50-59 years (16.625 patients). The lowest incidence of 786,9 persons and 1.540,7 persons per 100.000 inhabitants was registered in children aged 0-9 and 10-19 years, where 1.801 and 3.855 cases were reported respectively (IPH 2021).

Table 1

COVID-19 statistics for selected countries in the Region

Country	Total confirmed cases	Confirmed cases per 100.000 inhabitants	Total deaths	Deaths per 100.000 inhabitants
Bulgaria	211.813	3.040,3	8.483	121,8
Croatia	225.128	5.325,0	4.655	110,1
Kosovo	55.808	2.887,5	1.400	72,4
Montenegro	55.561	9.110,5	745	122,2
North Macedonia	89.025	4.273,2	2.702	130,3
Serbia	372.533	5.312,7	3.750	53,3

Source: <https://www.worldometers.info/coronavirus/> and <https://covid.cdc.gov/covid-data-tracker/> and authors' calculations.

In Table 1 is presented data on COVID-19 infected persons in total and per 100.000 inhabitants and deaths in total and per 100.000 inhabitants, for selected countries in the Region, as of January 16, 2021.

According to the analyzed data, shown in Table 1, North Macedonia among the selected countries has fewer cases per 100.000 inhabitants from Croatia, Montenegro and Serbia, and more than Bulgaria and Kosovo, but according to the number of deaths per 100.000 inhabitants, the country is at the top of the list.

2. Impact of COVID-19 Pandemic on the People's Lives in North Macedonia

The COVID-19 pandemic, which affects every possible sphere of human life, has completely changed the world, starting with the way we live, communicate, move, perform work responsibilities, travel, etc., and the implications of the virus are evident in the economic, social, health, education systems. In January 2021, almost 11 months after the start of the pandemic, the whole world is still in uncertainty, and the questions to which experts from various fields still can not give a correct answer are: How long will the pandemic last? Does the vaccine, which is available in several variants in the world today, will give the desired results? What will people's lives be like after the end of the pandemic? Is it possible for life in the future to be the same as before?

In North Macedonia, as one of the highly affected countries with the COVID-19 pandemic, there is a relatively good base of statistical data and information on the number of infected people, active cases, hospitalized persons etc. However, the analyzes in this area pointed to the need for additional data that would serve as a basis for conducting research in order to assess the impact of the pandemic on human lives in the country.

Regarding this need, the Center for Strategic Research "Ksente Bogoev" of MANU conducted a survey to provide additional data and information, in addition to officially available, which will serve as a basis for conducting analysis and research in order to assess the impact of the pandemic on the people's lives in the country. The survey, conducted electronically (online), in the period 15-21 May 2020, is completely anonymous and covers a sample of 313 adult respondents.

2.1. Structure of the survey

The survey consists of 25 questions, divided into several areas.

First, the survey begins with the collection of basic demographic data, such as age, gender and level of education. Then the survey consists of questions that provide information about *family status*, number of members and the number of minors in the household.

Awareness of COVID-19 effects on the health and the *infection protect measures* taken by the population during the pandemic are very important for the protection of human health. Because of that, questions related to these aspects are included in the survey.

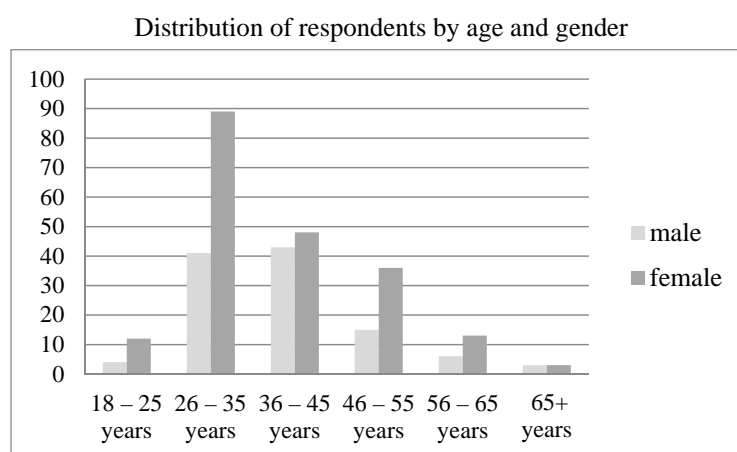
In order to measure the *economic implications* of the pandemic on the population, the subject of analysis in the survey are the changes in household income and savings as a result of the occurrence of COVID-19. Additionally, for measuring the economic implications on the population, in the survey are included questions that provide data related to the implications on the workplace as a result of the pandemic, changes in the way work activities are performed and the perceptions of the population for the future changes in the workplace.

Keeping in mind the fact that people's lives have changed significantly, people's perceptions and attitudes are very important for the future course of activities and a return to normal life, one part of the survey is dedicated to these future *attitudes and perceptions*.

2.2. Results of the survey

According to **gender**, more than half, or 64.2% of the respondents are women, and 35.8% are men, while according to **age**, most of the respondents (41.5%) are aged 26-35 years, and the lowest share in the research, of only 6%, has the population aged over 65 years (Figure 1).

Figure 1

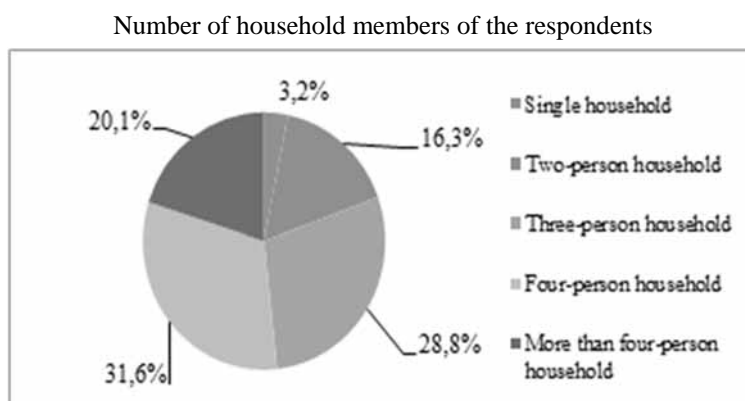


Source: Results from the survey conducted by the Center for Strategic Research “Ksente Bogoev” of MANU.

According to the **level of education**, the most of the respondents have tertiary education (54%), followed by respondents with master's degree (23.6%) and respondents with secondary education (15%). The smallest part of the respondents are doctors of science (7.3%).

Furthermore, the analyzed data, presented in Figure 2, show that most of the respondents, i.e. 32% and 29%, live in four-person and three-person households, respectively. About 20% of respondents live in households with more than four persons, 16% live in two-person households, and only 3% of respondents live alone. Almost half or 45.7% of the respondents have household's members under the age of 18.

Figure 2

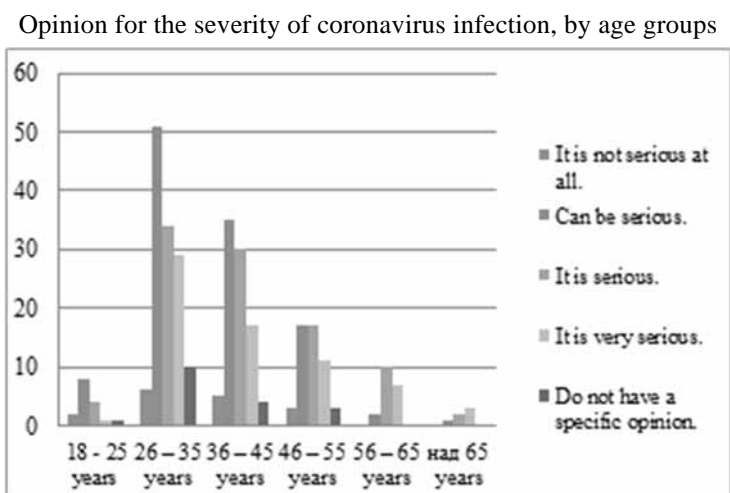


Source: Results from the survey conducted by the Center for Strategic Research “Ksente Bogoev” of MANU.

Primarily, the results of the survey indicate a **high degree of awareness and familiarity** of the population with the coronavirus and its potential health and economic implications, i.e. over 90% of respondents are familiar, 7% are partially familiar, and only 0.3% are not familiar at all. The most common sources of information provided by the respondents are official press conferences, social media and websites.

Regarding the **severity of coronavirus infection**, 36.4% of the respondents think that the infection can be serious, 31% that it is serious, and 21.7% that it is very serious. For 5.1% of the respondents, infection with COVID-19 is not serious at all, while 5.8% of the respondents do not have a specific opinion on this issue. The opinion of the respondents on the severity of coronavirus infection, by age groups, is shown in Figure 3.

Figure 3



Source: Results from the survey conducted by the Center for Strategic Research “Ksente Bogoev” of MANU.

The most common **protection measures against the coronavirus**, the respondents cite: frequent hand washing (86.6%), wearing a protective mask and/or protective gloves (81.2%), maintaining social distance and reducing exits from home (69.6%) and maintaining physical distance in contacts with other people (67.7%).⁵

The consequences of the COVID-19 pandemic are inevitably linked to their **effects on the economic life of the population, changes in jobs and the way work activities are carried out.**

In terms of the sample structure by employment sector (public or private), the majority, or 43.7% of the respondents, are employed in the public sector, followed by respondents employed in the private sector (39.3%) and entrepreneurs, who are self-employed and/or employ other persons (4.5%). The rest of the respondents are unemployed (5.4%), students (3.8%) and retirees (3.2%).

Related to the issue of **jobs changing as a result of the pandemic**, more than half or 53% of respondents kept their jobs and continued to work from their existing workplace, 30.7% of respondents continued to work from home, 3.2% of the respondents lost their jobs during the pandemic and now are unemployed, while 2 respondents (0.6%) lost their jobs and started a new job during the pandemic. The rest of the respondents (12.5%) fall into the category of unemployed before the crisis, students and retirees.

The analysis related to the **respondents' fear and uncertainty about their job** shows that 55% of the respondents do not fear for the job at all, 25% of the respondents often think about it and 5% of the respondents are very afraid of losing their job. The analysis additionally shows significantly higher uncertainty and fear for job losing among employees in the private sector, i.e. out of 78 respondents who are afraid for their jobs, or over 75% of them are employed in the private sector.

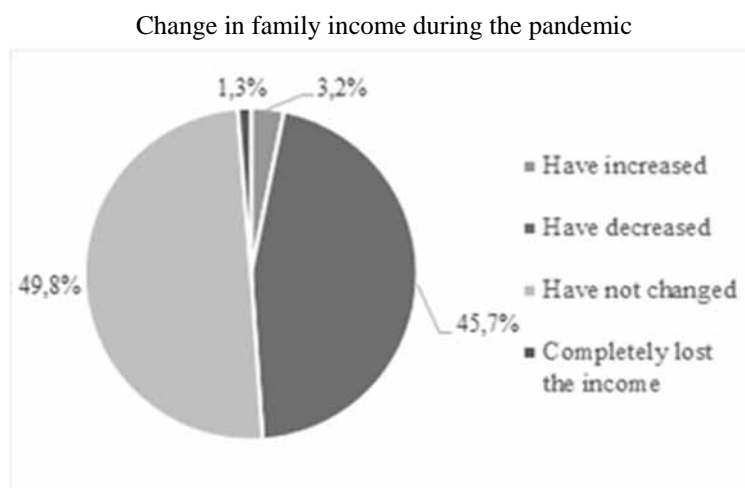
Regarding **family income**, in the analyzed period, for 49.8% of the respondents, the income did not change. Reduction of income is evident for 45.7% of the respondents and an increase of income are reported by 3.2% of respondents. 1.3% of the respondents experienced a complete loss of income as a result of the pandemic (Figure 4).

Additionally, the analysis shows that almost 60% of respondents who reported that their family income had decreased as a result of the pandemic were employed in the private sector. This data indicates a significantly higher vulnerability of private-sector employees during the crisis.

Furthermore, the survey results show that **most of the family income** during the pandemic, 82.4% of respondents have spent on food, 16.6% of respondents on disinfectants, and only about 1% of respondents most of the income they have spent on clothes and luxury goods.

⁵ The question is with multiple choice answers.

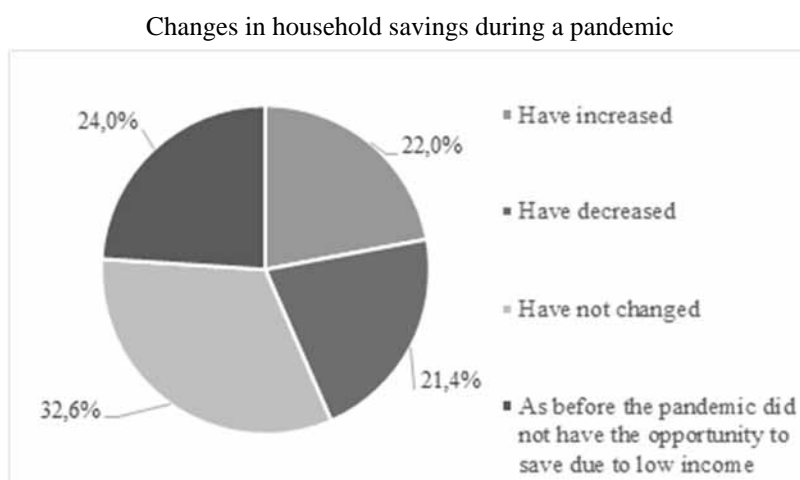
Figure 4



Source: Results from the survey conducted by the Center for Strategic Research “Ksente Bogoev” of MANU.

Regarding the changes in **savings** during the pandemic, 32.6% of the respondents did not experience any changes in savings, i.e. they continued to save as before. 22% of the respondents stated that their savings have increased, 21.4% of the respondents stated that their savings had decreased, while 24% of the respondents stated that during the pandemic, as before, they did not have the opportunity to save due to low income (Figure 5).

Figure 5



Source: Results from the survey conducted by the Center for Strategic Research “Ksente Bogoev” of MANU.

The new situation without a doubt had a significant impact on **people’s daily habits**. In the context of lifestyle habits, the survey covers aspects related to the online shopping habits and

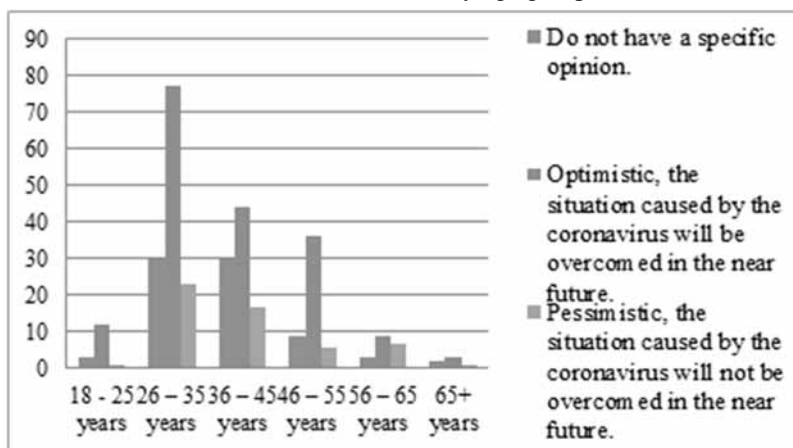
aspects related to dietary habits of the population during the pandemic. The results show that 17% of respondents are buying online more than before. Regarding the dietary habits, certain changes are also evident, i.e. about 25% of the respondents stated that during the pandemic, they are eating healthier, i.e. that they are consuming more fruits, vegetables and vitamins.

The emergence of global pandemics, such as the COVID-19 pandemic, can have an as high impact on the future of humans as the impact of the global economic crises or wars. The behaviour of the population today is closely related to their perceptions and views on the future. **The population risk perception regarding the COVID-19 infection and regarding their personal concerns about the uncertain future** is presented below. More than half of the respondents (57.8%), in May 2020, are optimistic about the future and believe that the situation caused by the new coronavirus will be overcome in the near future. 17.6% of respondents are pessimistic about the future, and their fear is accompanied by the belief and perception that the situation will not be improved in the near future, it will be even worse, while 24.6% of respondents do not have a specific opinion on this issue.

According to the **age groups**, shown in Figure 6, the most optimistic views about the future are observed among the respondents aged 18-25 and among the respondents aged 46-55. In these age groups, 75% or 70.6% of the respondents, respectively, believe that the situation caused by the coronavirus will be overcome in the near future. Pessimistic views about the future, on the other hand, are predominant among respondents aged 56-65 (36.8%) and respondents aged 36-45 (18.7%). About one third, i.e. 33.3% of the respondents over 65 years of age and 33% of the respondents at 36-45 years of age, do not have a specific opinion for the future.

Figure 6

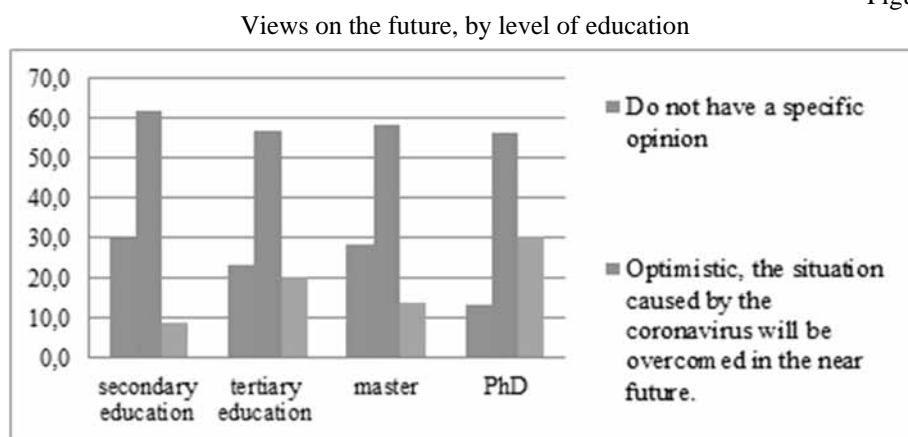
Views on the future, by age group



Source: Results from the survey conducted by the Center for Strategic Research "Ksente Bogoev" of MANU.

The personal concerns about the uncertain future, analyzed in terms of the **level of education** of the respondents are shown in Figure 7.

Figure 7



Source: Results from the survey conducted by the Center for Strategic Research “Ksente Bogoev” of MANU.

Related to this issue, the data according to which the optimistic views on the future are dominant are almost equally represented in the answers of the respondents from all groups according to the level of education, i.e. over 55% of the respondents from different groups according to education (secondary education – 61.7%, tertiary education – 56.8%, masters – 58.1% and doctors of science – 56.5%) have optimistic views for the future.

The analysis of the survey results shows that the most pessimistic perceptions of the situation in the near future have doctors of science. Of the total number of PhDs respondents included in the research (23 people), one third or 30.4% have pessimistic views about the future, as opposed to, for example, respondents with secondary education (47 people), of which only 8.5% have pessimistic views of the future.

Conclusion

There is no doubt that the COVID-19 pandemic has significantly changed the human lives around the world. In the world, as well as in North Macedonia, despite the fact that there are available statistics regarding the number of infected people, active cases, new cases, recovered and deaths as a result of the coronavirus, however, there are a lack of data on personal experience of individuals and people’s lives during the pandemic, expressed through changes in daily people habits, financial and job implications, population risk perception and personals concerns about the future and so on. Keeping in mind this need, the Center for Strategic Research “Ksente Bogoev” of the Macedonian Academy of Sciences and Arts conducted a survey which one is analyzed within the paper. The summary results of the survey indicate the following findings and conclusions:

- The survey was answered by a total of 313 respondents, of which 64.2% (N = 201) are women and 35.8% (N = 112) are men. In terms of age, most of the respondents are between 26 and 35 years of age (41.5%), and according to the level of education, more

than half of the respondents are with completed tertiary education. Almost one-third of the respondents live in four-person households, while almost half of the respondents, i.e. 45.7% in the household, have persons younger than 18 years.

- The survey data indicate a high level of familiarity of the population with the coronavirus and the potential health and economic implications of the virus, i.e. over 90% of respondents are familiar, 7% are partially familiar and only 0.3% are not at all familiar with the virus. For the respondents, official press conferences, social media and websites are the most common sources of information. Almost 90% of respondents believe in the seriousness of coronavirus infection, and the most common measures taken by respondents to protect themselves from coronavirus infection are: frequent hand washing, wearing a protective mask and protective gloves, maintaining social distance and maintaining a physical distance.
- The COVID-19 pandemic has obvious implications on the financial status of the population, changes in their jobs and the way their jobs are performed. Most of the respondents are employed in the public sector (43.7%) followed by employees in the private sector (39.3%), while only 4.5% of the respondents are entrepreneurs, i.e. are self-employed and/or employ other persons. The rest of the respondents are unemployed, retired and students. Regarding the changes in the jobs and the way of performing the jobs as a result of the pandemic, more than half of the respondents or 53% kept their jobs and continued to work from the existing workplace, while 30% of the respondents continued to work from home. 3.2% of the respondents lost their jobs during the pandemic, and 0.6% lost their jobs, but have started a new job again.
- One of the economic implications of the pandemic is the emergence of job uncertainty. More than half of the respondents (55%) are not afraid of losing their job at all, 25% of the respondents often think about this threat, while 5% of the respondents are afraid of the great risk and uncertainty that they may lose their job as a result of the pandemic. The majority of the respondents who are afraid for their jobs or over 75% are employed in the private sector, which means that the uncertainty regarding jobs is significantly higher among employees in the private sector.
- Regarding the change in family income, almost half of the respondents (49.8%) have reported that the family income as a result of the pandemic did not change, while 45.7% of the respondents have reported that the family income has decreased. 3.2% of the respondents reported an increase in income, while 1.3% had completely lost their income as a result of the pandemic. The results of the survey show that about 60% of the respondents who reported that their family income has decreased as a result of the pandemic are employed in the private sector.
- Regarding the changes in household savings as a result of the pandemic, for almost one-third of the respondents, there were no changes in savings, and for 22%, the savings increased. Savings during the pandemic decreased for 21.4% of respondents, while 24% of respondents said that during the pandemic, as in the period before, they did not have the opportunity to save due to low income.

- The new situation has significantly affected people's daily life habits. In the context of lifestyle habits, the survey covers aspects related to the online shopping habits and aspects related to dietary habits during the pandemic. The results show that 17% of respondents buy online more frequently than before. Regarding the dietary habits, some changes are also evident – 25% of the respondents stated that during the pandemic, they are eating healthier, i.e. that they are consuming more fruits, vegetables and vitamins.
- The great changes caused by the emergence of COVID-19 led to a significant increase in uncertainty about the future. Regarding the people's risk perception and their expectations about the future, more than half of the respondents have optimistic views on the future, i.e. they believe that the situation caused by the coronavirus will be overcome in the near future, while the rest of the respondents have pessimistic views on the future or do not have a specific opinion on this question. According to the **age groups**, the most optimistic views about the future are observed among the respondents aged 18-25 years and the respondents aged 46-55 years, while the pessimistic views about the future are predominantly among the respondents aged 56-65 years and in respondents aged 36-45 years. From the aspect of **the degree of completed education**, it is interesting that in the analyzed period, the most pessimistic perceptions for improving the situation in the near future had the doctors of science.

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