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THE NEW NORMAL

Perception, attitudes
and behaviour
of the citizens
of Bosnia and Herzegovina
at the beginning
of the COVID-19 pandemic

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Contents

Foreword	5
Pandemic and health-protective behaviors	8
The sequence of introduction of preventive measures of health-protective behavior	9
Informing of the citizens	10
Healthcare workers as agents of self-protective behavior change	11
Government officials as a source of information	12
Different sources of information and emotional responses underlying health behavior	12
Trust in the state	14
Emotional responses to a pandemic	15
Behavior during a pandemic	16
Emotions and behavior change	17
Research method	19
Procedure and subjects	19
Measures	20
Health behaviors in Bosnia and Herzegovina during the pandemic	23
Descriptive data: perceptions, emotions, behaviors	25
Socio-political attitudes and health behaviors	32
Final considerations	36
New conditions of life	36
Perceptions, emotions and behaviors during a pandemic	38
Political orientation and health behaviors	41
Limitations and research recommendations	44
Bibliography	47

Foreword

Sometime between October and December in 2019, a new coronavirus officially named SARS-CoV-2, which can cause a human disease in the form of acute respiratory syndrome (COVID-19, Coronavirus disease) appeared in the Chinese city of Wuhan. In a time frame of a few months, SARS-CoV-2 spread around the world, causing the biggest pandemic since the Spanish flu pandemic of the early 20th century.

First case of COVID-19 virus infection in Bosnia and Herzegovina was registered on March 5th in Banja Luka. On March 17, the Council of Ministers of Bosnia and Herzegovina declared a state of natural or other disaster. As early as March 21, a curfew was introduced in the country as well as other measures which restricted the movement of the population aiming to prevent the spread of the COVID-19. At the beginning of April, we had 459 confirmed cases of infection and 13 deaths, and by the end of the month those numbers rose to 727 patients and 69 deaths. The curfew ended on April 24 in the Federation of Bosnia and Herzegovina, and in the Republika Srpska by May 22. Relaxation of other restrictive measures followed with the intention of returning everyday life back to normal as close as possible. As of October 8, 2020, in Bosnia and Herzegovina we had 29,075 confirmed cases of infection, 22,614 recovered and 908 dead.

Coronavirus is not deadly in most cases, and most people who become infected show mild to moderate symptoms of the disease, but it does carry a risk for vulnerable populations: the chronically ill, the elderly, and people with immunodeficiencies (World Health Organization, 2020). Since this is a new type of virus, there is no vaccine and one is yet to be developed, which is a very extensive process. There are also no refined medical treatments for the disease. Aside from the hygienic recommendations, which were the only response to pandemic, authorities around the world have begun to introduce measures of social and physical isolation in the form of restrictions on the freedom of movement of citizens. Various lockdown measures have been implemented from country to country, where we saw a loose Swedish model, in which certain forms of behavior have been recommended to its citizens, eschewing strict bans on movement and communication. On the other side, in some countries (e.g. Bosnia and Herzegovina) we had restrictions up to a complete lockdown, brought through a declaration of a state of natural

disaster and a total curfew. The number of infected has stabilized in most countries after a few months, and isolation measures have been lifted for the most part. Some restrictions still left in place reduced travel opportunities for citizens. People began to get used to living with the novel coronavirus over time - the so-called "new normal." The social, political, economic and psychological repercussions of life under conditions of prolonged feeling of threat and with reduced ability to move and communicate remain to be seen.

At the beginning of March 2020, with the first case of coronavirus infection in Bosnia and Herzegovina, it became quite obvious that the COVID-19 pandemic is going to affect our lives, together with the lives of people around the world. Not long after the appearance of the first infection, other cases followed, and the authorities gradually introduced new measures of isolation and travel bans with increasing intensity. Under a deluge of media reports presenting overpowered hospitals and rising death numbers around the world, with many of them being contradictory to one another and to statements made by officials, people were overwhelmed and confused. In such a situation, the entire population is exposed to intense feelings of fear and helplessness, being unable to do anything effective against the invisible enemy. Adding to the numerous health hazards caused by the coronavirus, the pandemic raised numerous psychological and social challenges. The constantly present feeling of being under threat of infection and possibly contracting a potentially severe illness carries with it an intense sense of anxiety and stress. People do not know how to effectively protect themselves and their loved ones while living in isolation from each other, and with a minimal sense of support normally drawn from family and friendship ties. Every going out becomes an adventure, and going to the store is a challenge that requires serious preparations. Children do not go to school, and classes begin to take place online. Isolation brought the slowdown of the economy, and with those processes came a lot of existential fears related to the income continuity and ability to obtain any personal income.

We, the authors of this study, were subject to the same feelings, forced to sit in our homes all the while thinking about how to be proactive in this situation. A network of researchers interested in many things related to the new living conditions was already being created simultaneously around the world. Being psychologists, we were concerned about numerous aspects of pandemic living conditions, from feelings of threat, anxiety, stress, mental health, to the

social response to a pandemic, and the impact of such social context on people's perceptions and behaviors. However, due to numerous limitations, both temporal and financial, we had to curb our research enthusiasm. Conceptually, as social psychologists, we focused on describing people's perceptions and behaviors pertaining to the COVID-19 pandemic: patterns of their behavior, how they followed hygiene recommendations, the way they perceived coronavirus risks and threats, their sources of information, and level of trust in social institutions. Another focal point was exploration of the way in which perceptual and behavioral patterns were linked to certain social and political attitudes and beliefs, such as authoritarianism, political orientations, and belief in conspiracy theories. The study was swiftly designed and carried out, because we ourselves were in a situation where we had to react immediately, so not everything was done in a way we would normally prefer under ideal conditions. But still, we believe that the obtained data represent a valuable document of the people's lives and the society in unusual and extreme times, and that they will provide at least a small contribution to the general knowledge in the field of social sciences.

Pandemic and health-protective behaviors

Already for a half-year, we have been in an officially declared pandemic, and during this period of time a lot has changed in everyday life, as well as in society. The COVID-19 pandemic is not a single event, but a long-term process which causes dynamic changes in society, and also in the psychological responses of all people in the population. To put it in another way, the pandemic gave rise to problems and challenges primarily in the field of public and personal health, politics, economics, social environment, but to a large extent and with very important consequences, the pandemic is a great psychological burden. This complex process has, now almost obviously, introduced quite a few changes to our everyday life, to such an extent that the presence of the virus in society inaugurated a special state, which was called by many names, including the "new normal". Succinctly, aside from the health system and human behavior, effective communication and credible sources of information during each phase of the epidemic are key factors in mitigation of the epidemic. Calls for adherence to protection measures address the entire population of people going through the difficult psychological challenges brought by the reaction to a pandemic. Such total change of everyday life, and flood of specific type of news, bring intense cognitive and emotional reactions which also have their stages that can be reduced to health, protective and self-protective behaviors, which are influenced by all aforementioned factors. Additionally, all these considered aspects are interdependent.

First of all, we should recall the biography of this virus or, to put it in other words, the time when COVID-19 started infecting people. Medical estimates based on genetic studies from the first part of 2020 indicate that the SARS-CoV-2 virus made the jump to the human population between October 6 and December 11, 2019 (van Dorp, Acman, Richard, Shaw, Ford, Ormond & Ortiz, 2020). Since then, the virus has spread rapidly across the planet, arriving in Bosnia and Herzegovina on March 5 at the latest, when the first COVID-19 case was officially confirmed. The World Health Organization (WHO) declared a pandemic on March 11, 2020, which is done only when there is a new disease spreading quickly over very large areas, and to which people possess no immunity.

The stages of the epidemic are determined by the infection outbreak dynamics and the effectiveness of the introduced protective and preventive

measures as well (WHO, 2018), during which people experience psychological adversities (Wang et al. 2020; Xiang et al., 2020). According to the WHO (2018), the first phase refers to the introduction of a disease into the community (e.g. the first confirmed case), followed by locally transmitted outbreaks (phase two) and then by lasting outbreaks when human-to-human transmission reaches epidemic or pandemic proportions (third phase). The fourth phase is characterized by reduced transmission due to either acquired immunity of the population or to effective interventions.

This rapidly spreading infection proved to be the largest outbreak of an infectious disease since the start of the 20th century. Many world countries had to react both systemically and strategically, starting from their different structures, ideas and preparedness levels. Most of them have adopted strict measures and / or recommendations to curb the spread of the infection, including limiting physical and social contacts, the cessation of public life and the long term lockdowns. All these measures were either strategic or improvised to some extent, depending mostly on the given country's state and health systems, but also on its media system. Researches conducted during previous epidemics have shown that they are indeed a source of great stress (e.g. Cheng & Cheung, 2005), not only due to great concerns and fears of disease, but also because people have to adjust their lives in a way that prevents infection (e.g. Leung et al. 2005a). Consequently, emotional and behavioral responses can shift dramatically during an outbreak, and especially after the onset of certain critical events or contextual changes (WHO, 2012). Effective communication of spread preventing measures, disease treatment and general state and medical response to a pandemic during all phases of the epidemic are crucial factors in controlling the disease. Such appeals, calls, as well as orders, are directed at the entire population, where most people experience specific cognitive and emotional responses to the epidemic. The COVID-19 epidemic has seriously affected people's daily lives (Wang, et al. 2020) and continues to do so today.

The sequence of introduction of preventive measures of health-protective behavior

The order in which preventive and protective measures are enacted also has several phases (WHO, 2018). The actual first phase is the phase of anticipation of potential, and almost certain, new diseases. The second phase entails the

early detection of the disease incidence in animal and human populations, followed by efforts to stop the disease in the early stages of transmission, which is the third phase. The fourth phase concerns the control and mitigation of the intensification of the epidemic; finally leading to the fifth phase - eliminating the risk of future disease outbreaks or completely eradicating the disease. However, with the risk of infectious diseases growing to epidemic or pandemic proportions, the goal of measures taken becomes not only reduction of disease incidence, morbidity and mortality, but also (permanent) alleviation of disturbances in the economic, political and social system (WHO, 2018). As the stages of the epidemic progress, just like with other events that universally cause stress, the psychological response adapts to current and shifting circumstances. In general, during psychological stress, at first we are upset or directly impacted by a dangerous event, to which we react primarily emotionally and with sudden behavior that can be sometimes described as intense like, in the case of an epidemic, intensive grocery shopping. After that first impact, the next phase is less intense and involves resistance or possible recovery and adaptation with new daily routines taking place, while the emotions associated with the epidemic are less intense and dramatic. Finally, the last stage may be exhaustion, burnout, or relaxation, according to the original model of stress (Seyle, 1946).

Informing of the citizens

Along with the spread of the infection, came numerous global calls stressing the importance of effective communication in the fight against the so-called "Infodemia". This new term, created in the "new normality", signifies an excessive amount of information of dubious validity (The Lancet, 2020). At the same time, a number of studies have focused not only on the virus itself and the disease treatments, but also on the effect which overall situation has on people and how social sciences can improve the global situation (Van Bavel et al., 2020). This is of the utmost importance in the early stages of an epidemic (Xiao et al. 2015), when the likelihood of spreading the infection is unknown and the challenge of reorganizing society in line with the new situation is completely new. In such situations, it is essential that government and health officials, as well as the media, effectively convey information and reliable data on each stage of the outbreak together with the appropriate responses to the general public. Human behavior and their adherence to

protective measures is a key factor in controlling the disease, at least until a vaccine or some other method of reducing the presence of the disease in the population becomes available (Van Bavel et al. 2020; Reynolds & Quinn Crouse, 2008; WHO, 2008a; Tumpey, Daigle & Nowak , 2018). In a situation of complete lockdown, reduced social contact and heightened possibility of infection with the novel coronavirus, before unknown to the general public, it is even more important to be able to rely on information from official sources than in the non-crisis period (Chauhan & Hughes, 2017; Austin et al., 2012). From the onset of the outbreak to the continuation of normal life, but also during the regular monitoring after the threat of recurrence is lowered, it is expected from public health institutions to provide the media with timely, accurate information and responses to the epidemic (Tumpey, Daigle & Nowak, 2018; WHO, 2018). Such indisputable facts form the essence of the information environment established during the epidemic.

Healthcare workers as agents of self-protective behavior change

Therefore, during a pandemic, data and facts on the number of infected and sick people, as well as further necessary measures are provided by healthcare professionals through the media (WHO, 2018). However, as this is not the first pandemic in the era of mass media communications and the existence of the Internet, there is space for making certain comparisons. For example, while media coverage of the H1N1 epidemic was most intense before the peak of the spread of the disease (Reintjes et al. 2016), news of COVID-19 became intense relatively early on, and continued to dominate public discourse until recently. Furthermore, health professionals are expected to persuade the entire population to modify their behavior and to follow the recommended steps to combat the spread of the disease. These kinds of sources, such as physicians and healthcare professionals, are generally considered credible, and consequently more convincing (Brinol & Petty, 2008; O'Keefe, 2016), because their credibility stems from the perceived expertise and reliability of the source (VanBavel et al., 2020). Numerous findings have confirmed that engagement of such credible sources which are able convey official public health facts improves the effectiveness of public health messages in inducing behavioral changes during epidemics (Greyling et al., 2016; Lewandowsky, Gignac & Vaughan, 2013; Van Bavel et al. 2020; Vinck et al., 2019; Vijaykumar et al. 2018). Trustworthy public health information and messages should

further be supported and relayed by state leaders, in line with the requirements of effective communication, as the media is another important foundation of health behavior promotion (Sandman, 2009; Wakefield, 2010).

Government officials as a source of information

As recommendations made by the government present a special form of health communication, they are subject to harsh assessment in terms of credibility, feasibility, and cost (Teasdale & Yardley, 2011). At the same time, in cases where the information transmitted by public health officials are considered less credible, people can turn to news and information from social networks, the Internet in general and unverified sources, in order to keep themselves informed about the epidemic (Jang & Baek, 2019). These latter sources are less reliable and full of inaccurate information, while research shows the special role of physicians in transmitting information regarding self-protective behavior because people who have consulted their physician were likely to adopt self-protective behavior (Lin et al., 2018). Based on previous studies (e.g. King et al., 2018), but also studies from the region (Damnjanović, Ilić, Teovanović & Lep, 2020, in press), of trust and perception of the credibility of different institutions during epidemics, trust and credibility are expected to be greatest for doctors, scientists and medical professionals. Additionally, it was found that confidence and the perception of the credibility of politicians and political institutions is lower (King et al., 2018; Damnjanović, Ilić, Teovanović & Lep, 2020, in press) and that epidemics can have a further negative impact on these perceptions. (Bangerter et al., 2012; Yeung et al., 2017).

Different sources of information and emotional responses underlying health behavior

It has already been stated how important the perception of the credibility of information sources is for emotional responses, understanding of self-protective behaviors, and implementation of measures. In particular, there is an interdependent network of relationships between emotions, sources of information and behavior, and in this context a special attention is paid to determine by who, and to whom should key information be passed in order to enhance self-protective behavior and best support the efforts of officials

and medical professionals in preventing the spread of the virus. Previous studies have shown positive correlation between greater trust and perceptions with self-protective behavior (Liao et al., 2010; Etingen et al., 2013), and at the same time it has been found that trust in government and medical institutions has helped reduce anxiety and that negative emotions are associated with self-protective behavior (Cheung & Tse, 2008). In addition, studies have revealed links between people's trust in institutions and their personal knowledge of the disease at the time of the epidemic (Freimuth & et al., 2014), along with some evidence of a link between personal knowledge and self-protective behavior.

Due to the highly dynamic nature of the threatening event, in this case, a pandemic, people's trust in various institutions and sources of information can shift throughout the epidemic. Studies have shown declining public support for the government over time during the H1N1 outbreak in Hong Kong in 2009 (e.g., Yeung et al. 2017). Similarly, public trust in institutions declined in Switzerland during the same outbreak (Bangerter et al., 2012). Lack of confidence in government and medical facilities had a negative effect on anxiety, and at the same time it was found that the negative effect was stronger at the outbreak of SARS than after its consequences started to show (Cheung & Tse, 2008).

Lacking trust in public health workers undermines the credibility of information provided by the officials, which can lead to lower levels of use of health services (Alsan & Wanamaker, 2018). Furthermore, presenting information in a form of warning or a threat, so-called intimidation via framing, aimed at exaggerating the degree of danger, together with intensive reporting in the mass media, can cause fear and hysteria (Van den Bulck & Custers, 2009).

This kind of informing, which we can call "disturbing informing", actually leads to the opposite effect from the desired one, i.e. leads to reduced ability to instill protective and pro-health behaviors in the population (Sherlaw & Raude, 2013). Furthermore, negative emotions can be amplified by continuous negative informing and prolonged exposure to it (Brug et al. 2004; Lau et al, 2011). Public debates about dangers with blaming, negative allegations, and the introduction of personal emotions in public communication and in the public media space undermine adequate and timely communication about risks (Reynolds and Quinn Crouse, 2008). All this

is contrary to the goals of officials and health workers, the media, as well as to the general interest of the public.

Trust in the state

A very important factor in the effective application of protective measures in a society depends on a high level of public harmony, recognition of the common good and goals, and mutual support (WHO, 2020). New theoretical and empirical evidence suggests that trust in government is crucial for adherence to social policies that rely on behavior changes in the population (Anderson, Heesterbeek, Klinkenberg & Hollingsworth, 2020; Chanley, Rudolph, & Rahn, 2000; Lau, et al., 2020). Understanding and exploration of the various determinants of confidence in the government during a pandemic is important for controlling COVID-19. Trust in the government is defined as people's trust and satisfaction with government's performance (Bouckaert & Van de Walle, 2003). So defined trust represents a cornerstone of the political system, especially during crises such as natural disasters, economic meltdowns or pandemics. Trust in government produces prosocial behaviors and sociability, which in turn leads to cooperative, altruistic, and extraterritorial behaviors in social activities (Fukuyama, 1995; Hetherington, 1998; Zmerli, & Van der Meer, 2017). Previous studies have shown that a higher level of trust in government is associated with a greater willingness to follow government recommendations and with a greater level of prosocial behavior, such as adopting preventative behaviors to avoid swine flu (Rubin, Amlot, Page, Wessely, 2009), follow mandatory social distancing during an Ebola outbreak (Blair, Morse, & Tsai, 2017); seasonal influenza vaccination (Verger, Bocquier, Vergelys, Ward, & Peretti-Watel, 2018) and economic "sacrifice" for the environment (Taniguchi & Marshall, 2018). Compared to general trust in government, which is largely based on long-standing patterns of government functioning and perception of it, and in relation to various historical, cultural, or political factors, this specific aspect of trust in government in terms of its ability and effectiveness in controlling the current pandemic may be more dynamic. The Organization for Economic Co-operation and Development (OECD) pointed out that reliability, responsiveness, openness, better regulation, equity and inclusive policy-making are crucial areas for the government to earn public trust (OECD, 2017). Moreover, and within the context of the current pandemic, better

regulation and organization of state agencies in designing and implementing appropriate measures that are well adapted to local norms can increase public support and trust in government (VanBavel et al., 2020). Finally, the perception of fairness of the way in which they are treated where they are not treated as good as other people in society can also lead to distrust in government, especially during crises.

Additionally, the lack of transparency of government has been identified as one of the main elements that caused a decline in trust in government (Welch, Hinnant, & Moon, 2005). In other words, we can conclude that this represents a global phenomenon, which, like the pandemic itself, is not occurring for the first time in modern society. Lessons from the 2003 SARS pandemic also emphasized the importance of transparency and timely and accurate communication (O'Malley, Rainford, & Thompson, 2009). Further, trust in government is also influenced by citizens' assessments of the economy, and just as expected: negative perceptions of the economy effectuate greater distrust (Citrin, & Green, 1986; Miller, & Borrelli, 1991).

Emotional responses to a pandemic

Although success in mitigating the spread of disease is dependent on adherence to appropriate measures, the existing literature on previous epidemics further suggests that emotional and behavioral responses change drastically after certain critical events or contextual changes occur, indicating that these responses vary through different situations, and over time (Theorell et al., 2005). For example, a large increase in anxiety and similar emotional responses at the very onset of an outbreak have been reported in studies conducted during early stages of the COVID-19 outbreak in China. These studies state that people showed an increase in anxiety, nervousness and difficulties in controlling emotions already during the first 14 days (Wang et al., 2020). Moreover, in a temporal study during the four weeks of SARS outbreak in Hong Kong, anxiety fluctuations were observed at several time points (Cheng & Cheung, 2005). To be specific, the anxiety first sharply increased, and then decreased gradually in the following time. In other words, although the spread of the disease continued to escalate according to objective indicators at the time, because the number of deaths grew rapidly, people's anxiety at the last assessment was lower than that at the initial assessment. Furthermore, in a longitudinal study during the H1N1 outbreak

it was found that the subjective, perceived, fear of H1N1 infection decreased as the epidemic progressed, suggesting that the public gradually perceived lowered risk of contracting H1N1 virus (Yeung, Lau, Choi & Griffiths, 2017). Aside from anxiety, the complex experience of a pandemic includes different apprehensions and the right or wrong types of knowledge and mental focus on the contents having to do with the coronavirus. This represents a general pattern of people's cognitive propensity to watchfully observe and think about the epidemic and burdensome emotions, both in terms of the current state of affairs, like worrying, as well as about possible but not certain future outcomes, such as fear of infection

Behavior during a pandemic

Health behavior represents a complex form of thinking, feeling, and focusing on protecting one's own health and health of others, and in the case of an epidemic, public health. Stopping the epidemic is dependent on many factors, but every aspect of the strategy in the fight against coronavirus is concerned with reducing physical contact between people in order to block or slow down the spread of the virus. Such a reduction of contact, whether ordered, "badgered out", requested, or imposed, requires *that people change health-protective and self-protective behavior*. To be effective, this behavioral change has to be thorough and take place as soon as possible. However, it was and is a great request, because no change of behavior is simple, especially in a situation of increased psychological load, uncertainty and stress. Similarly, the frequency with which different behavioral strategies are implemented during epidemics changes over time - during the H1N1 epidemic in Hong Kong, different protective behaviors, such as using face masks or avoiding touching someone's face, became less common (Yeung et al., 2017). Also, personal hygiene during SARS in Hong Kong improved at the beginning of the epidemic and slightly regressed later, just as the strategy of avoiding risky behaviors and encounters also became much more frequent after the first measurement, stabilizing after that. At the same time, information-seeking strategies gradually became rarer (Cheng & Cheung, 2005). One other study conducted during the initial stages of the SARS outbreak in Hong Kong (March to May) found that protective behaviors such as mask wearing, hand washing, disinfecting the house, avoiding crowds and public transportation increased significantly in the first phase, but only mask

wearing and hand washing remained at high levels in the second phase, while a clear decline was observed for all other protective behaviors (Lau et al. 2003). A study of reactions of the public during the early stages and at the peak of H1N1 (swine flu) in Greece also showed that during the peak of the pandemic, study participants reported *lower* levels of adoption of protective behaviors (hand washing, crowd avoidance, inquiring by the doctor, etc.) compared to earlier stages (Karademas et al., 2013). The authors have concluded that such findings imply that perceptions, reactions, and their relationships may change during a flu epidemic and may depend on various factors. Therefore, the findings about the public response to the call to implement protective measures in one phase of the epidemic may not apply to another phase. (Karademas et al. 2013).

Emotions and behavior change

In accordance with their nature, urgency, and size of population to be affected, measures aimed at encouraging behavioral changes pose a specific and significant challenge, but not without guidelines offered by previous similar situations, research, and WHO. Studies investigating factors that positively influence the implementation of protective and self-protective behaviors have shown an association between emotional and behavioral responses to epidemics. A study conducted in the United States in 2009 during the H1N1 flu showed that affective variables, such as self-reported anxiety, have a role in likelihood that respondents will engage in health-protective behavior (Jones & Salathe, 2009). The results of one study, which compiled the findings of as many as 10 studies conducted in Hong Kong at the time, showed a strong correlation between heightened affective experience and perception of risk and the adoption of protective behaviors, compared to correlation with cognitive perception of risk (Liao et al., 2014). Even though this study has shown that affective components have a consistent contribution to adherence to protective behaviors throughout an epidemic, other studies have shown a positive correlation during the early stages of the epidemic, though mostly insignificant at the later stages (Leung et al., 2005b). And in culturally similar countries in our surroundings, the findings about psychological reactions to the epidemic are analogous, e.g. in Slovenia (Lep, Babnik & Hacin Beyazoglu, 2020) and Serbia (Damnjanović, Ilić, Teovanović & Lep, 2020). It was determined that emotional responses to the epidemic are

related to the adoption of different protective behaviors, and a model has been proposed, based on previous studies, that protective behavior is influenced by perceptions of information sources credibility (e.g. Liao et al., 2010), though not directly, but indirectly through emotional reactions to the pandemic, which, as previously stated, are associated with protective behavior (Cheung & Tse, 2008).

Just as in over 70 other countries around the world, the state's response to the outbreak of COVID-19 in Bosnia and Herzegovina was immediate and general. The first official state measures took place on March 17th, when authorities of Bosnia and Herzegovina declared a state of natural or other disaster. This was followed by taking schooling online and a reduction of movement and social contact. Restaurant industry was halted, cultural and sporting events were banned, borders were closed. The media treated the pandemic as breaking news and continuous coverage even preceded the first confirmed COVID-19 case. This means that news related to COVID-19 made up the vast majority of all media content. Month-long fight against the disease, exposure to media content related to COVID-19, together with social isolation, have put citizens of the whole world, Bosnia and Herzegovina included, under enormous psychological pressure. One of the main contributions of this study is the quantification of different psychological perceptions and responses during the epidemiological situation in Bosnia and Herzegovina, with emphasis on the foundations of health behavior presented earlier, which are informing and perceived credibility of information sources, trust, emotions and self-protective and protective behavior.

Research method

Bosnia and Herzegovina is, in political and organizational sense, a highly complex state. At the highest level, it comprises three political-territorial units: the entities of the Federation of Bosnia and Herzegovina and the Republika Srpska, and a separate Brčko District. The Federation of Bosnia and Herzegovina consists of 10 regions (cantons), while the Republika Srpska is divided into municipalities. The Brčko District is the city of Brčko. Governing takes place at the level of municipalities, cantons, entities (districts) and at the state level. Each level of government has a special administrative structure, which makes the administration system very complex and cumbersome. The political organization is based on the principle of the constituency of the three major ethnic groups: Bosniak, Croat and Serb. This structure of the political and social system creates a special framework for the study of socio-psychological phenomena and interpersonal relationships. Data analysis and conclusion generalization are largely concerned with the question of whether the population of Bosnia and Herzegovina can be viewed as homogeneous in terms of social attitudes, or divided into ethnic and territorial subsamples of residents living in different political and social situations. Because we are conducting this research in a context that is completely new to both respondents and us, we set ourselves to work without prejudice. We performed the analyses exploratively, according to the information from the data received from the field.

Procedure and subjects

General design of our research is a descriptive-correlative study based on a quantitative survey research. The sample selection was non-random, based on the online snowball sampling method. The invitation to participate in the research was posted on social networks Twitter and Facebook, where a link to an online questionnaire was provided. The respondents filled in the questionnaire voluntarily and independently. Data collection was done in the month of April 2020.

In our sample, we had 33.2% men, 66.3% women. The average age of the respondents was around 39 years. The youngest respondent was 17, and the oldest was 91 years old. Regarding age categories, most respondents were in

the age group of 30 to 50 years (61%), while every fourth respondent was younger than 30 years (25%). 13% were older than 50 years. And when it comes to education, within our sample we find that 38% of respondents have completed college, while 34% of them only had a high school diploma. 18% of respondents completed a master's degree, doctorate or specialist study, and 9% completed college. As for the employment status of respondents, people with employment predominated (71%), followed by the 13% of unemployed and students (12%). 3.4% are retirees and 0.2% are pupils. In the territorial structure of the sample within Bosnia and Herzegovina, 73% of respondents come from the Federation of Bosnia and Herzegovina, while we had 26% from the Republika Srpska and 1.4% from the Brcko District. Within the sample, we find 51% of Muslims, 20% of Orthodox, 8% of Catholics and 21% of people who described their religious beliefs in some other way. In terms of ethnicity, 47% of Bosniaks, 8% of Croats, 22% of Serbs and 23% of those who declared themselves differently were included in the sample.

Measures

The research is mainly exploratory study of a phenomenon not systematically researched in our country before, and which could not be investigated earlier. For this reason, there are a relatively large number of variables included in the study, some of which have been used before, and some are entirely new.

The questionnaire used was part of a larger battery of tests used to investigate emotional and behavioral responses concerning trust in various sources of information during the first 48 hours after the first confirmed case in Slovenia (Lep, Babnik & Hacin Beiazoglu, 2020), as well as in the research titled *Psychological Profile of Pandemic in Serbia* (Damnjanović et al., 2020). In this study, we assessed alertness, ways of informing, actual self-protective behavior, and hypothetical protective behavior, as well as the perceived credibility of various information sources about COVID-19. All answers were translated by native speakers and, where needed, adapted to the context of the COVID-19 epidemic in Bosnia and Herzegovina.

Perceived credibility of information sources providing information on the coronavirus epidemic was measured using six items, rated on a five-point Likert scale (ranging from 1 - not at all credible to 5 - completely credible), referring to the various available COVID-19 media information sources.

Participants were instructed to assess the credibility of the information about the coronavirus obtained from the media belonging to the following sources: representatives of the Ministry of Health, representatives of the Institute of Public Health, representatives of the Medical Chamber, doctors, scientists and journalists.

Emotional disturbance / fear was measured using five sets of two items, adapted from a research by Lee et al. (2020), relating to levels of worry, fear of infection, ability to limit the spread of disease, perceived severity of the situation, and amount of thinking about coronavirus before and after the first confirmed case of the disease in Bosnia and Herzegovina. Estimates were on a five-point Likert scale adjusted to the given item (e.g., 1 - not at all concerned, 5 - very concerned).

To measure protective behaviors, engagement, i.e., actual self-protective behavior (SPB) and hypothetical protective behavior (HPB) were assessed. The SSP was measured using 10 questions, on a three-point Likert scale, with answers: not applicable, partially applicable, and fully applicable to me. Choice of items was made following the guidelines for effective self-protective behavior (e.g. thorough hand washing, avoidance of physical contact, etc.) published on websites of WHO, entity and cantonal ministries of health, and public health institutes. We also wanted to know about other behaviors that were not labeled as recommended protective or preventive behaviors, but were commonly observed in the epidemic (e.g., buying food or medical supplies). HPB was measured through the use of 6 items, rated on a five-point Likert scale (1 - certainly would not, 5 - certainly would). The items were selected based on the steps recommended by the Ministry of Health and the Institute of Public Health in case of suspected coronavirus infection (self-isolation, avoidance of family members when possible, staying home from work, personal care and house hygiene, calling and / or going to Covid ambulance or a health center).

Political orientation was measured via a statement in which respondents independently assessed their political orientation on a 5-point rating scale from "left", through "center" to "right". A lower score on the scale indicates a leaning to the left, and a higher score shows higher accordance with the right-wing political beliefs.

Authoritarianism (RWA) was assessed through a simple 3-point scale, based on the idea of right-wing authoritarianism and its components of obedience

to authority, authoritarian aggression, and traditionalism (Altemeyer, 2004; Sibley & Duckitt, 2008). Respondents stated their attitudes on a 5-point rating scale from “strongly disagree” to “completely agree”, and based on those answers a summary score was formed. The final score is an average of these items ranging from 1 to 5, with a higher score indicating a higher presence of authoritarian beliefs.

Social dominance orientation (SDO) is a personal variable with which political attitudes can be predicted (Pratto et al., 1994). It is measured by a scale of 5 items, expressing preference for a hierarchical organization of the society, where ruling groups should dominate the lower-ranking groups. Respondents rated themselves on a 5-point rating scale from “strongly disagree” to “completely agree”, which was used in calculation of summary score.

The conspiratory mentality (CMQ) was assessed by a 5-item scale containing relatively general claims regarding thinking about social actors in the way of conspiracy theories (Imhoff & Bruder, 2014). One example of such a claim is: "The public was never informed about many important world events." Respondents stated their answers on a 5-point rating scale from “strongly disagree” to “strongly agree,” with a higher score indicating greater acceptance of the claim.

In addition to all the above, the questionnaire also contained questions about the following socio-demographic characteristics of the respondents: gender, place of residence, highest educational degree of the respondents, whether they are still educating, employment, state of financials, nationality / ethnicity. During data collection, it was emphasized that the questionnaire was anonymous, and the contact data of the authors of the research were given.

Health behaviors in Bosnia and Herzegovina during the pandemic

Throughout the first part of our study, we presented and analyzed descriptive data about perceptions and behaviors related to coronavirus and the COVID-19 pandemic. Now we will present basic descriptive measures, such as the frequencies and percentages for all individual measures. Following that, we will examine whether there are any differences in perception and behavior related to basic socio-demographic data, such as gender, age, education, wealth, etc. To be more exact, we will analyze whether the different strata of subjects differ in their perceptions and behaviors related to the COVID-19 pandemic.

Early data from China and Italy show that men and women differ in terms of susceptibility to coronavirus, as well as mortality rates (Galasso et al., 2020). These data show that the number of hospitalized men was significantly higher than for women. Also, worldwide mortality data show that the mortality rate in men was 50% higher than in women (Wenham, Smith, & Morgan, 2020). Although it is clear that these differences in susceptibility and mortality from coronavirus may be the result of different immunological and genetic factors, it also appears that there are differences in perceptions of danger and level of adherence to pandemic protection measures. A large sample research of respondents from Australia, Austria, France, Germany, Italy, New Zealand and the US showed that women are significantly more likely to see coronavirus as a serious health problem and to accept necessity of restrictive measures to prevent pandemics, even when controlled for sociodemographic, economic, and psychological factors (Galasso et al., 2020). Also, it turns out that women, being more concerned, are more inclined to seek medical help earlier after the appearance of the first symptoms of the disease.

Research conducted in India at the end of March 2020 focused on the psychological consequences of a pandemic, and showed that younger respondents, women and those with a history of serious illnesses suffered more severe consequences (Varshney, Parel, Raizada, & Sarin, 2020).

A survey from Pakistan conducted in March 2020 showed that two thirds of respondents feel anxiety on a daily basis, and that almost everyone fears for their own family and are anxious about going shopping (Balkhi, Nasir, Zehra,

& Riaz, 2020). Respondents over the age of 35 expressed a higher level of concern, while the use of the Internet and social networks increased the level of anxiety among younger people. The vast majority of respondents (80% or more) reported changes in daily lives in the form of reduced social contacts, less frequent visits to medical institutions, cancellation of plans and more frequent hand washing.

A recent United States study investigated the relationship between different sociodemographic and psychological variables and the behavior of respondents during the COVID-19 pandemic (Clements, 2020). The results showed that a lower level of knowledge about COVID-19 is associated with a greater tendency to accumulate household supplies, but also to attend gatherings of more than 50 people. The respondents also belonged to younger generations. The average level of knowledge about COVID-19 was 9.72 points out of 12 (80%), compared to 90% in the Chinese sample a little before. When concerning the relation between party identification and behavior, the research found that Republicans, unlike Democrats and independents, showed less knowledge about COVID-19, and that they abided less by the recommended distancing measures. The authors state that Democrats prefer the involvement of experts and scientists in the society management during a pandemic, while Republicans generally do not want scientists to be involved. Research done in Egypt focused on knowledge, perception, and attitudes related to COVID-19 (Abdelhafiz et al., 2020). In terms of knowledge, the respondents exactly answered 71% of the questions on average, they were most concerned about the possibility of infection and about maintaining financial income while in isolation. A study conducted in China in late January 2020, after Chinese authorities announced that the coronavirus was spreading from person to person, aimed to investigate the link between the media reporting and the psychological consequences of the COVID-19 pandemic (Chao, Xue, Liu, Yang & Hall, 2020). The results showed that users of new media (internet, social networks etc.), compared to users of traditional media (TV, newspapers and so on), suffered significantly heavier consequences in terms of anxiety, depression and stress. Exposure to stressful media content, such as images from hospitals, significantly contributes to elevated levels of negative feelings and depression. At the same time, the amount of exposure to media content is associated with negative feelings, anxiety, depression and stress. On the other hand, exposure to media content can also have positive effects. Those who have

observed bold and prosocial behavior, heard experts talking on illness and prevention, show a higher level of positive feelings and less depression.

A cross-cultural study conducted during March and April 2020 in Germany, Spain, Italy, Sweden, the United Kingdom, the United States, Mexico, South Korea, and Japan examined personal coronavirus risk assessment, inquiring about opinions on the severity of the pandemic, the likelihood of becoming infected, or to infect family members (Dryhurst et al., 2020). The results showed that the general perception of risk was high everywhere, while being the highest in the UK and Spain. Higher risk perceptions were displayed by respondents who had personal experience with coronavirus and those who received information about coronavirus from relatives or friends, then those who showed prosocial orientation, those who more believed in science, and finally those who knew more about COVID-19. On the other side, those with individualistic orientation and those with more confidence in government showed a lower perception of risk. The only sociodemographic variable that was a significant predictor was gender: men showed significantly lower risk perceptions in this study.

A survey conducted in France in March 2020 showed that the level of respect for anti-epidemic measures increases with age, that women abide by them more than men, and that conscientiousness people are also more likely to follow such measures, while education did not predict compliance (Broward, Vasilopoulos, & Becher, 2020).

Another study was done in China in early February 2020 and showed that during the pandemic and lockdown, the highest level of distress and concern was shown by following sociodemographic categories: women, middle-aged respondents, highly educated and those employed in state and public services, respectively (Chen, Zou, & Lin, 2020). The authors of the study discuss that these data should be considered when planning support measures for vulnerable categories of the population.

Descriptive data: perceptions, emotions, behaviors

Within our sample we find 2099 respondents of different ages, education, place of residence, etc. At the beginning of the research, we wanted to know about their health condition, because we expected that their attitudes about the COVID-19 virus would depend on it, just like their behavior.

As for risky behaviors, non-smokers predominate among the respondents, making 20% more of the sample than smokers. During the time period covered by the survey, most of the respondents said that they did not leave the country in which they live, while every tenth respondent traveled to one of the countries where coronavirus infections took place. Of interest is that almost a third of the respondents at the time of the research knew someone who had symptoms of COVID-19 virus infection. When asked about contacts with risk groups (children, the elderly, the chronically ill, etc.), every other respondent was not worried about it, while almost a third of the respondents claimed that they did not have contacts with such persons. Biggest concerns were regarding contacts with the elderly and chronically ill but not so much with children.

Generally speaking, while looking at our sample, we can describe it as very healthy because 80% of the respondents did not have health problems, while among the respondents who had health problems, cardiovascular diseases, respiratory problems and diabetes predominated.

Slightly more than half of the respondents estimated that they knew the necessary information regarding the virus and its spread, while one in three respondents still had doubts. The situation is similar regarding questions about recognition of the symptoms of an infection. Interestingly, respondents were most familiar with the precautionary measures that need to be taken to prevent the spread of the virus, with over 80% of them stating so, which was a matter of priority at the time. 14% of respondents believed in the possibility that they would be infected with the COVID-19 virus. Such a small percentage of respondents who think they can be infected can have a big impact on overall behavior in the long run, because expectation that the infection will probably happen to someone else can very often lead to relaxed behavior and disregard for disease prevention recommendations. Special attention should be paid to younger people, who, compared to other age categories, think that they know more about coronavirus and do not believe that they will be infected. It is difficult to say whether young people know more or less about the virus than the older generations, but if it is a matter of excess self-confidence combined with lacking knowledge, then it is a serious problem. Compared to men, a higher percentage of women believe to be aware of the precautionary measures against the spread of the virus, while men are more often convinced that they will be infected with the COVID-19 virus. A study

across several countries around the world found that women more often regard coronavirus as posing a serious health problem and to be more accepting of restrictive measures regarding pandemic prevention as necessary (Galasso et al., 2020). People who have more contact with other persons are more informed about the symptoms and course of the infection than respondents who do not, and those who know someone with symptoms of infection think they are more familiar with all aspects of the infection than those who do not know such people.

In the previous chapter, we talked about our respondents' self-assessment of their own knowledge about different aspects of the COVID-19 virus, but what about their actual knowledge? Before we present their answers, we must emphasize that at the time of our survey there were a lot of ambiguities about the coronavirus, however a lot of reliable knowledge was already available. Slightly more than half of the respondents mistakenly believe wearing a mask is not the most effective way to prevent coronavirus infection, and the younger the respondents, the more pronounced this belief is. For a third of the respondents, the use of disinfectants is a more efficient way of protection against infection, which is not the correct stance. Two-thirds of respondents are correct to believe that consuming dietary supplements cannot protect us from infection with the COVID-19 virus. Almost two thirds of the respondents correctly believe that the mortality rate from the COVID-19 in the general population is under 4%, while every tenth respondent thinks that this is not true. One third of respondents mistakenly believe that the spread of coronavirus is comparable to the spread of seasonal flu. The vast majority (about 90%) of respondents correctly believe that COVID-19 is transmitted by droplets. Every fourth examinee rightly considers a 3-meter distance to be the minimum safe distance from a person infected with the COVID-19. Correct belief that the COVID-19 virus stays on objects for up to 14 days was confirmed by a quarter of respondents. Two-thirds of respondents mistakenly believe that the risk of a more severe form of the disease is higher for people with diabetes than for healthy individuals. Nine out of ten respondents correctly believe that people with asthma are more prone to more severe forms of the disease. Also, about 90% of respondents correctly believe that fatigue and shortness of breath are among symptoms of COVID-19. The statement that SARS-CoV-2 and COVID-19 are synonyms for coronavirus was correctly supported by 71% of respondents. Nine out of ten respondents are right to believe that COVID-19 virus infection can pass without symptoms.

41% of respondents accurately think that SARS-CoV-2 is a zoonosis, while every third respondent did not know the answer to this question. According to three quarters of the respondents who are spot on, in order for the infection with the COVID-19 virus to be confirmed, it is necessary to perform microbiological tests. Fever is not an uncertain sign that a person with COVID-19 is rightly confirmed by two-thirds of respondents. Three-quarters of respondents correctly agree with the claim that antibiotics are not effective in treating the COVID-19 virus.

When talking about our respondents' perception of the epidemic, it is completely obvious, and expected as well, that it changed with the arrival of the virus to our area. While the virus was far away, it did not cause significant interest, concern or deliberation for the majority of respondents. Only with the arrival of the virus to our country, the perception started to change and the virus became one of the most important topics, which caused concern among the respondents, made them think and change their behavior. Although the talk about COVID-19 virus was already taking place in the world, but also in our country, as early as in January, the citizens of Bosnia and Herzegovina did not pay much attention to it. As the virus came to our region, everything else suddenly became irrelevant and the media flooded us with news about it. Bearing in mind that our research was done at the beginning of the epidemic when still little was known about the virus, and citizens were overwhelmed by inaccurate, half-correct and contradictory information coming from the media, it was to be expected that citizens would be confused and scared. Even then, there was talk of infodemia (The Lancet, 2020). i.e. about an excessive amount of information, which makes it difficult to understand the problem and behave adequately. It is therefore of interest to take a look at how respondents dealt with the information to which they were exposed on a daily basis. Every other respondent claims being disturbed by the news about COVID-19, while 85% believe that they were flooded with information. A study in Pakistan (Balkhi, Nasir, Zehra, & Riaz, 2020) found that two-thirds of respondents felt anxiety on a daily basis. Two-thirds of respondents claim that gathering information about the epidemic did not have a calming effect. The pandemic dominated conversations between people. Almost two thirds of the respondents claim that they were burdened by all this, and half of the respondents made efforts not to be exposed to this type of information anymore. Information about the pandemic became boring and they stopped following that kind of news. In that period, slightly

less than 40% of respondents felt helpless while every third respondent claimed that they had no problem concentrating on performing their work duties. Respondents under the age of 30 are most bothered by the amount of information about the virus, while respondents over the age of 50 try to get as much information as possible. Analysis of gender differences shows that women, compared to men, are more troubled when following the news about the virus, talk about it more often, follow the media information about it less, and more often feel helpless when it comes to COVID-19 virus. Men are more likely to point out that the news about the virus is boring them. Respondents who do not know anyone with symptoms of COVID-19 virus infection more often express attitudes in which information about the virus is classified as boring, burdensome and therefore avoided, as well as feeling more helpless about the virus. People who know someone with symptoms of COVID-19 infection are more likely to seek information from other sources if they feel that they are not getting adequate information from common sources of information, compared to those who do not know someone with symptoms of infection. Non-smokers, compared to smokers, are more likely to avoid being exposed to information about the virus, they stop following such information while claiming that they are bored by the news, while smokers feel more helpless than non-smokers. With the arrival of the COVID-19 virus, the percentage of people who started watching news programs on a daily basis also increased, compared to the time before the virus appeared in China. That percentage has almost doubled since.

As for the trust in institutions, we must keep in mind that the citizens of Bosnia and Herzegovina, even from long before, do not have much trust in the institutions of the state (Turjačanin, Dušanić, Lakić, 2017; Šalaj, Grebenar, Puhalo, 2019). However, the nature of this situation has led respondents to trust scientists the most, followed by family doctors, public health institutes, ministries of health, and the least the media, social networks and politicians. The situation is similar regarding the trust in the information they receive about the epidemic, scientists and doctors are the most trusted (35.8%), followed by representatives of the Institute of Public Health, representatives of the Medical Chamber, representatives of the Ministry of Health and, least trusted are journalists.

At the time of this research, strict rules established by the institutions of the system were still in force (curfew, restricted movement between

municipalities, ban on mass gatherings, closure of some shops, shopping centers, restaurants and institutions, with mandatory wearing of gloves and masks etc.) which has certainly led to a change in people's behavior, but it is difficult to say to which degree that behavior was the result of these external prohibitions, and how much of it was a personal choice. Undoubtedly, there was a change in the behavior of the study subjects throughout the corona pandemic compared to the earlier time when existence of the virus was still unknown to us (Wang et al., 2020). To be more precise, not only have people changed their behavior, but we can say that they have adapted their behavior to the given situation and became more careful when it comes to personal contacts, daily routine, hygiene maintenance, stockpiling supplies, etc. Similar results were obtained by Balkhi, Nasir, Zehra, & Riaz, in 2020 in Pakistan. It remains to be seen how long will these changes in behavior last as time goes by and we get used to the corona in everyday life?

Just as anticipated, at the time of our research, the epidemic was the main news topic in our country, it was talked about a lot in the media, as well as among acquaintances, friends and relatives. Women and older respondents discussed the epidemic more, but it was also more talked about by citizens of Bosnia and Herzegovina in general as opposed to respondents from abroad. Before the virus arrived in our region, subjects whose job involves contact with many other people talked more with friends about the COVID-19 virus than those who did not have such jobs, but that difference disappeared with the arrival of the virus in our area. People who knew someone with symptoms of COVID-19 infection at the time of the study talked more about the epidemic than those who did not know anyone infected, both when the epidemic was still far away and when it arrived here.

The largest percentage of respondents (about 80%) say that they would follow the doctor's recommendations if they noticed any of the symptoms of the infection, which means self-isolation, avoiding family members, maintaining hygiene, not going to work and informing health institutions about their health condition. Research from France (Brouard et al., 2020) showed that the level of respect for anti-pandemic measures increases with respondents' age. They also discovered that women respect these measures more than men, and that those with developed personal responsibility respect them more, while education seems to have no influence on compliance with the measures. For our respondents, only the attitude about

visiting health institutions proved problematic, every other examinee says that they would not do so, and a third say they would. It remains unclear how the respondents understood this question, i.e. have they understood the question as being about going to health facilities to visit someone lying there or to seek help for themselves?

Socio-political attitudes and health behaviors

For this part of the study, we analyzed relations between socio-political attitudes and perceptions and behaviors related to COVID-19. Correlations between socio-political attitudes and coronavirus concerns show that there is a link between conservative and right-wing policy preferences and reduced coronavirus concerns. There are strong correlations showing that respondents more prone to conspiratorial thinking tend to be less concerned about coronavirus. Correlations between right-wing political orientation, social dominance orientation, and concerns show low but consistent influence, so those who are rather right-wing politically orientated and those who prefer hierarchical social dominance also show less concern about coronavirus. Our findings are consistent with most COVID-19 research findings worldwide. A new U.S. study shows that more politically conservative respondents perceive coronavirus as being a lower level threat, both for them personally and for society, and that the media exaggerates the level of danger (Calvillo et al., 2020). Another study conducted in the United States in 2020 showed that ideological orientations are a very good predictor of the intensity of pandemic concerns, but that as experience with COVID-19, and effects of the disease grow, ideological factors lose their significance for the perception of the coronavirus (Conway et al., 2020). .

The next group of questions related to COVID-19 concerned the attitudes toward information related to coronavirus, and the consequences of this information on one's own mental functioning. Here we found generally quite weak correlations, but certain patterns of relations can still be seen. Respondents who tend to support right-wing political views and those of a more conspiratorial mentality are more likely to say that they avoid information about the coronavirus, that they have stopped following the news about the coronavirus, that they are bored and burdened by the news, and that they interfere with their work. Also, they are less likely to say that searching for information about COVID-19 calms them down and more likely to seek alternative sources of information about the coronavirus. In general, it seems that people whose cluster of socio-political attitudes lean to the right do not want to listen to information about the coronavirus, but also that such information does not trouble them much. We also saw that the same respondents show a lower level of knowledge about COVID-19, which is

logical, since they do not lend much importance to information about it. The already mentioned American study showed that respondents who find themselves at the right side of the political spectrum believe that the pandemic is the result of a conspiracy, that the media exaggerates the level of danger, but also that these people are more susceptible to believing fake news about COVID (Calvillo et al., 2020). We can say that the side effect of avoiding news and information about the coronavirus can also be greater exposure to false information, which only opens a new feedback loop between ignorance and non-compliance with pandemic measures.

In the next group of questions, respondents gave their assessments of their coronavirus awareness as well as likelihood of being infected themselves. Similar to previous analyses, we can see that the correlations between sociopolitical attitudes and self-assessment of familiarity with the disease are quite low, but consistent. We see that the more respondents' attitudes are of right-wing political orientation and more susceptible to conspiratorial thinking, the less they follow the news about the coronavirus, spend less time talking about the coronavirus, and find it less likely to be infected themselves. A large cross-cultural study from 2020, which dealt with issues of risk assessment related to coronavirus, showed that the general perception of risk was higher in respondents who believe in science more, but not so with those who have more confidence in authorities (Dryhurst et al., 2020). We can see that too for our sample, people of the right-wing orientation show greater trust in government and assess risk as lower, while people of more liberal orientations trust science more, and find the risk to be higher.

The next set of questions dealt with personal opinions about what actions would respondents take if they noticed that they were having symptoms of coronavirus. As with the previous results, the correlations turned out to be quite low, but not without observable patterns. Quite expected, respondents of more conservative socio-political leanings are likelier to claim that they would not avoid contact with other people, or their family members, that they would continue to go to work and that they would not call a health institution. On the other hand, it is interesting that they more frequently claim that they would visit a health institution and take care of household hygiene. People of right-wing political orientation seem to care less about the consequences of the virus for the collective, but faced with having disease symptoms themselves, they would react individualistically, by visiting a

doctor and taking care of their own household. Going further, we were interested in the behavior patterns of the respondents from the moment when the first case of coronavirus infection appeared in our country. All correlations are rather weak, and are most pronounced when regarding the conspiratorial mentality. Respondents who approve social dominance more and have a pronounced conspiratorial mentality, as expected, more often state that they do not avoid social contacts and collective events, do not follow the news, and do not avoid close contacts and handshakes with other people. At the same time, unexpectedly, respondents who lean towards right-wing authoritarianism claim more often that they wash their hands more frequently and do not touch their faces, and that they stockpile basic necessities and medical supplies. However, in this case as well we can spot a pattern in which people whose views lean right care less about the collective aspects of the epidemic, while focusing more on individual protection against infection. Most recent research conducted during the COVID-19 pandemic consistently shows that respondents of a more liberal political orientation perceive coronavirus as a serious threat, and support stricter public health measures. Accordingly, they show greater respect for distancing measures, wearing masks and the like. On the other hand, the same research indicates that more conservative subjects often describe the coronavirus as harmless, and usually perceive the protection measures taken as excessive and wrong. (Broward et al., 2020; Conway et al., 2020; Rothgerber et al., 2020; van Holm et al., 2020; Winter et al., 2020). Also, research from Germany, the UK and the US shows that people who believe that the coronavirus is a hoax or artificial in origin show less respect for collective public health measures, but are more willing to engage in individual preparation for protection during a pandemic (Imhoff & Lamberty, 2020).

The next group of items in our analysis were related to trust in social institutions and the credibility of information from these institutions, and the way it is linked to socio-political attitudes. Here we see a slightly different distribution of correlations compared to the previous results. The most outstanding information is that persons with a conspiratorial mentality do not trust any institution, and thus trust no information coming from these institutions, except when it comes to social networks, where we did not determine any significant correlations. Furthermore, right-wing oriented people, more pronouncedly authoritarian and who approve of social dominance show a tendency to trust politicians, ministries, institutes, the

health system as a whole, and personal physicians more, but also to less trust in scientists and information coming from them. From this, we can see that there is a class of respondents who are prone to a conspiratorial mentality and who are generally distrustful. So distrustful that they doubt everything that has to do with the coronavirus. On the other hand, we see that respondents who aspire to right-wing socio-political beliefs have confidence in government and the information that comes from them. What is characteristic, and of course discouraging, for both these groups is that neither of them has confidence in scientists, scientific information and science in general. A new study from England shows a significant relation between strong conspiratorial mentality and having lower respect for public health measures, as well as reduced trust in vaccination measures, medical institutions and professionals (Freeman et al., 2020). Moreover, research done in the US shows that about 50% of respondents (predominantly Republican voters) believe that the virus was artificially created in China, that the Chinese use it as a biological weapon, and that Bill Gates is creating a tracking device to be implanted into anyone who receives the COVID-19 vaccine (Miller, 2020). New research shows that respondents who believe in scientific facts tend to adhere more to isolation measures at the time of a pandemic (Brzezinski et al., 2020). Another study found that believing the wrong facts about COVID-19 is related to right-wing political orientations, but also that knowing the basics of science is a very good predictor of rejection of misinformation about COVID-19 (Pennycook et al., 2020). A longitudinal study conducted in the UK during the first wave of the pandemic shows that two groups of attitudes, opinions and behaviors regarding COVID-19 are formed over time: the group of those who respect public health measures, and the group of those who do not because they consider such measures exaggerated (Maher, MacCarron, & Quayle, 2020). The authors find that these groups polarize primarily around the issue of trust in science and medicine.

Final considerations

New conditions of life

When information about the new virus in the Chinese city of Wuhan came in late 2019, no one (except, perhaps, epidemiologists) could have guessed that within a few months the virus would spread around the world, causing a pandemic and a change in lifestyle of people yet unheard of. This new coronavirus (officially called SARS-CoV-2) accompanied by the disease in the form of acute respiratory syndrome (COVID-19) has brought a lot of unknowns and novelties into human lives. Although the mortality rate from coronavirus is quite low, and most people who become infected show only mild to moderate symptoms of the disease, it still poses a risk to vulnerable populations: the chronically ill, the elderly and people with immune system disorders. Since it is a virus that we encounter for the first time, there are no vaccines or specific medical treatments to treat the disease.

Authorities in countries around the world have been in a position where they had to respond to new challenges without knowing the consequences of the coronavirus and this pandemic. Most countries have acted by implementing recommendations or strict measures to fight the spread of the infection, including restrictions on social contacts, cessation of public life, and keeping people under long-term lockdown. Each state reacted according to the degree of organization of its health and social system, but to the greatest extent these measures were improvised. When the first case of coronavirus infection appeared in Bosnia and Herzegovina in early March 2020, it became clear that the pandemic would have a significant impact on our lives. First case was followed by other cases of infection, and the authorities gradually introduced new isolation measures and restrictions of mobility. It turned out that the COVID-19 pandemic is not a one-time event, but that it will be a long-term process that will introduce changes to society, but also in the psychological functioning of people. In other words, the pandemic leads to problems and challenges in the field of public and personal health, politics, economy, social environment, but it also represents a great psychological burden for people. In this situation, when people feel a threat to themselves and their loved ones, living isolated from each other, not being sure how to protect themselves, every going out becomes an adventure. The pandemic was accompanied by an almost complete halt of economic processes, and with it came existential fears related to employment and earnings.

Along with the spread of the infection came another global phenomenon of so called "Infodemia", which means an excessive amount of information of dubious quality. People are then overwhelmed by a huge amount of media reports, with many contradicting information and statements by officials. In this situation, entire populations of people can be subject to feelings of threat, fear and helplessness. The constant feeling being under threat of serious illnesses carries with it a great burden of anxiety and stress. Presenting information in a frightening form, as a warning or as a threat, with the aim of exaggerating the danger, as well as frequent media coverage, can cause fear and hysteria (Van den Bulck & Custers, 2009). Such disturbing informing, in fact, leads to the opposite effect from the desirable one, i.e. leads people to avoid intimidating information, and reduces the opportunities to mobilize the public to behave in a protective and pro-health manner (Sherlaw & Raude, 2013). Furthermore, the lack of trust in health professionals and their public statements undermines the credibility of the information they provide, and the trust in the health system as a whole, which can lead to a lower level of use of health services (Alsan & Wanamaker, 2018). Research conducted during previous epidemics has illustrated that epidemics are indeed a source of great stress (Cheng & Cheung, 2005). It is not only a matter of concern and fear of disease, but also that people have to change their lives in a way that minimizes the possibility of infection (Leung et al. 2005a). Thus, dramatic emotional reactions and patterns of human behavior can occur during an outbreak, and especially after certain critical events or contextual changes take place (WHO, 2012). One of the main factors in managing society in a pandemic includes timely and clear communication of measures that prevent the spread of infection, as well as disease treatment. Such instructions, calls and legislation, which are addressed to the entire population, help control people's emotional reactions and behavior thus leading to better control of the epidemic.

As we have seen, the epidemic develops in stages, but what develops in parallel with these changing pandemic phases are also the ways in which people adapt to the new circumstances of living under constant stress (Seyle, 1946). Under psychological stress, we are first upset or directly affected by the threatening event, to which we react primarily emotionally and with sudden, sometimes intense, behavior. Thus e.g. in the event of an epidemic, we can make food supplies reserves. The next phase is less intense and may involve resistance or possible recovery and adaptation where people form new patterns of behavior,

and the emotional reactions to the epidemic are less dramatic. The last stage can be exhaustion, emotional burnout, or relaxation. All these complex social and psychological processes, as we can see, bring us to make numerous changes in our everyday life, and so now we have a term for a new way of functioning of people and society - "the new normal".

Perceptions, emotions and behaviors during a pandemic

Generally speaking, our sample can be described as very healthy because 80% of the respondents claim that they do not have any serious health problems. Cardiovascular diseases, respiratory problems and diabetes predominate among those who did report health problems. The sample mostly consists of non-smokers, as there are 20% more of them than smokers. During the time we were doing the research, every tenth respondent has visited one of the countries where coronavirus have been recorded. Contacts with high risk groups (children, the elderly, the chronically ill, etc.), did not worry every other respondent, while almost a third of the respondents claim that they do not know anyone belonging to these groups. Most concerns about high risk contacts were regarding the elderly and chronically ill, but to a lesser extent children.

When it comes to how well respondents were informed, it is interesting that they are most familiar with the precautions needed to be taken to prevent the spread of the virus. Which was perhaps the most important thing at the time. More than half of the respondents estimate that they have all the necessary information regarding the virus and its spread. The situation is similar with the assessed ability to recognize the symptoms of an infection. Every seventh respondent believes that there is a possibility of contracting the COVID-19 virus themselves. Such a small percentage of respondents who think they can be infected in the long run can have a big impact on overall behavior, because if the prevalent expectation is that the infection will only happen to someone else, then it can quite possibly lead to relaxed behavior and disregard for prevention recommendations. . Young people who think they know more about the COVID-19 virus and that they are the least likely to become infected are particularly at risk here.

As for the actual knowledge that respondents have about COVID-19, we must keep in mind that at that time there was little undebated information that we

could call completely accurate, which made any knowledge about the virus quite questionable. However, it seems that the respondents adopted basic opinions that were dominant among experts at the time. A little more than half of the respondents believe that wearing a mask is not the most effective way to prevent coronavirus infection, while two thirds of respondents believe that washing hands with soap and water is a much more effective way to protect against infection than disinfectants. Same percentage of respondents are of the opinion that consuming dietary supplements cannot protect against infection with the COVID-19 virus. Slightly under two thirds of the respondents state that the mortality from the disease in the general population is less than 4%, while every tenth respondent does not agree. A third of all respondents believe that the spread of coronavirus is comparable to the spread of seasonal flu. One in ten respondents thinks that COVID-19 can be transmitted by means other than droplets. Two-thirds of examinees believe that 3-meter distance is not the minimum safe distance from a person infected with the COVID-19 virus. One in four respondents find the statement that the COVID-19 virus stays on objects for up to 14 days to be a fact. Belief that the risk of a more severe form of the disease in people with diabetes is higher than the risk in healthy individuals is stated by two thirds of study subjects. Nine out of ten respondents believe that people with asthma are more prone to more severe forms of the disease. 71% of respondents agree that SARS-CoV-2 and COVID-19 are synonyms for coronavirus. Nine out of ten respondents state that COVID-19 virus infection can pass without symptoms, but also that fatigue and difficulties with breathing are two symptoms of COVID-19 patients. 41% of respondents think that SARS-CoV-2 is a zoonosis, while a third of respondents did not know the answer. Microbiological tests are needed in order for the infection with the COVID-19 virus to be confirmed, according to three quarters of the respondents. Two-thirds of respondents find fever not to be a sure sign that a person has COVID-19. Three-quarters of respondents agree that antibiotics are not effective in treating the COVID-19 virus.

Just as it could be anticipated, with the arrival of the virus in our region, perception of it has changed. The lack of interest in the epidemic while it seemed to be only in China, and which took place in January, was replaced in March by anxiety, fear, flood of information about the virus, as well as changes in behavior, and all this could quite be expected at the beginning of an epidemic or pandemic (Wang et al., 2020).

After the COVID-19 virus arrived in our area, the percentage of people who started watching news programs on a daily basis has increased and, compared to the time before the appearance of the virus in China, that percentage has almost doubled. Every other respondent claims that they were disturbed by the news about COVID-19, while 85% think that they were overwhelmed with information and in that matter we do not differ much from other countries (The Lancet, 2020). Two-thirds of respondents claim that finding and getting information about the epidemic did not calm them down. The pandemic was a dominant topic in the conversations. Almost two thirds of the respondents claim that they were burdened by all the information, and half of them tried to shield themselves from that kind of information. During this period, almost 40% of respondents felt helpless, while two-thirds of respondents had trouble concentrating on performing their work duties. We can say that these emotions are easily anticipated, because research has shown that anxiety is at its highest at the beginning of an epidemic, decreasing over time (Cheng & Cheung, 2005).

Even from long before, citizens of Bosnia and Herzegovina did not have much trust in the institutions of the state (Turjačanin, Dušanić, Lakić, 2017; Šalaj, Grebenar, Puhalo, 2019), but the pandemic lead to a change in the type of institutions that could be trusted. Citizens now trust scientists the most, followed by family doctors, public health institutes, ministries of health. Least trusted are the media, social networks and politicians. The situation is similar regarding the trust in the information they receive about the epidemic, scientists and doctors are the most trusted (Brinol & Petty, 2008; O'Keefe, 2016), followed by representatives of the Institute of Public Health, representatives of the Medical Chamber, representatives of the Ministry of Health and, least trusted are journalists which is in line with the findings in other countries (Chauhan & Hughes, 2017; Austin et al., 2012).

It is beyond doubt that a change in the behavior of citizens took place during the pandemic as opposed to time before. To be more precise, not only have people changed their behavior, but we can say that they have adapted their behavior to the given situation and became more careful when it comes to personal contacts, daily routine, hygiene maintenance, stockpiling supplies, etc. It remains to be seen how long will these changes in behavior last as time goes by and we get used to the corona in everyday life? We can probably expect that the discipline will loosen with time and that people will less

respect precautionary measures regarding hygiene, mask wearing, avoiding crowds etc. (Yeung et al., 2017, Lau et al. 2003, Karademas et al., 2013).

Largest percentage of subjects claimed that they would follow doctors' recommendations in case they noticed symptoms of infection, which means self-isolation, avoiding contact with family members, hygiene maintenance, staying home from work and informing health authorities about their condition.

Political orientation and health behaviors

Based on results of our research, we could see that our respondents most often describe their political orientation as center, or rather left, while the sample contains very few of those who claim to have right-wing political attitudes. Of course, these results diverge from earlier research done on citizens of Bosnia and Herzegovina, where respondents much more often showed right-wing tendencies (Turjačanin et al., 2018). Such distortion of political orientation distribution of our examinees is a consequence of the fact that our sample is not representative of the population of Bosnia and Herzegovina, which has, in many ways, limited our ability to generalize the conclusions of the study but we will get back to this in the last section where we will discuss limitations of the study and recommendations that can be drawn from it.

If we look at the global picture painted by our results in terms of the relations between political and ideological orientations and health behaviors during a pandemic, we see that respondents who define their political orientation as right-wing and have conservative attitudes show less concern about coronavirus, are reluctant to search for information related to coronavirus, less follow the news about coronavirus, spend less time talking about the coronavirus, and consequently know less about the coronavirus and the disease it causes, and estimate a lower chance of being infected themselves. The cluster of attitudes that we have defined as right-wing political orientation also includes persons who are more authoritarian, more approving of social dominance and more prone to conspiratorial thinking, so the same tendencies in health behavior apply to them. It is seemingly unexpected that more politically conservative people perceive a lower degree of threat from the COVID-19 pandemic, as quite a few previous studies have

found that they generally perceive the world as a dangerous place, and usually have higher scores on fear of death (e.g. Jost, Glaser, Kruglanski, & Sulloway, 2003; Perry, Sibley, & Duckitt, 2013; van Leeuwen & Park, 2009). However, other research shows that, let us say, more politically liberal people experience a greater degree of fear when it comes to climate change (e.g., Hartter et al., 2018). This tells us that ideological orientations can not only have to do with the perception of the world around us, but also likely to influence the selection and interpretation of new information in accordance with an already existing system of values and beliefs. Political liberals and conservatives differ on other beliefs, such as trust in science, with liberals leaning toward trust in science, and the dominant scientific understanding is that man has caused climate change. However, the narrative of human involvement in climate change due to excessive industrialization and exploitation of natural resources means that an effective way to preserve the human environment would be to reduce and control industrial production and exploitation of natural resources, which in turn means slowing of the world economy. This is in some ways similar to the interpretation of the current pandemic situation: fighting a pandemic, the way it is predominantly envisaged by science and medicine, means changes in the direction of reducing social contacts, which of course does not correspond to the functioning of the capitalist economy. The economic interests of big capital are ideologically more in line with the right-wing political orientation, whose main characteristic (at least predominantly in the United States) is liberal capitalism, that is, the free functioning of the financial market, without much state influence. Isolation measures, which were taken by the governments of most countries, aim to protect the most vulnerable categories of the population when it comes to coronavirus, namely the elderly, the chronically ill and members of the lower levels of society. Such intervention is more characteristic for liberal political orientations, and then, not surprisingly, we find that the more liberal are more supportive of those measures.

These ideological differences were also expressed by the media as they reported in different ways throughout the pandemic. Media closer to the one, or the other side, show the same biases when reporting about the disease. Studies have shown that left leaning media gave more importance to COVID-19 information, while the conservative media treated coronavirus as being not a great threat (Calvillo et al., 2020; Motta et al., 2020).

Consistent with previously determined relations, respondents who prefer a right-wing political orientation do not appear to show concern for public health to such great extent, but are more concerned about the individual consequences of disease and pandemics. These respondents tend to think that they should not avoid contact with other people, or family members, in case they notice themselves having symptoms of the disease. In contrast to left-leaning respondents, they behave differently in the pandemic regarding their personal protection: they would visit a doctor more often, take care of their own household hygiene, and buy reserves of basic necessities and medical supplies. This is fully in line with the individualistic orientation of Western societies, where individual orientations are more tied to right-wing political attitudes, as well as to greater rejection of public health measures (Biddlestone et al., 2020; Imhoff & Lamberty, 2020).

Analyses of the correlations between political orientations and trust in institutions have shown that people of right-wing political orientation, who are more authoritarian and who approve social dominance, trust politicians, ministries, institutes, the health care system as a whole and personal physicians more. On the other hand, these people trust scientists and scientific information less. We have found earlier that the greater trust in the institutions of the system is higher among people of right-wing political orientation, so it is not unexpected, and it shows the nature of political power in our context (Turjačanin et al., 2018). Furthermore, we have noted several times that numerous studies confirm that trust in science and scientific information is related to political ideologies, with political liberals usually showing greater trust in science compared to political conservatives (Brewer & Ley, 2013; Gauchat, 2012; Hmielowski et al., 2014). In our sample we also have a class of markedly skeptical respondents who are prone to conspiratorial thinking, and who do not trust any institution, or any information that comes from those institutions. These respondents do not trust anyone, and only have an ambivalent relationship with social networks - more precisely, we did not find a significant correlation between the conspiratorial mentality and trust in information from social networks. This group of respondents, as previous research has shown, is most likely to find information on the Internet, where there is no systematic filtering of information, and in addition to information of questionable reliability, many websites with the most diverse conspiracy theories can be found (Blanuša, 2009).

People are in constant interaction with the society in which they live, and they react to the ruling ideological guidelines. They create coherent constructs of the world around them, aligning new information with their personality traits, values, and political and social beliefs. People from different ends of the political spectrum construct their social world, their values, beliefs and attitudes so that they are interconnected and harmonious. The need to balance beliefs, attitudes, and behaviors leads to a tendency for leftists and rightists to select, use, and interpret information according to their broader system of values and beliefs (e.g., Kunda, Miller, & Claire, 1990). For indicators of political orientations, i.e. inclinations to political ideologies, we used the measures of self-assessment of political orientation, right-wing authoritarianism, social dominance orientation, and propensity for conspiratorial thinking. Each of these variables indicates ideological differences on the usual left-right scale, i.e. liberal-conservative. Quite a few studies also show that many other attitudes, which do not directly relate to political orientations but are usually in a cluster of conservative political orientations, such as gender prejudice (i.e. sexism), prove to be strong predictors of emotion, perceptions, and behaviors related to COVID-19. (Reny, 2020). Our findings, as well as those obtained around the world during the first wave of the COVID-19 pandemic, clearly show that people on the liberal political spectrum perceive coronavirus as a serious threat, support stricter public health measures, while more conservative respondents usually perceive the virus as rather harmless, while perceiving the taken restrictive health care measures as excessive and unnecessary. All this being said, we need to take into account that ideological differences are more visible, and also significantly more researched in North America than in the rest of the world. Nevertheless, in our country we can see the echoes of these ideological tendencies in the treatment of the COVID-19 pandemic

Limitations and recommendations

Just as with any research study, along with all the useful results we obtained throughout the research, we must be aware of the limitations of our findings. In a research of this type, which is based on the survey of a given sample, it should be kept in mind that drawing conclusions and generalizing its findings to the entire population largely depends on the choice of the sample. Our selection is not representative of Bosnian population, because it was not

obtained by random sampling, but represents a rather suitable sample - people that we could reach in the given conditions. We sampled respondents via social media calls, and we saw that the sample probably deviated from the population in some key traits. E.g. according to the distribution of political orientations, the sample deviates from the findings in previous research, i.e. it has a shifted distribution towards one end of the political spectrum. Statistically, when we have such a variable with a skewed distribution, it limits our ability to detect some tendencies that may exist in the population. Probably due to this reason we obtained low correlation coefficients in statistical analyses. So, based on the fact that our sample deviates from the representative sample, we cannot generalize the results with certainty to the entire population, but we can compare the results of our research with the results of similar studies. The fact that the main tendencies of our findings do not deviate significantly from the results of research conducted within other contexts supports us in the opinion that we are researchers on the right track. Further, we must keep in mind that this is a descriptive-correlation study, in which we can describe and link phenomena, but we cannot talk about cause-and-effect relationships. Specifically, based on the results of our research, we cannot speak with absolute certainty about how political orientations affect health behaviors during a pandemic, nor, conversely, that health behaviors affect the adoption of political orientations. What we can say is that these variables are related, i.e. to appear as related in a number of respondents. Although we can conceptually assume that political ideologies influence some variables such as trust in science or perception of the dangers of coronavirus, a rigorous scientific research methodology would require us to conduct an experimental study to discuss cause-and-effect relationships, which is impractical with a sample of this magnitude and within this context. Another type of limitation is related to statistical analysis. Because we used relatively simple statistical procedures of the descriptive and correlation type, which gave us a broad and comprehensive overview of the findings, they do not go deep into psychological mechanisms and processes, nor analyze potential variables which could mediate the obtained relations. This compromise was made to keep the clarity of this manuscript and its scope, and we certainly plan to deepen the analysis of the data which will result in further publications.

The next limitation refers to the fact that it is a survey study, where respondents are faced with closed-ended questions, i.e. they do not have the

opportunity to freely formulate answers to questions. This type of data collection limits respondents' responses to those offered to them by researchers, thus not giving them the possibility to produce diverse responses. Such a compromise is common in quantitative research, due to less workload of respondents and easier data processing. Sometimes this type of survey can be supplemented by additional qualitative research on a smaller sample of respondents who, according to some important socio-demographic variables, correspond to a quantitative sample. This can be done using interview techniques or focus group discussions in which we could talk with the respondents about different aspects of their views related to stress, emotions and behavior during the COVID-19 pandemic. In this way, we could discuss in more detail the psychological processes that occur in humans during a pandemic.

Of course, when researching such complex topics as the lives and behavior of people during a pandemic, there are a number of other possibilities for exploring the context in which all of this happens. For example, we think of qualitative analysis of media content and political narratives which were present in our context during the pandemic period. In what way and what information do officials communicate? How do the media select and frame pandemic-related messages? All of this would greatly contribute to the interpretability of our results, but it remains in the form of suggestions for future research.

Again, we must keep in mind that our research is the result of a cross-section of the social and political context of Bosnia and Herzegovina. Data collection was performed approximately one month after the appearance of the first case of infection in our country. We are currently unable to assess how stable our findings will be over time, but we can assume that similar patterns of human behavior would be repeated in similar situations, allowing us to consider some recommendations for better coping in similar contexts.

Finally, we believe that despite the limitations we mentioned, the results of this study can be used as a portrait of society at one time, but also as possible information for planning in similar situations of epidemics or other crisis events.

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