Odnos između percepcije situacije, anksioznosti i nekih aspekata ponašanja povezanih s korištenjem digitalne tehnologije tijekom pandemije bolesti COVID-19

/ Relationship Between Situation Perception, Anxiety and some Aspects of Cyber Behaviour During the COVID-19 Pandemic

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Pandemija koronavirusa nezaobilazna je tema današnjice kako u medijima, tako u svakodnevnim razgovorima svakoga od nas. Na samom početku pandemija je predstavljala svojevrsni akutni stres i činilo se da će brzo proći. Međutim, odmakom vremena pretvorila se u kroničan stres. Kao i svaki drugi kroničan stres, ova je pandemija ostavila, i još uvijek ostavlja, značajne posljedice na naše mentalno zdravlje. U skladu s time ciljevi ovoga rada bili su provjeriti povezanost između percepcije situacije (procjene ozbiljnosti i ugroženosti), anksioznosti i nekih aspekata ponašanja povezanih s korištenjem digitalne tehnologije - nomofobije i kiberohondrije. Istraživanje je provedeno u dvije točke mjerenja (u prvom i četvrtom tjednu od početka pandemije, točnije od 13. do 20. ožujka i 3. do 10. travnja 2020.) na uzorku studenata i studentica u Republici Hrvatskoj (N_1=358; N_2=196). Za potrebe ovoga istraživanja korišteni su sljedeći mjerni instrumenti: *Ljestvica anksioznosti, depresivnosti i stresa*, *Upitnik nomofobije* i *Kratka ljestvica kiberohondrije*. Ovim je istraživanjem utvrđeno da pojedinci koji percipiraju svoju ugroženost većom i situaciju ozbiljnijom doživljavaju više razine anksioznosti, nomofobije i kiberohondrije. Shodno tome, rezultati ukazuju kako anksiozniji studenti doživljavaju i više razine nomofobije, odnosno kiberohondrije. Osim toga, utvrđena je značajna pozitivna povezanost nomofobije i kiberohondrije. Provjerom uloge anksioznosti u objašnjenju povezanosti između percepcije situacije i ponašanja povezanih s korištenjem digitalne tehnologije, pokazalo se da je anksioznost djelomični medijator kada je ishodišna varijabla nomofobija, a potpuni medijator u modelu u kojem je kiberohondrija ishodišna varijabla.

/ The coronavirus pandemic is an inevitable topic nowadays, both in the media and our everyday conversations. At the very beginning, the pandemic was a kind of acute stress and it seemed that it would pass quickly. However, over time, it turned into chronic stress. Like any other chronic stress, this pandemic has left, and is still leaving significant consequences for mental health. Accordingly, the objectives of this study were to examine the relationship between situation perception (severity and vulnerability), anxiety, and some aspects of cyber behaviour – nomophobia and cyberchondria. The research was conducted of two measurement points (in the first and fourth week since the start of the pandemic, more precisely from March 13 to 20 and April 3 to 10, 2020), on a sample of male and female students in the Republic of Croatia (N_1=358; N_2=196). For the purposes of this study, the following measurement instruments were used: The Depression Anxiety Stress Scale, Nomophobia Questionnaire, and Short Cyberchondria Scale. Results of the study suggest those individuals who perceive their vulnerability as greater and the situation as more serious experience higher levels of anxiety, nomophobia, and cyberchondria. Furthermore, the results indicate that students who experience more anxiety symptoms also experience higher levels of nomophobia, or cyberchondria. By examining the role of anxiety in explaining the connection between the perception of the situation and behaviour related to the use of digital technology, it was shown that anxiety is a partial mediator when the source variable is nomophobia, and a complete mediator in the model where cyberchondria is the source variable.

UVOD

Pandemija koronavirusa utječe na život cijeloga čovječanstva. Posljednjih mjeseci svjedočili smo teškoj i neizvjesnoj borbi protiv virusa koji predstavlja prijetnju fizičkom zdravlju i psihičkom zdravlju pojedinca i zajednice. Najčešće psihološke posljedice poznate iz dosadašnjih epidemija su osjećaj nesigurnosti i neizvjesnosti, zabrinutost za vlastito i zdravlje bližnjih, strah zbog odvojenosti od obitelji, strah potaknut širenjem nepouzdanih i lažnih informacija (1). Međutim, čini se kako za razliku od ranijih pandemija s kojima se svijet suočavao, pandemiju COVID-19 karakterizira korištenje digitalnih tehnologija, a posebno ekscesivno pretraživanje zdravstvenih informacija. Događaji poput ovoga od pojedinca iziskuju brzu prilagodbu i stoga mogu biti značajan izvor stresa i tjeskobe. Prema rezultatima dosadašnjih istraživanja osobito je u porastu prevalencija mentalnih teškoća kod mlađih odraslih osoba (3). U spomenutoj se životnoj dobi i inače razvija većina psihičkih poremećaja te se pojedinci suočavaju s vrlo specifičnim stresorima (3). Za početak, promjene u svakodnevnom akademskom funkcioniranju od studenata su iziskivale značajne napore i prilagodbu. Odgađanje važnih životnih događaja u ovom razdoblju te nedostatak druženja zasigurno su bili izvori stresa i frustracija (3). Međutim, s druge strane, visoka razina informatičke pismenosti kao i dostupnost digitalne tehnologije i svih nje-

INTRODUCTION

The coronavirus pandemic affects the lives of all mankind. In recent months, we have witnessed a difficult and uncertain struggle against the virus that threatens the physical and psychological health of individuals and communities. The most common psychological consequences known from previous epidemics are a sense of insecurity and uncertainty, concern for one's own health and the health of loved ones, fear of separation from family, and fear of the spread of unreliable and false information (1). However, it seems that the COVID-19 pandemic, unlike previous pandemics the world has faced, is characterized by the use of digital technologies and, in particular, by the excessive search for health information. Events such as these require individuals to adapt quickly and can therefore be a significant source of stress and anxiety. According to the results of previous studies, the prevalence of mental health problems is increasing, especially among younger adults (3). Most mental disorders develop at this age, and individuals face very specific stressors (3). First, changes in academic life require students to make significant efforts and adjustments. The postponement of important life events during this period and the lack of social contacts were certainly a source of stress and frustration (3). On the other hand, the high level of literacy (IT) and the availability of digital technologies and all their benefits made it easier for students to live in (self-)isolation. One of the pronounced undesirable consequences of

nih prednosti i olakšala je studentima život u (samo)izolaciji. Jedna od izraženih neželjenih posljedica u uvjetima izolacije je preplavljenost informacijama s društvenih medija koje koronavirus ističu kao jedinstvenu, globalnu prijetnju šireći pritom katastrofične i često lažne informacije o bolesti COVID-19 (4,5). Nadalje, rezultati nekih istraživanja pokazuju da konstantna izloženost ovakvim informacijama vodi ka povećanju razina anksioznosti i stresa koje mogu imati značajne negativne efekte na cjelokupnu psihofizičku dobrobit (6,7).

Važnost digitalne tehnologije za vrijeme koronakrize gotovo da je neupitna. Može se reći da ova pandemija ima za posljedicu značajno ubrzanje tehnološkog razvoja. Digitalna tehnologija omogućila je funkcioniranje u brojnim aspektima života: održavanje socijalnih kontakata s bližnjima, praćenje nastave i ispunjavanje akademskih i poslovnih obveza i sl. Osim toga, sve važne informacije vezane za koronakrizu distribuiraju se upravo putem digitalne tehnologije i medija. Zahvaljujući sve boljim performansama i mnoštvu aplikacija na pametnim telefonima moguće je održati socijalne kontakte i bliskost s drugima, čak i u razdobljima kada je nužno održavati fizičku distancu. Međutim, važno je istaknuti i potencijalne negativne aspekte digitalne tehnologije. Jedan od njih je i nomofobija, odnosno fobija koja se odnosi na strah od nedostupnosti virtualne komunikacije kod osoba koje imaju naviku korištenja pametnih telefona (8). Rezultati istraživanja novijeg datuma ukazuju da ova moderna fobija obuhvaća niz psiholoških i bihevioralnih obrazaca povezanih s korištenjem pametnih telefona (9). Tipično nomofobično ponašanje uključuje provođenje značajne količine vremena u korištenju pametnih telefona, osjećaje anksioznosti i tjeskobe na samu pomisao o nedostupnosti pametnog telefona i/ili internetske povezanosti, repetitivno i učestalo provjeravanje potencijalno pristiglih obavijesti i poruka, te stalnu dostupnost i držanje pametnog telefona u vidnom polju (10).

this isolation is the inundation with information from social media, which present the coronavirus as a unique, global threat while spreading disastrous and often false information about the COVID-19 disease (4,5). In addition, the results of some studies show that constant exposure to this type of information leads to increased levels of anxiety and stress, which can have significant negative effects on overall psychophysical well-being (6,7).

The importance of digital technology during the corona crisis is almost undeniable. It can be said that this pandemic led to a significant acceleration of technological development. Digital technology has made it possible to function in many areas of life, i.e., maintaining social contact with loved ones, participating in classes and fulfilling academic and business obligations, etc. In addition, all important information about the corona crisis is disseminated precisely through digital technology and the media. Thanks to the increasingly powerful and numerous applications on smartphones, it is possible to maintain social contacts and proximity to other people, even at times when physical distance is required. However, it is important to point out the possible negative aspects of digital technology. One of them is nomophobia, which is a phobia that refers to the fear of unavailability of virtual communication in people who have the habit of using smartphones (8). Recent research suggests that this modern phobia encompasses a range of psychological and behavioural patterns related to smartphone use (9). Typical nomophobic behaviours include spending a great deal of time on the smartphone, experiencing anxiety and worry at the mere thought of not having a smartphone and/or Internet connection, repeatedly and frequently checking potentially incoming notifications and messages, and keeping the smartphone constantly available and in sight. (10). Because the nature of nomophobia has not yet been adequately explored, researchers studying it generally hold one of two predominant views. According to one point of view, nomophobia is a specific phobia

Budući da je priroda nomofobije još uvijek nedovoljno istražena, znanstvenici koji se bave njenim proučavanjem najčešće se priklanjaju jednom od dvaju dominantnih stajališta. Prema jednom je stajalištu nomofobija specifična fobija koja se najčešće javlja u komorbiditetu s drugim maladaptivnim obrascima ponašanja i doživljavanja čije je temeljno obilježje pretjerana zabrinutost i strah u situacijama onemogućene virtualne komunikacije (10). S druge strane, prema suprotnom stajalištu, nomofobija se opisuje kao skupina pokazatelja ili simptoma koji se javljaju zbog izostanka ponašanja tipičnog za bihevioralnu ovisnost o internetu (11). Neovisno o stajalištu, znanstvenici se slažu da je veliki problem značajan porast prevalencije nomofobije među mladima. Tome u prilog idu i nalazi istraživanja provedenog na uzorku hrvatskih studenata prema kojima su izraženi simptomi nomofobije praćeni povećanim razinama anksioznosti i stresa (12).

Uz nomofobiju, konstrukt kiberohondrije često je spominjan u kontekstu maladaptivnih obrazaca ponašanja i doživljavanja povezanih s korištenjem interneta. Naime, prema nekim je znanstvenicima internet prvi izvor informacija kada su u pitanju zdravstveni problemi za gotovo 70 % korisnika, budući da su tu informacije brzo dostupne, nisu skupe ili su besplatne, te je anonimnost osigurana (13). Unatoč tome, stručnjaci upozoravaju na opasnosti koje može imati traženje zdravstvenih informacija na internetu. Jedna od osnovnih opasnosti jest nekritičnost pri prosuđivanju valjanosti pretraživanih sadržaja (14). Čak štoviše, pokazalo se da osobe koje imaju sklonost traženja zdravstvenih informacija na internetu iskazuju visoku razinu povjerenja u pronađene informacije, iako internetske stranice sadržavaju mnoštvo netočnih i nepotpunih informacija (15,16). Tendencija pretraživanja informacija o zdravlju, te izloženost stručnoj medicinskoj terminologiji, zajedno sa zakonitostima funkcioniranja internetskih stranica (broj klikova određuje rang

that usually occurs in conjunction with other maladaptive patterns of behaviour and experience, and its basic characteristic is excessive apprehension and anxiety in situations involving disabled virtual communication (10). According to the opposite view, nomophobia is described as a group of indicators or symptoms that occur due to the absence of behaviours typical of an Internet behavioural addiction (11). Regardless of the viewpoint, researchers agree that the major problem is the significant increase in nomophobia among young people. This is supported by the results of a study conducted on a sample of Croatian students, according to which pronounced symptoms of nomophobia are associated with increased levels of anxiety and stress (12).

In addition to nomophobia, the construct of cyberchondria has often been mentioned in the context of maladaptive behavioural patterns and experiences associated with internet use. That is, according to some scientists, the Internet is the first source of information when it comes to health problems for almost 70% of users, since this information is quickly available, not expensive or free, and anonymity is ensured (13). Despite this, experts are increasingly warning of the dangers that searching for health information online can have. One of the main dangers is the lack of criticism when judging the validity of searched content (14). Moreover, people who tend to seek health information on the Internet show a high level of confidence in the information found, even though the website contains plenty of inaccurate and incomplete information (15,16). The tendency to search for information about health status or observed symptoms and exposure to complex medical terminology, together with the laws of the website (number of clicks determines the ranking of the site) often lead to self-diagnosis of disease and excessive health concerns, i.e., cyberchondria. Given that the nature of cyberchondria is still relatively insufficiently explored, two dominant views have been identified so far. According to one, cyberchondria is a modern version of hypochondria,

stranice) često dovode do samodijagnosticiranja bolesti i pretjerane zabrinutosti za zdravlje, tj. kiberohondrije. S obzirom na to da je priroda kiberohondrije još uvijek relativno nedovoljno istražena, za sada se prepoznaju dva dominantna stajališta. Prema jednom kiberohondrija je moderna inačica hipohondrije, dok je prema drugom ona novi psihički poremećaj (17). U definicijama kiberohondrije znanstvenici najčešće navode dvije ključne karakteristike: pretjerano pretraživanje informacija na internetu i neugodno emocionalno stanje koje prati ovu bihevioralnu komponentu (18). Na tragu navedenog jedna od najcitiranijih definicija kiberohondrije jest „pretjerano ili repetitivno pretraživanje zdravstvenih informacija na Internetu potaknuto uznemirenošću i anksioznošću radi zdravlja, a koje samo pojačava takvu uznemirenost i anksioznost" (18). U literaturi se navodi nekoliko čimbenika koji imaju značajnu ulogu u pojavljivanju, odnosno održavanju ponašanja i doživljavanja tipičnih za kiberohondriju. Neki od najčešće navođenih su zdravstvena anksioznost, netolerancija neizvjesnosti te anksiozna osjetljivost (17). U recentnoj se literaturi sve češće spominje model kiberohondrije specifičan za pandemiju virusa COVID-19 (18). Navedeni model čine ukupno četiri komponente: strah od neizvjesnosti, upitna vjerodostojnost informacija, otežano nošenje s informacijama te neučinkovito traganje za potvrdom sigurnosti. Strah od neizvjesnosti potaknut je činjenicom da se radi o novoj i nepoznatoj situaciji i očekivana je reakcija da ga se pokušava smanjiti traženjem odgovora i informacija *online*. Uz to se onda nadalje veže pitanje vjerodostojnosti dostupnih informacija. Učestalo i pretjerano pretraživanje informacija na internetu povećava vjerojatnost izloženosti netočnim podatcima i tzv. infodemiji, odnosno pandemiji informacija o virusu COVID-19 i pandemiji općenito. Sve navedeno s vremenom vodi k otežanom nošenju i preopterećenosti informacijama. Konstantne promjene, kontradiktorne informacije te zahtjevi za brzom prilagodbom

while according to another it is a completely new mental disorder (17). But either way, in their definitions of cyberchondria, scientists most often cite two key characteristics: excessive search of information on the Internet; this behavioural component is accompanied by an unpleasant emotional state (18). Following this, one of the most cited definitions of cyberchondria is "excessive or repetitive search for health information on the Internet prompted by disquiet and anxiety for health's sake, which only intensifies such anxiety and worry" (18). The literature lists several factors that play a significant role in the occurrence or maintenance of behaviours and experiences typical of cyberchondria. Some of the most commonly cited are health anxiety, intolerance of uncertainty, and anxious sensitivity (17). The cyberchondria-specific pandemic model of COVID-19 virus has been increasingly mentioned in the recent literature (18). This model consists of four components: fear of uncertainty, questionable credibility of information, difficulty in dealing with information, and ineffective search for security assurance. The novelty and unfamiliarity with the situation we face has contributed, and still is contributing to the fear of uncertainty that we try to reduce by seeking answers and information online. Related to this is the question of the credibility of the available information. Frequent and excessive searching for information on the Internet increases the likelihood of being exposed to false information and the so-called infodemic, i.e., the pandemic of information about the virus COVID-19 and the pandemic in general. All this leads to difficult handling and information overload over time. Constant changes, contradictory information and demands for quick adaptation of the individual to the new situation are factors that greatly contribute to the difficulty of dealing with the information we are exposed to and the growing demand for new "verified information", or, ultimately, cyberchondria. The last component of the described model is an inefficient online search for security confirmation. Individuals who need a significant amount of

pojedinca na novonastalu situaciju faktori su koji uvelike doprinose otežanom nošenju s informacijama i još većem traženju novih „provjerenih informacija" i kiberohondriji. Posljednja komponenta opisanog modela jest neučinkovito *online* traganje za potvrdom sigurnosti. Pojedinci kojima je potrebna značajna količina informacija kako bi se osjećali sigurnima podložniji su razvoju kiberohondričnih obrazaca ponašanja i doživljavanja, jer najčešće nastavljaju tražiti informacije beskonačno dugo s nadom da će kompulzivnom pretragom doći do relevantnih informacija i na taj način umanjiti strah i povećati osjećaj sigurnosti i izvjesnosti. Upravo opisani model najčešće se ostvaruje kod psihološki vulnerabilnijih osoba koje prijetnju doživljavaju vjerojatnijom. Percepcija ozbiljnosti situacije i vlastite ugroženosti rezultira pretraživanjem informacija u svrhu smanjenja neizvjesnosti i straha. U slučaju povećanja prijetnje ili nedostatnih resursa za suočavanje s neizvjesnosti pretraživanje informacija postaje kompulzivno. U obzir se uzimaju sve informacije vezane za COVID-19, neovisno o njihovoj relevantnosti i točnosti. Naposljetku, nemogućnost pronalaska sigurnih informacija vodi k sve većem osjećaju straha i distresa što zauzvrat jača percepciju prijetnje i neizvjesnosti. Na taj način kiberohondrija podupire samu sebe u začaranom krugu.

Uzimajući u obzir prirodu upravo opisanih konstrukata, ali i karakteristike situacije u kojoj se nalazimo, može se pretpostaviti da je anksioznost zajednički nazivnik opisanim konstruktima (12,17). S tom se anksioznosti osobe nose na razne načine, od traženja emocionalne i socijalne podrške učestalom komunikacijom s prijateljima do traženja informacija o simptomima i pokušaja točnog prepoznavanja simptoma COVID-19. Stoga je glavni cilj ovoga istraživanja bio ispitati u uzorku studenata neke obrasce ponašanja povezane s korištenjem digitalne tehnologije u doba neizvjesnosti, izazova i velikih zahtjeva za prilagodbu.

information to feel safe are more susceptible to developing cyberchondrial patterns of behavior and experience because, most often, they continue to search for information indefinitely in the hope that compulsive search will find relevant information to reduce fear and increase a sense of security and certainty. The model just described is most often realized in psychologically more vulnerable people who perceive the threat as more probable. Perceptions of the seriousness of the situation, and then their own threats, result in a search for information in order to reduce uncertainty and fear. In the event of an increase in threat or insufficient resources when dealing with uncertainty, the search for information becomes compulsive. Searching for information is hampered by the questionable credibility of the information and the inability to filter reliable sources. The amount of information also makes online search more difficult, which is becoming increasingly excessive, and all information related to COVID-19 is taken into account, regardless of the relevance and accuracy of that information. Ultimately, the inability to find unambiguous and secure information leads to a growing sense of fear and distress, which in turn, reinforces the perception of threat and uncertainty. In this way, the cyberchondria supports itself in a vicious circle through an uncontrolled search for information potentiated by fear.

Considering the nature of the constructs just described, as well as the characteristics of the situation in which we find ourselves, it can be assumed that fear is their common denominator (12,17). People deal with this anxiety in different ways, from seeking emotional and social support through frequent communication with friends to seeking information about symptoms and trying to accurately identify the symptoms of COVID -19. Therefore, the main objective of this research was to examine, in a sample of undergraduate students, some behavioural patterns related to the use of digital technology in an era of uncertainty, challenges, and great demands for adaptation.

METODA ISTRAŽIVANJA

Sudionici

U istraživanju su sudjelovali studenti različitih studijskih usmjerenja s više sveučilišta u Republici Hrvatskoj. Istraživanje je provedeno na istom uzorku u osam mjerenja, a od ukupno osam mjerenja za potrebe ovoga istraživanja korišteni su podatci iz dvije točke mjerenja: u prvom i četvrtom tjednu od početka pandemije (točnije od 13. do 20. ožujka i od 3. do 10. travnja 2020.). U prvom mjerenju bilo je ukupno 358 (80,9 % studentica i 19,12 % studenata) prosječne dobi 23,07 (SD = 2,18). S vremenom je došlo do osipanja uzorka, tako da je u drugom mjerenju bilo 196 sudionika.

Mjerni instrumenti

Sudionici su u početku odgovarali na pitanja o sociodemografskim podatcima (spol, dob, mjesto boravka), a zatim su procjena ozbiljnosti situacije i zdravstvene ugroženosti u kontekstu pandemije koronavirusa ispitane s po jednom česticom. Dodatno, za potrebe ovoga istraživanja korištene su *Ljestvica anksioznosti, depresivnosti i stresa, Upitnik nomofobije* i *Kratka ljestvica kiberohondrije.*

Ljestvica anksioznosti, depresivnosti i stresa (DASS-21, *Depression Anxiety Stress Scale* (19-21) sastoji se od ukupno 21 čestice podijeljene u 3 podljestvice: depresivnost, anksioznost i stres. Svaka podljestvica sastoji se od 7 čestica, a za potrebe ovoga rada korišteni su rezultati iz podljestvice anksioznosti. Navedena podljestvica obuhvaća procjene koje se odnose na autonomno uzbuđenje i neke fiziološke promjene svojstvene anksioznosti, a primjer čestice je „*Bio/la sam uplašen/na bez opravdanog razloga.*" Zadatak ispitanika je da na ljestvici od 0 („uopće se nije odnosilo na mene") do 3 („u potpunosti ili većinu vremena se odnosilo na mene") procijene u kojoj mjeri tvrdnja opisuje njihove doživljaje u proteklih tjedan dana.

RESEARCH METHOD

Participants

Students of various disciplines from several Croatian universities participated in the study. The research was conducted on the same sample in eight measurements, and from the total of eight measurements, data from two measurement time points were used for the purposes of this research: in the first and fourth weeks since the beginning of the pandemic, more precisely from March 13 to 20 and from 3 to 10 April 2020). At the first measurement, there were a total of 358 (80.9% female students and 19.12% male students) with a mean age of 23.07 years (SD=2.18). Over time, the sample decreased so that by the second measurement there were 196 participants.

Instruments

In the first part of the questionnaire, participants answered questions about sociodemographic characteristics (gender, age, place of residence), and furthermore they assessed the severity of the situation on a scale from 1 ("not at all serious") to 5 ("very serious") and their own vulnerability in the context of a coronavirus pandemic on a scale from 1 ("not at all endangered") to 5 ("very endangered"). In addition, the following measurement instruments were used for the purposes of this study: The Depression Anxiety Stress Scale, Nomophobia Questionnaire, and Short Cyberchondria Scale.

The Depression Anxiety Stress Scale (DASS-21, The Depression Anxiety Stress Scale (19, 20, 21) consists of a total of 21 items from which a total of three factors are extracted by factor analysis to make up 3 subscales: depression, anxiety and stress. Each subscale consists of 7 items. For the purpose of this study, the results from the anxiety subscale were used. This subscale includes estimates related to autonomic arousal and some physiological changes inherent in anxiety. An example of an item is "I was scared for no good reason." The task of the respondents is to esti-

Ukupan rezultat postignut na cijeloj ljestvici, ali i na pojedinim podljestvicama formiran je kao zbroj procjena na pripadajućim česticama određenih dimenzija. Viši rezultat upućuje na intenzivnije doživljavanje anksioznosti. Cronbach alfa za podljestvicu anksioznosti u ovom istraživanju iznosi α = .87.

Upitnik nomofobije (NMP-Q - *Nomophobia Questionnaire* (12,22) samoizvještajna je mjera kojom se ispituje anksioznost, strah od nedostupnosti pametnih telefona i nemogućnosti komuniciranja putem virtualnih mreža. Sastoji se od 20 čestica koje tvore četiri dimenzije: *nemogućnost pristupa informacijama*, *odricanje udobnosti*, *nemogućnost komunikacije* i *gubitak povezanosti*. Dimenzija *nemogućnost pristupa informacijama* opisuje tjeskobu nastalu kao rezultat nemogućnosti traženja i/ili primanja informacija iz virtualnog svijeta. Dimenzijom *odricanje udobnosti* obuhvaćeni su osjećaji nelagode zbog izloženosti situacijama odricanja pogodnosti pametnih telefona koje reflektiraju snažnu želju za njihovim korištenjem. *Nemogućnost komunikacije* najreprezentativnija je faceta nomofobije, kojom se ispituje anksioznost zbog onemogućene virtualne komunikacije, dok se dimenzija *gubitak povezanosti* odnosi na osjećaje potencirane gubitkom sveprisutne povezanosti koju omogućuju pametni telefoni. Primjer čestice iz upitnika je „*Osjećao/la bih se tjeskobno jer bi stalna veza s mojom obitelji i prijateljima bila prekinuta.*" Zadatak sudionika jest procijeniti stupanj slaganja s pojedinim tvrdnjama na ljestvici od pet stupnjeva (od 1 „u potpunosti se ne slažem", do 5 „u potpunosti se slažem"). Ukupan rezultat ispitanika na pojedinoj podljestvici, ali i na cijelom upitniku formiran je kao zbroj procjena na česticama pripadajuće dimenzije. Pri tome viši rezultat na svakoj podljestvici označava višu razinu pojedine dimenzije nomofobije. Pouzdanost unutrašnje konzistencije u ovom istraživanju iznosi α = .94 što je komparabilno s nalazima ranijih istraživanja.

mate on a scale from 0 ("not at all about me") to 3 ("completely or most of the time about me") to what extent the statement describes the feelings experienced in the past week. The total result achieved on the whole scale, but also on individual subscales is formed as the sum of estimates on the corresponding items of certain dimensions. A higher score indicates a more intense experience of anxiety. Cronbach's alpha for the anxiety subscale in this study was at α = .87.

Nomophobia Questionnaire (12,22) is a self-reported measure that examines anxiety, fear of unavailability of smartphones, and, consequently, the inability to communicate via virtual networks. It consists of a total of twenty items, which form four dimensions: inability to access information, denial of comfort, inability to communicate and loss of connection. Dimension of inability to access information examines the anxiety resulting from the inability to seek and/or receive information from the virtual world. The dimension of denial of comfort examines feelings of discomfort due to exposure to situations of denial of convenience of smartphones that reflect a strong desire to use them. The inability to communicate is the most representative facet of nomophobia, which examines anxiety due to disabled virtual communication, while the dimension of loss of connection refers to feelings potentiated by the loss of omnipresent connectivity provided by smartphones. An example of an item from the questionnaire used was "I would feel anxious because the constant connection with my family and friends would be severed." The task of the participants is to assess the degree of agreement with individual statements on a five-point scale (from 1 "strongly disagree" to 5 "I completely agree"). The total result of the respondents on each subscale, but also on the entire questionnaire was formed as the sum of estimates on the items of the corresponding dimension. A higher score on each subscale indicates a higher level of a particular dimension of nomophobia. The reliability of the internal consistency (Cronbach alpha) in this study is α = .94 which is comparable to the findings of previous studies.

Kratka ljestvica kiberohondrije (SCS – *Short Cyberchondria Scale*, 23) standardizirana je mjera kojom se ispituju maladaptivni aspekti *online* pretraživanja zdravstvenih informacija. Ljestvica se sastoji od ukupno četiri čestice. Primjer čestice je „*Nakon pretrage zdravstvenih informacija osjećam se frustrirano.*" Zadatak sudionika jest na ljestvici od 1 („uopće se ne slažem") do 5 („u potpunosti se slažem") procijeniti u kojoj se mjeri sadržaj svake tvrdnje odnosi na njihovo ponašanje i doživljavanje. Ukupan rezultat formiran je kao suma procjena na svakoj od čestica, a viši rezultat ukazuje na više razine kiberohondrije. Cronbach alfa koeficijent pouzdanosti u ovom istraživanju iznosi α = .89.

Postupak

Provedeno istraživanje dio je longitudinalnog istraživanja u okviru projekta pod nazivom „*Pandemija i ja – Psihološki aspekti krize izazvane pandemijom virusa COVID-19*" koji je pokrenut na Odjelu za psihologiju Sveučilišta u Zadru 20. ožujka 2020. U ovom radu prikazani su rezultati prikupljeni u dvije od ukupno osam točaka mjerenja. Prvo mjerenje provedeno je u tjednu od 13. do 20. ožujka 2020. Taj tjedan bio je obilježen zatvaranjem škola, fakulteta i kafića, a prema podatcima Stožera civilne zaštite RH za sprječavanje zaraze koronavirusom u tom je razdoblju potvrđeno ukupno 128 oboljelih i ni jedna preminula osoba. Druga točka mjerenja iz koje su korišteni podatci za ovaj rad bila je tri tjedna kasnije, točnije u razdoblju između 03. i 10. travnja 2020. godine, kada je koronavirus „ušao" u domove za umirovljenike diljem RH. Tada je potvrđeno ukupno 1495 oboljelih osoba, a preminula je 21 osoba.

Distribucija upitnika i prikupljanje podataka provodilo se *online* koristeći *Google forms* platformu, metodom snježne grude, putem društvenih mreža *Facebook, Whatsapp* i *Instagram*. Na samom početku svakog upitnika bila je opća uputa s napomenom da je ispunjavanje potpu-

The Short Cyberchondria Scale (23) is a standardized measure that examines the maladaptive aspects of online health information retrieval. The scale consists of a total of four items. An example of an item is "After looking for health information, I feel frustrated." The task of the participants is to assess the extent to which the content of each statement relates to their behaviour and experience on a scale from 1 ("strongly disagree") to 5 ("strongly agree"). The total score was formed as the sum of the estimates on each of the items, and the higher score indicates higher levels of cyberchondria. The Cronbach's alpha reliability coefficient in this study is α = .89.

Procedure

The conducted research is part of a longitudinal project entitled "Pandemic and I - Psychological aspects of the crisis caused by the COVID-19 virus pandemic" started at the beginning of the pandemic outbreak in Croatia, more precisely on March 20, 2020. This paper presents the results collected at two of the total eight measurement points. The first measurement was taken during the week of March 13-20, 2020. This week was characterised by the closure of schools, colleges and cafes. According to the data of the Central Office of the Civil Defence of the Republic of Croatia for the Prevention of Infections with Coronavirus, a total of 128 patients were confirmed during this period and there were no deaths. The second measurement point, whose data were used for this article, was three weeks later, more precisely in the period between April 3 and April 10, 2020, when the coronavirus "invaded" nursing homes throughout the Republic of Croatia and a total of 1,495 ill people were confirmed. and 21 people died.

The distribution of the questionnaire, that is, data collection, was carried out online using the Google forms platform, using the snowball method, to its members support groups via social networks Facebook, WhatsApp, and Instagram. At the very beginning of each questionnaire there was a general instruction for solving all the ques-

no dobrovoljno i anonimno, te da se u svakom trenutku može odustati. Istraživanje je odobrilo Etičko povjerenstvo Odjela za psihologiju Sveučilišta u Zadru (klasifikacijska oznaka br. 602-04/20-01/05).

Statistička obrada podataka

Deskriptivni podatci su prikazani kao prosječne vrijednosti i standardne devijacije (SD), te kao postotci. Za provjeru značajnosti razlika korišten je t-test za nezavisne varijable. Odnos između varijabli provjeren je korištenjem Pearsonovog koeficijenta korelacije, odvojeno za rezultate u svakom mjerenju. Medijacijska uloga anksioznosti u objašnjenju povezanosti percepcije situacije i nomofobije / kiberohondrije provjerena je metodom strukturnog modeliranja (SEM – *Structural equation modeling*). Navedeni postupak proveden je u programu Mplus 6.12., procjene parametara izvršene su pomoću algoritma maksimalne vjerojatnosti (engl. *Maximum likelihood estimation method*) a matrica sa sirovim podatcima služila je kao ulazna matrica. Ispitani indeksi pristajanja modela podatcima su: 1) *hi-kvadrat test* (χ^2 test) čija bi vrijednost trebala biti statistički neznačajna da bi se moglo reći da model adekvatno pristaje podatcima (24). Budući da ovisi o veličini uzorka, ovaj je pokazatelj statistički značajan čak i ako model dobro pristaje podatcima. Zbog toga se nerijetko računa 2) *omjer vrijednosti χ^2 testa i stupnjeva slobode* koji bi za adekvatan model-fit trebao biti manji od 3; 3) vrijednosti inkrementalnih indeksa *CFI* (*Comparative Fit Index*) i 4) *TLI* (*Tucker-Lewis Index*) prema Hu i Bentler (24) trebale bi se kretati iznad .90; dok bi indeks 5) *RMSEA* (*Root Mean Square Error Approximation*) trebao poprimiti vrijednost manju od .08, kao i indeks 6) *SRMR* (*Standardized Root Mean Square*) koji bi trebao biti manji ili jednak vrijednosti od .08. Na temelju zadovoljavanja navedenih kriterija u konačnici donosimo odluku o adekvatnom, odnosno neadekvatnom pristajanju modela podatcima.

tionnaires with the remark that filling in is completely voluntary and anonymous, and that they can give up at any time. The entire research was approved by the Ethics Committee of the Department of Psychology, University of Zadar (classification code no. 602-04/20-01/05).

Statistical analysis

Descriptive data are presented as mean values and standard deviations (SD), and as percentages. A t-test for independent variables was used to check the significance of the differences between them. The relationship between the variables was examined using Pearson's correlation coefficient, separately for the results in each measurement. The mediating role of anxiety in explaining the connection between situation perception and nomophobia/cyberchondria was investigated using the method of structural modeling (SEM – Structural equation modeling). The mentioned procedure was carried out in the Mplus 6.12 program, parameter estimations were performed using the Maximum likelihood estimation method, and the raw data matrix served as an input matrix. Tested indices of fit of the model to the data are: 1) chi-square test (χ^2 test), the value of which should be statistically insignificant in order to say that the model adequately fits the data (24). Because it depends on the sample size, this indicator is statistically significant even if the model fits the data well. For this reason, it is often calculated 2) the ratio of the χ^2 test value and the degrees of freedom, which should be less than 3 for an adequate model-fit; 3) the values of the incremental indices CFI (Comparative Fit Index) and 4) TLI (Tucker-Lewis Index) according to Hu and Bentler (24) should be above .90; while index 5) RMSEA (Root Mean Square Error Approximation) should take on a value less than .08, as well as index 6) SRMR (Standardized Root Mean Square) which should be less than or equal to a value of .08. Based on the satisfaction of the mentioned criteria, we ultimately decide on the adequate or inadequate fit of the model to the data.

Nadalje, jedan od koraka u okviru traženja odgovora na postavljeni istraživački problem odnosi se na izračun razlike hi-kvadrata. Ovim testom dobiva se informacija o tome koji od provjeravanih modela bolje pristaje podatcima. Kada dobiveni rezultat ukazuje na postojanje značajne razlike u pristajanju modela odabire se model s manjom vrijednosti hi kvadrata - model djelomične medijacije. Taj model pretpostavlja postojanje indirektne veze između varijabli i potrebno je testirati statističku značajnost indirektnih efekata. U okviru navedenog statističkog postupka pomoću tehnike *bootstrap* određene su 95 %-tne i 99 %-tne granice pouzdanosti indirektnih efekata. Preduvjeti za provedbu navedenih statističkih postupaka provjereni su te nisu dobiveni rezultati koji bi ukazivali na neopravdanost provedbe parametrijskih statističkih postupaka.

Furthermore, one of the steps in the search for an answer to the set research problem refers to the calculation of the chi-squared difference. This test provides information about which of the tested models fits the data better. When the obtained result indicates the existence of a significant difference in model fit, the model with a smaller chi-square value is selected - the partial mediation model. This model assumes the existence of an indirect relationship between the variables, and it is necessary to test the statistical significance of the indirect effects. Confidence limits of indirect effects of 95% and 99% were determined within the framework of the above-mentioned statistical procedure using the bootstrap technique. The prerequisites for the implementation of the mentioned statistical procedures were checked, and no results were obtained that would indicate that the implementation of parametric statistical procedure was unjustified.

REZULTATI

Uvidom u deskriptivne podatke (tablica 1) može se zaključiti kako su sudionici na samom početku pandemije situaciju procjenjivali vrlo ozbiljnom, ali se pritom nisu osjećali osobno ugroženi. Točnije, čak 79,1 % sudionika tadašnju situaciju procijenilo je ozbiljnom i vrlo ozbiljnom. S druge strane, 64,28 % sudionika izjavilo je da se osjećaju malo ili nimalo ugroženi. Slične procjene dobivene su i tri tjedna kasnije: 61,74 % sudionika situaciju procjenjuje

RESULTS

Looking at the descriptive data (Table 1), it can be concluded that the participants at the very beginning of the pandemic assessed the situation as very serious, but did not feel personally threatened. To be more precise, as many as 79.1% of the participants assessed the current situation as serious or very serious. On the other hand, 64.28% of the participants stated that they felt little or no threat. Similar assessments were obtained three weeks later: 61.74% of participants assessed the

TABLICA 1. Deskriptivni pokazatelji za procjenu ozbiljnosti i ugroženosti, anksioznosti, nomofobije i kiberohondrije
(1. mjerenje N_1=358; 2. mjerenje N_2=196)
TABLE 1. Descriptive indicators for assessing severity and vulnerability, anxiety, nomophobia and cyberchondria
(1. measurement; N_1=358; 2. measurement; N_2=196)

	M_1	M_2	SD_1	SD_2	$Raspon_1$	$Raspon_2$
Percipirana ozbiljnost situacije / Perceived severity of the situation	4.25	3.71	0.76	0.91	2-5	1-5
Percipirana ugroženost / Perceived vulnerability	2.12	2.13	0.92	0.91	1-5	1-5
Anksioznost / Anxiety	3.20	2.37	4.12	3.65	0-20	0-18
Nomofobija / Nomophobia	66.92		15.69		20-99	
Kiberohondrija / Cyberchondria		7.92		4.12		4-20

ozbiljnom i vrlo ozbiljnom, a 69,39 % osjećalo se malo ili nimalo ugroženo.

Testirana je i značajnost razlika u percipiranoj ozbiljnosti situacije i ugroženosti u navedene dvije točke mjerenja i pokazalo se da postoji statistički značajna razlika u prosječnim procjenama percipirane ozbiljnosti situacije (t = 6,39; *df* = 195, *p*<0,01): sudionici su procjenjivali situaciju u prvom mjerenju ozbiljnijom nego u drugom mjerenju. S druge strane, u oba mjerenja sudionici su osjećali da je njihovo zdravlje podjednako ugroženo, tj. nije utvrđena statistički značajna razlika u percipiranoj ugroženosti (t = 0,38, *df* = 195, *p*>0,70) između dva mjerenja.

Uvidom u izračunate koeficijente korelacije (tablica 2 i tablica 3) može se konstatirati kako je percipirana ozbiljnost situacije pozitivno povezana s percipiranom ugroženosti u oba mjerenja: studenti koji percipiraju situaciju ozbiljnijom ujedno procjenjuju i veću ugroženost. U drugom, ali ne i u prvom mjerenju (tablica 3) utvrđene su pozitivne povezanosti percipirane

situation as serious or very serious, and 69.39% felt little or no threat.

The significance of differences in the perceived severity of the situation, and vulnerability at different time points during the pandemic, were also tested, and it was found that there was a statistically significant difference in the perceived severity of the situation (t = 6.39, df = 195, p <0.01). In the first measurement participants assessed the situation more seriously than in the second measurement. On the other hand, no significant difference in perceived vulnerability (t = 0.38, df = 195, p> 0.70) was found between the two measurements.

Through insight into the calculated Pearson correlation coefficients shown in Table 2 and 3, it can be concluded that the perceived severity of the situation is positively related to the perceived vulnerability. This means that students who perceived the situation as more serious also assessed greater vulnerability. In the second measurement (Table 3), positive correlations were found between the perceived severity of the situation and anxiety, which means that individuals who perceived their own vulnerability were more likely to experience

TABLICA 2. Pearsonovi koeficijenti povezanosti između procjene ozbiljnosti situacije i ugroženosti, anksioznosti i nomofobije (N=358) prvo mjerenje
TABLE 2. Pearson's correlation coefficients between assessment of the severity of the situation and vulnerability, anxiety, and nomophobia (N=358)

		1	2	3	4
1	**Percipirana ozbiljnost situacije / Perceived severity of the situation**	-	.23*	.04	.09
2	**Percipirana ugroženost / Perceived vulnerability**		-	.19*	.17*
3	**Anksioznost / Anxiety**			-	.35*
4	**Nomofobija / Nomophobia**				-

*p<.05

TABLICA 3. Pearsonovi koeficijenti povezanosti između procjene ozbiljnosti situacije i ugroženosti, anksioznosti i kiberohondrije (N=196) drugo mjerenje
TABLE 3. Pearson's correlation coefficients between assessment of the severity of the situation and vulnerability, anxiety, and cyberchondria (N=196)

		1	2	3	4
1	**Percipirana ozbiljnost situacije / Perceived severity of the situation**	-	.37*	.18*	.32*
2	**Percipirana ugroženost / Perceived vulnerability**		-	.22*	.25*
3	**Anksioznost / Anxiety**			-	.34*
4	**Kiberohondrija / Cyberchondria**				-

*p<.05

ozbiljnosti situacije i anksioznosti, što znači da su studenti koji su percipirali vlastitu ugroženost većom ujedno doživljavali i intenzivnije simptome anksioznosti. Nadalje, percipirana ugroženost pozitivno je povezana s anksioznosti, nomofobijom i kiberohondrijom u oba mjerenja, a navedene varijable su i međusobno bile značajno povezane. Budući da se radi o uzorcima sa različitim brojem sudionika, provjerene su značajnosti razlika između korelacija u prvom i drugom mjerenju. Jedino su koeficijenti povezanosti između percipirane ozbiljnosti i nomofobije u prvom mjerenju bili značajno niži od povezanosti između percipirane ozbiljnosti i kiberohondrije u drugom mjerenju (*p* = 0,007).

Medijacijska uloga anksioznosti u objašnjenju povezanosti percepcije situacije i nomofobije, odnosno kiberohondrije provjerena je metodom strukturnog modeliranja (SEM). Pri tome su testirana dva strukturna modela za svaki aspekt korištenja digitalne tehnologije. Prvi je model potpune medijacije, koji polazi od pretpostavke da subjektivna percepcija situacije isključivo neizravno (putem anksioznosti) doprinosi simptomima nomofobije, odnosno kiberohondrije. Drugi, model djelomične medijacije, pretpostavlja da subjektivna percepcija situacije izravno i neizravno doprinosi nomofobiji, odnosno kiberohondriji. U testiranim modelima percipirana ozbiljnost situacije i ugroženost predstavljaju manifestne varijable. Manifestnu varijablu anksioznosti čini rezultat na ljestvici anksioznosti koji je sumativna vrijednost pripadajućih čestica u *Ljestvici depresivnosti anksioznosti i stresa*. Nadalje, latentna varijabla nomofobije mjerena je preko četiri manifestna indikatora (rezultati na pojedinim podljestvicama iz *Upitnika nomofobije* (22) – *nemogućnost pristupa informacijama, odricanje udobnosti, nemogućnost komunikacije* i *gubitak povezanosti*). Podatci za varijable percipirane ugroženosti i ozbiljnosti situacije, anksioznosti i nomofobije prikupljeni su u prvome valu istraživanja. Latentnu varijablu kiberohondrije čini ukupan re-

more intense symptoms of anxiety. Furthermore, perceived vulnerability is positively associated with anxiety, nomophobia, and cyberochondria. In other words, individuals who perceive their vulnerability are more likely to experience higher levels of anxiety, nomophobic, and cyberochondric symptoms. Furthermore, a significant, positive correlation between anxiety, nomophobia and cyberochondria was found, i.e., students who experienced more anxiety symptoms also experienced higher levels of nomophobia and cyberochondria, respectively. Since these were samples with a different number of participants, the significance of the differences between the correlations in the first and second measurements was checked. Only the correlation coefficients between perceived severity and nomophobia in the first measurement were significantly lower than the correlation between perceived severity and cyberchondria in the second measurement (p=0.007).

The mediating role of anxiety in explaining the relationship between situational perception and nomophobia, i.e., cyberchondria, was verified using the structural modelling method (SEM - Structural equation modelling). In doing so, two structural models were tested for each aspect of the use of digital technology. The first is the model of complete mediation, which starts from the assumption that the subjective perception of the situation exclusively indirectly (through anxiety) contributes to the symptoms of nomophobia, i.e., cyberchondria. The second, the model of partial mediation, assumes that the subjective perception of the situation directly and indirectly contributes to nomophobia, i.e., cyberchondria. In the tested models, the perceived severity of the situation and vulnerability are manifest variables. The manifest anxiety variable is the score on the anxiety scale, which is the summative value of the corresponding particles in the Depression Anxiety Stress Scale. What is more, the latent variable of nomophobia was measured through four manifest indicators [results on individual subscales from the Nomophobia Questionnaire (22) - inability to access information, denial of comfort, inability to communicate and loss of connectivity]. Data for

zultat na česticama koje zajedno tvore *Kratku ljestvicu kiberohondrije* (23). Podatci za varijablu kiberohondrije prikupljeni su u četvrtome valu istraživanja. Navedene varijable uvedene su u analizu, prethodno navedenim redom - najprije je testiran model potpune, a potom model djelomične medijacije. No prije toga provjeren je mjerni dio modela. Indeksi slaganja testiranih modela prikazani su u tablici 4.

Strukturni model s nomofobijom kao izlaznom varijablom

Uvidom u rezultate dobivene metodom strukturnog modeliranja (tablica 4) i referentne vrijednosti pojedinih indikatora propisane u literaturi može se zaključiti kako vrijednost χ^2 testa, te omjer χ^2 testa i stupnjeva slobode i RMSEA upućuju na loše, dok vrijednosti CFI, TLI i SRMR upućuju na dobro pristajanje modela potpune medijacije podatcima. S druge strane, svi ispitani indeksi, osim vrijednosti χ^2 testa, upućuju na dobro pristajanje modela djelomične medijacije podatcima. Dobiveni rezultat (Dχ^2 = 16,549; (Ddf = 2, $p<0,01$) ukazuje na postojanje značajne razlike u pristajanju modela pa je stoga odabran model djelomične medijacije. Daljnjom obradom rezultata tehnika Bootstrap je pokazala da testirani indirektni efekti nisu statistički značajni. Rezultati su prikazani u tablici 4.

Strukturni model s kiberohondrijom kao izlaznom varijablom

Statističkom analizom testiranih modela (tablica 4) može se zaključiti kako svi indikatori, osim vrijednosti χ^2 testa upućuju na dobro pristajanje testiranih modela podatcima. Izračun testa razlike hi kvadrata testiranih modela (Dχ^2 = 3,592; Ddf = 2, $p<0,01$) upućuje na nepostojanje značajne razlike u pristajanju modela čime se odabire jednostavniji model – model potpune medijacije. Budući da prihvaćeni model pretpostavlja postojanje indirektne veze

the variables of perceived threat and seriousness of the situation, anxiety and nomophobia were collected in the first wave of research. The latent variable of cyberchondria is the total score on the particles that together form the Short Cyberchondria Scale (23). Data for the cyberchondria variable were collected in the fourth wave of research. These variables were introduced into the analysis, in the order given above - first the full mediation model was tested, and then the partial mediation model. But before that, the measuring part of the model was checked. The agreement indices of the tested models are shown in Table 4.

Structural model with nomophobia as an output variable

Through insight into the results obtained by implementing the method of structural modelling (Table 4) and the reference values of individual indicators prescribed in the literature, it can be concluded that the value of χ^2 test, and the ratio of χ^2 test and degrees of freedom and RMSEA indicate poor, while CFI values The TLI and SRMR suggest a good fit of the full media data model. On the other hand, all examined indices, except for the values of the χ^2 test, indicate a good fit of the partial data mediation model. The obtained result ($\Delta \chi^2$ = 16.549, Δdf = 2, p <0.01) indicates the existence of significant differences in the fit of the model, so the model of partial mediation was accepted. Further processing of the results, Bootstrap technique showed that the tested indirect effects are not statistically significant. The results are shown in Table 4.

Structural model with cyberchondria as an output variable

Statistical analysis of the tested models (Table 4) lead to a conclusion that all indicators, except the value of χ^2 test, indicate a good fit of the tested models to the data. The calculation of the chi squares difference test of the tested models ($\Delta \chi^2$)

TABLICA 4. Rezultati usporedbe stupnja slaganja modela s podacima – model potpune i model djelomične medijacije
TABLE 4. Results of comparing the degree of agreement of the model with the data - the model of complete and the model of partial mediation

	Nomofobija / Nomophobia (N=358)			Kiberohondrija / Cyberochondria (N=196)		
	Mjerni model / Measuring model	Model potpune medijacije / Model of complete mediation	Model djelomične medijacije / Model of partial mediation	Mjerni model / Measuring model	Model potpune medijacije / Model of complete mediation	Model djelomične medijacije / Model of partial mediation
χ^2	85.877	47.541	30.992	86.536	36.725	33.133
Df	17	13	11	17	13	11
χ^2/df	5.05	3.657	2.817	5.09	2.825	3.012
CFI	0.897	0.947	0.970	0.841	0.945	0.948
TLI	0.873	0.919	0.945	0.804	0.915	0.906
RMSEA (90% C.I.)	0.106 <0.085-0.129>	0.086 <0.061-0.113>	0.071 <0.042-0.101>	0.104 <0.083-0.126>	0.069 <0.044-0.097>	0.073 <0.045-0.102>
SRMR	0.107	0.072	0.031	0.149	0.055	0.035

percipirane ozbiljnosti situacije i percipirane ugroženosti i kiberohondrije testirana je statistička značajnost indirektnih efekata. Dobiveni rezultati prikazani su u tablici 5, a ukazuju na značajan indirektan doprinos percipirane ugroženosti preko anksioznosti na simptome kiberohondrije (*p*<0,05). Drugim riječima, osobe koje percipiraju veću osobnu ugroženost, doživljavaju intenzivnije simptome anksioznosti, što je značajno za doživljavanje kiberohondrije. Međutim, važno je spomenuti kako unatoč dobrom pristajanju testiranih modela podatcima, dobiveni su parametri, kao i postotak objašnjene varijance relativno mali, što ne daje veliku podršku modelima.

Testirani modeli prikazani su na slikama 1. i 2.

= 3.592, Δdf = 2, p> 0.01) indicates the absence of a significant difference in the model fit, thus a simpler model is selected - the full mediation model. Since the accepted model assumes the existence of an indirect relationship between the perceived severity of the situation and the perceived vulnerability and cyberchondria, the statistical significance of the indirect effects was tested. The obtained results are presented in Table 5 and indicate a significant indirect contribution of perceived threat through anxiety to the symptoms of cyberchondria (p<0.05). In other words, people who perceived greater personal threat experienced more intense symptoms of anxiety, which is significant for experiencing cyberchondria.

The tested models are shown in Figures 1 and 2.

TABLICA 5. Prikaz statističke značajnosti testiranih indirektnih doprinosa
TABLE 5. Overview of statistical significance of tested indirect effects

	Indirektni efekt / Indirect effect	Procjena / Estimate	95% C.I.	99% C.I.
Nomofobija / Nomophobia (N=358)	Percipirana ozbiljnost situacije – anksioznost – nomofobija / Perceived severity of the situation – anxiety –nomophobia	0.006	<-0.011-0.024>	<-0.017-0.030>
	Percipirana ugroženost – anksioznost – nomofobija / Perceived vulnerability – anxiety – nomophobia	0.030	<-0.001-0.061>	<-0.010-0.071>
Kiberohondrija / Cyberochondria (N=196)	Percipirana ozbiljnost situacije – anksioznost – kiberohondrija / Perceived severity of the situation – anxiety – cyberchondria	0.017	<-0.026-0.059>	<-0.059-0.073>
	Percipirana ugroženost – anksioznost – kiberohondrija / Perceived vulnerability – anxiety – cyberchondria	0.081	<0.016-0.145>	<-0.005-0.166>
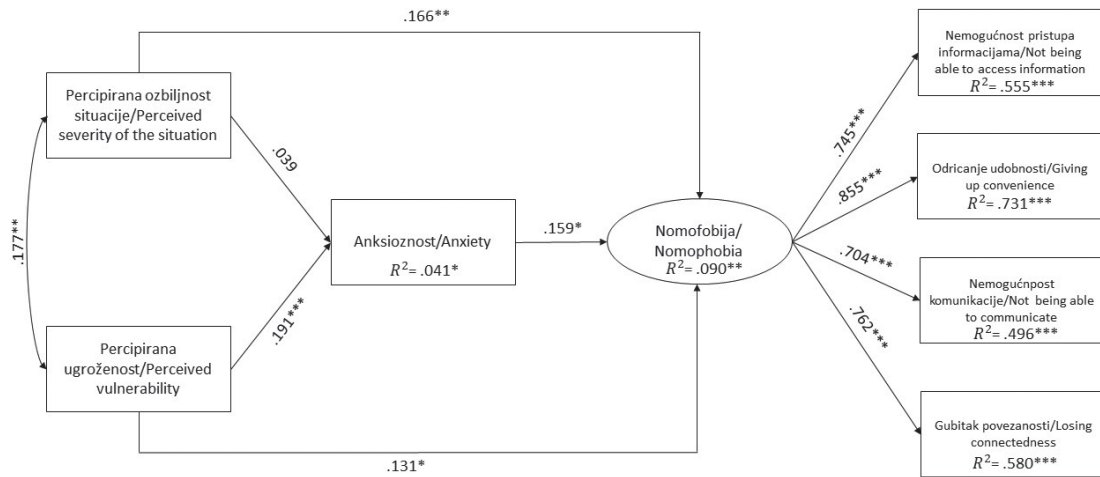
SLIKA 1. Prikaz modela djelomične medijacije anksioznosti u odnosu percepcije ozbiljnosti situacije, vlastite ugroženosti i nomofobije

FIGURE 1. Overview of the model of partial mediation of anxiety in relation to the perception of the severity of the situation, self-risk and nomophobia
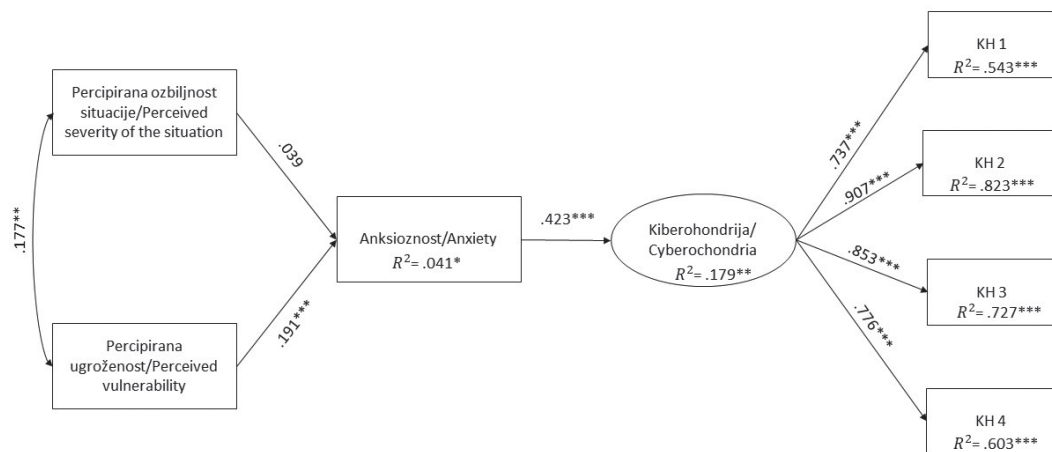
SLIKA 2. Prikaz modela potpune medijacije anksioznosti u odnosu percepcije ozbiljnosti situacije, vlastite ugroženosti i kiberohondrije

FIGURE 2. Overview of the model of complete mediation of anxiety in relation to the perception of the severity of the situation, self-risk and cyberchondria

RASPRAVA

Pandemija koronavirusa uvelike je obilježila naš svakodnevni život koji se u vrijeme *lockdowna* gotovo u potpunosti preselio u virtualni svijet. Rezultati dobiveni ovim istraživanjem upućuju kako su studenti na početku pandemije u Hrvatskoj (tj. u razdoblju od sredine ožujka do sredine travnja 2020.) cjelokupnu situaciju percipirali vrlo ozbiljnom, ali ne i ugrožavajućom za vlastito zdravlje. Jedan od razloga za to

DISCUSSION

The coronavirus pandemic has largely marked our daily lives, which at the time of lockdown almost completely moved into the virtual world. The results obtained by this research indicate that students at the beginning of the pandemic in Croatia (i.e., in the period from mid-March to mid-April 2020) perceived the whole situation as very serious, but not to the same extent as their own vulnerability. One of the reasons

vjerojatno leži u činjenici da su tada gotovo svi znanstveni podatci pokazivali, a mediji prenosili tu informaciju, da mladi nisu zdravstveno rizična skupina. Osim toga, kao što je i očekivano, rezultati ovoga istraživanja ukazuju na značajnu pozitivnu povezanost percepcije ozbiljnosti situacije i vlastite ugroženosti, što znači da su oni sudionici koji su situaciju procjenjivali jako ozbiljnom, sukladno tome procijenili i ugroženost vlastitog zdravlja visokom. Nalaz koji je u nekoj mjeri bio neočekivan jest da se percepcija ozbiljnosti situacije nije pokazala statistički značajno povezanom s anksioznosti, nomofobijom, a ni kiberohondrijom. Dobiveni je rezultat moguće tumačiti osobitostima situacije koronakrize i broja zaraženih i hospitaliziranih osoba u vrijeme provođenja istraživanja. Naime, za razliku od kasnijih statističkih podataka u listopadu ili studenom 2020. godine. prema kojima broj zaraženih koronavirusom premašuje 1000, u prvom valu pandemije, tj. u ožujku kada su podatci za ovo istraživanje prikupljeni, broj zaraženih nije prelazio 100. To je jedan od važnih objektivnih indikatora ozbiljnosti situacije s kojom su se studenti suočavali. Subjektivna procjena ugroženosti vlastitog zdravlja, s druge strane, značajno je povezana s anksioznosti i ispitivanim aspektima ponašanja povezanih s korištenjem digitalne tehnologije. Dobiveni rezultat se može razumjeti u kontekstu situacija kada osoba procjenjuje visoku osobnu ugroženost i kada se aktiviraju svi oni biološki mehanizmi koji su tipični za stanje anksioznosti. Budući da nomofobija i kiberohondrija imaju zajednički nazivnik, tj. povišene razine anksioznosti, ne iznenađuje njihova povezanost s anksioznosti, kao i njihova međusobna povezanost (12,17). Osim toga, u situacijama ugroženosti, odnosno u situacijama intenzivne anksioznosti povećava se i potreba za socijalnom podrškom i informacijama o samoj prijetnji, u ovom slučaju o pandemiji i koronavirusu. U situaciji *lockdowna* održavanje socijalnih kontakata preusmjereno je u virtualni *svijet*, pa su osobe koje su percipirale svoju ugroženost velikom, ujedno i doživljavale veće razine

lies in the fact that at that time all scientific data showed, and the media transmitted this information, that young people were not a risk group. In addition, as expected, the results of this study indicate a significant positive relationship between the perception of the severity of the situation and their own vulnerability, which means that those participants who assessed the situation as very serious, accordingly assessed personal vulnerability as high. However, it should be noted that the perception of the severity of the situation was not statistically significantly associated with anxiety, nomophobia, nor cyberchondria. The obtained result can be interpreted within the then situation of coronavirus pandemic and the number of infected and hospitalized people. Namely, unlike recent statistics in October or November according to which the number of coronavirus infected exceeds 1000, in the first wave of the pandemic, i.e., in March when data for this study were collected, the number of infected did not exceed 100. This is one of the important objective indicators of the seriousness of the situation, which the students faced. Subjective assessment of one's own vulnerability, on the other hand, is significantly associated with anxiety and examined aspects of cyber behaviour. The obtained result can be understood in the context of situations when a person assesses high personal vulnerability and when all those biological mechanisms that are typical for the state of anxiety are activated. Since nomophobia and cyberchondria have a common denominator - elevated levels of anxiety, their association with anxiety, their interrelationship is not surprising (12, 17). Additionally, in situations of vulnerability, i.e., in situations of intense anxiety, the need for social support and information about the threat itself, in this case about the pandemic and coronavirus, is growing. In the lockdown situation, maintaining social contacts was redirected to the virtual world, so people who perceived their vulnerability as great also experienced higher levels of nomophobia, because the smartphone was the only means of

nomofobije, jer je pametni telefon u tom trenutku bio jedino sredstvo održavanja socijalnih kontakata i informiranja. Također, pojedinci čija je prosudba o ugroženosti bila visoka osjećali su i simptome tipične za kiberohondriju, budući da je njihova anksioznost potaknuta percepcijom vlastite ugroženosti potencirala ponašanje i doživljavanje tipično za kiberohondriju. U kontekstu kiberohondrije pretraživanje informacija o koronavirusu, koje je potaknuto anksioznošću, zapravo je tzv. sigurnosno ponašanje koje daje osjećaj smanjenja anksioznosti (26).

Medijatorska uloga anksioznosti u objašnjenju povezanosti kognitivnih procjena (ozbiljnosti i ugroženosti) i nomofobije odnosno kiberohondrije provjerena je ranije opisanim strukturnim modelima. Rezultati provedenih analiza ukazuju na to da anksioznost nije značajan medijator u odnosu između procjena ozbiljnosti situacije i vlastite ugroženosti te nomofobije. Drugim riječima, percipirana ozbiljnost situacije i ugroženost mogu samo direktno pojačati nomofobiju. Promatramo li nomofobiju u kontekstu socijalne podrške, ali i pristupa važnim informacijama u situaciji izolacije, dobiveni rezultati nisu iznenađujući. Naime, konstrukt nomofobije u svojoj srži obuhvaća strah od onemogućene virtualne komunikacije i nedostupnosti informacija (8). S obzirom da je u situaciji *lockdowna* cjelokupni društveni život preseljen u virtualno i da je stvarnost zapravo bila ona virtualna, sama percepcija ozbiljnosti situacije i vlastite ugroženosti izravno je intenzivirala strah od moguće nedostupnosti te stvarnosti u virtualnim sferama. Dominantan aspekt tadašnje situacije bile su propisane mjere zaštite od zaraze i praćenje nastave *online*. U tom kontekstu važnost pametnih telefona za pristup informacijama gotovo je neupitna. Stoga, kad se uzmu u obzir važnost održavanja socijalnih kontakata, ispunjavanja akademskih obaveza, ali i pravovremenog informiranja o situaciji koja je iznimno dinamična i neizvjesna, jasna je uloga kognitivnih aspekata procjene situacije u doživljavanju simptoma nomofobije. S druge strane, kada je ishodišna varijabla bila kiberohondrija,

maintaining social contacts and information at the time. Also, individuals whose judgment of vulnerability was high also experienced symptoms typical of cyberchondria as their anxiety triggered by the perception of their own vulnerability potentiated behaviour and experience typical for cyberchondria. In the context of cyberochondria, frequent search for information about coronavirus triggered by anxiety actually represents the so-called safety behaviours that seemingly reduce anxiety levels (26).

This study examined the potential mediator role of anxiety in explaining the association between cognitive assessments and nomophobia, or cyberchondria, respectively. The results of the conducted analyses indicate that anxiety is not mediator in the relationship between assessments of the severity of the situation and one's own vulnerability and nomophobia. In other words, perceived severity of the situation and vulnerability can only directly increase nomophobia. If we look at nomophobia in the context of social support, but also access to important information in a situation of isolation, the results are not surprising. In other words, the construct of nomophobia at its core encompasses the fear of disabled virtual communication and the unavailability of information (8). Given that in the lockdown situation, all social life was moved to the virtual and that reality actually became virtual, the very perception of the severity of the situation and one's own vulnerability directly intensified the fear of the unavailability of reality in virtual spheres directly. An important aspect of the situation at the time was the prescribed measures for protection against infection and monitoring of classes online. In this context, the importance of smartphones to access important information is almost unquestionable. In summary, considering the importance of maintaining social contacts, fulfilling academic obligations, but also timely information in a situation that is very dynamic and uncertain, the contribution of cognitive aspects of assessing the situation in experiencing symptoms of nomophobia is not surprising.

anksioznost se pokazala kao potpuni medijator. Drugim riječima, percepcija ozbiljnosti situacije i vlastite ugroženosti isključivo indirektno, posredstvom anksioznosti doprinosi simptomima kiberohondrije. Daljnjom obradom rezultata utvrđen je značajan indirektan efekt percipirane ugroženosti preko anksioznosti na simptome kiberohondrije. To znači da percepcija ugroženosti pojačava anksioznost i tako doprinosi razvoju kiberohondrije. Dobiveni je rezultat logičan, ako uzmemo u obzir samu prirodu kiberohondrije i s njom povezanih ponašanja. Naime, bihevioralni i emocionalni aspekt pretjeranog i repetitivnog pretraživanja zdravstvenih informacija potaknut je uznemirenošću i anksioznošću, a ta stanja izazvana su percipiranom ugroženosti. S obzirom na navedeno, pojedinci koji su procjenjivali vlastitu ugroženost visokom, doživljavali su intenzivnije simptome anksioznosti zbog kojih su bili skloniji pretraživanju informacija o pandemiji. Nužno je napomenuti i to da su procjene ozbiljnosti situacije, vlastite ugroženosti i anksioznosti uzete iz prvoga mjerenja, dok je ishodišna varijabla kiberohondrija ispitana u četvrtom mjerenju. Shodno tome, može se reći kako je „primarna" kognitivna procjena ugroženosti dobar prediktor ponašanja i osjećaja koji su se manifestirali s vremenskim odmakom.

Nadalje, budući da se radi o različitim vrstama ponašanja povezanih s korištenjem digitalne tehnologije u čijoj je osnovi zajednički čimbenik - pretjerana zabrinutost, odnosno anksioznost - nakon usporedbe testiranih modela zanimljivo je uočiti da kognitivne procjene ozbiljnosti situacije i ugroženosti direktno doprinose nomofobiji, ali ne i kiberohondriji. Upravo je navedene nalaze moguće tumačiti još uvijek nedovoljno poznatom prirodom konstrukta nomofobije. Naime, istraživači u čijem je fokusu nomofobija još uvijek nisu postigli konsenzus oko konceptualizacije ovoga konstrukta, odnosno je li nomofobija specifična fobija (agorafobija) (10) ili spada u skupinu simptoma povlačenja zbog izostanka ponašanja koje karakterizira bihevioralnu ovisnost o internetu (11). Djelomična

On the other hand, when the initial variable was cyberchondria, anxiety proved to be a complete mediator. In other words, the perception of the severity of the situation and one's own vulnerability contribute only indirectly, through anxiety, to cyberchondria. Further processing of the results revealed a significant indirect effect of perceived vulnerability through anxiety on cyberchondric symptoms. This means that the perception of vulnerability intensifies anxiety and thus contributes to the development of cyberchondria. The result obtained is logical if we consider the very nature of cyberchondria and related behaviours. Specifically, the behavioural and emotional aspect of excessive and repetitive search for health information is triggered by anxiety and worry, and these conditions are caused by perceived vulnerability. Given the above, individuals who rated their own vulnerability as high experienced more intense symptoms of anxiety that made them more inclined to search for pandemic information. It is also interesting to note that estimates of the severity of the situation, self-risk, and anxiety were taken from the first measurement, while the baseline variable cyberochondria was examined in the fourth measurement. Consequently, it can be said that "primary" cognitive assessments are a good predictor of behaviours and feelings that have manifested over time.

Furthermore, since these are different types of cyber behaviour based on excessive anxiety, when comparing the tested models, it is interesting to note that cognitive assessments of the severity of the situation and vulnerability directly contribute to nomophobia, but not cyberchondria. These findings can be interpreted by the still unknown nature of the nomophobia construct. Namely, researchers focusing on nomophobia have not yet reached a consensus on the conceptualization of this construct, i.e., whether nomophobia is a specific phobia (agoraphobia) (10) or belongs to the group of withdrawal symptoms due to lack of behaviour that characterizes behavioural Internet addiction (11). More specifically, the partial medi-

medijacija anksioznosti u odnosu između kognitivnih procjena situacije i nomofobije može se objasniti dvojakom prirodom nomofobičnih obrazaca ponašanja koji imaju određene karakteristike iz spektra ovisnosti o internetu, a ne isključivo anksioznosti. Dobiveni rezultat može se objasniti i tzv. *teorijom kompenzacijskog korištenja* (25) prema kojoj se mijenja razinu korištenja interneta u funkciji životnih problema. Drugim riječima, pri suočavanju s različitim problemima pojedinci su skloni pretjeranom korištenju interneta u svrhu reguliranja vlastitog raspoloženja. U prilog tome ide i nalaz da je u izrazito stresnim situacijama eskapizam pozitivno koreliran s upotrebom pametnih telefona (25). S druge strane, prema nekim istraživačima, kiberohondrija je bihevioralna komponenta zdravstvene anksioznosti (18) i pojavljuje se samo kod osoba koje već jesu pretjerano zdravstveno anksiozne. Shodno tome, uloga anksioznosti kao potpunog medijatora u odnosu između kognitivnih procjena situacije i kiberohondrije može se objasniti njihovom temeljnom odrednicom, tj. anksioznosti, koja ujedno čini i motivacijsku i ishodišnu komponentu u začaranom krugu kiberohondričnog ponašanja i doživljavanja. S obzirom na navedeno, dvojaka uloga anksioznosti u testiranim modelima ima logičnu podlogu.

Istraživanja uloge suvremenih tehnologija u vrijeme koronakrize imaju važne praktične implikacije, pa tako i rezultati provedenog istraživanja. Kao što je već istaknuto, važnost digitalne tehnologije u životu modernog čovjeka neupitna je, no ono što dolazi u pitanje je način korištenja. Naime, u izvanrednim situacijama poput pandemije, koje iziskuju velike napore i značajnu prilagodbu funkcioniranja u gotovo svim aspektima, javlja se potreba za novim načinima obavljanja svakodnevnih životnih zadaća. U situaciji *lockdowna* digitalni mediji su značajno olakšali prilagodbu na novonastalu situaciju. Međutim, pretjerana izloženost digitalnoj tehnologiji zasigurno ima posljedice za mentalno zdravlje. Stoga je promicanje mentalno-zdrav-

ation of anxiety in the relationship between cognitive assessments of the situation and nomophobia can be explained by the dual nature of nomophobic patterns of behaviour that have certain characteristics from the spectrum of Internet addiction, not exclusively anxiety. The obtained result can be explained by the so-called compensatory use theory (25), according to which users change the level of Internet use as a function of life problems. In other words, when faced with various problems, individuals tend to overuse the Internet for the purpose of moderating their own mood. This is supported by the finding that escapism was positively correlated with the use of smartphones when stress was high (25). On the other hand, when the construct of cyberchondria is in focus, according to some researchers cyberchondria is a behavioural component of health anxiety (18), that is, it occurs only in people who are already overly anxious about health. Consequently, the role of anxiety as a complete mediator in the relationship between cognitive assessments of the situation and cyberchondria can be explained by its fundamental determinant, that is, anxiety, which is both a motivational and initial component in the vicious circle of cyberochondric behaviour and experience. Given the above, the dual role of anxiety in the tested models has a logical basis.

Finally, it is important to highlight the potential practical implications of the research conducted. As already pointed out, the importance of digital technology in the life of a modern society is unquestionable, but what comes into question is how to use it. Namely, in emergency situations, such as a pandemic, which require great effort and a significant adjustment of functioning in almost all aspects, there is a need for new ways of performing everyday life tasks. In the lockdown situation, digital media has made it significantly easier to adapt to the new situation. However, exposure to digital technology and their maladaptive use has certainly had an impact on mental health. Consequently, the promotion of mental health and digital literacy in such times is of great

stvene i digitalne pismenosti u vremenima poput ovih od velike važnosti za očuvanje zdravlja pojedinca i zajednice u cjelini. U skladu s navedenim, psihološka djelatnost od krucijalne je važnosti u ovakvim izvanrednim okolnostima.

importance for preserving the health of the individual and the community as a whole. Accordingly, psychological activity is crucial in extraordinary circumstances like today.

Ograničenja provedenog istraživanja

Unatoč tome što su provedenim istraživanjem dobivena neka korisna saznanja o ponašanjima vezanim za korištenje digitalne tehnologije, dobivene rezultate treba uzeti s oprezom posebno kada se radi o generalizaciji dobivenih rezultata. Kao prvo, u istraživanju su sudjelovali studenti psihologije koji su bili pozvani na ispunjavanje upitnika, te zamoljeni da na isti način uključe 5 do 10 svojih prijatelja ili poznanika, također studenata. Dakle, radi se o skupini u kojoj su se sudionici međusobno poznavali (premda je ispunjavanje upitnika bilo anonimno) i poticali da međusobno komentiraju ispitivanje i konstrukte koji su upitnicima ispitivani. U tom smislu može se pretpostaviti da se radi o uzorku kod kojeg je mentalno-zdravstvena i digitalna pismenost na nešto višoj razini nego u populaciji. Nadalje, uopćavanje dobivenih rezultata ograničeno je prije svega zbog primjene *online* istraživanja. Iako je korištena metoda, prije svega, vremenski i financijski ekonomična, nedostatci poput ograničene kontrole istraživača nad time tko zapravo ispunjava upitnik i nemogućnosti pojašnjavanja u slučaju mogućih dvojbi, također treba uzeti u obzir. Nadalje, kada je riječ o istraživanjima longitudinalne prirode, za očekivati je osipanje sudionika, što je vidljivo i u ovom istraživanju.

Limitations of the conducted research

Despite the fact that the conducted research has yielded some useful knowledge about behaviours related to the use of digital technology, the obtained results should be taken with caution, especially when it comes to generalization of the results. Firstly, psychology students participated in the research and were invited to fill out a questionnaire and asked to include 5 to 10 of their friends or acquaintances, also students, in the same way. Therefore, it is a group in which the participants knew each other (although filling in the questionnaire was anonymous) and were encouraged to comment on the survey and the constructs examined by the questionnaires. In this sense, it can be assumed that this is a sample where mental health and digital literacy is at a slightly higher level than in the population. Furthermore, the generalization of the obtained results is limited primarily due to the application of online research. Although the method used is, above all, economical financially and time-wise, disadvantages, such as the limited control of the researcher over who actually filled out the questionnaire and the impossibility of clarification in case of possible doubts, should also be taken into account. Furthermore, when it comes to research of a longitudinal nature, attrition of participants is to be expected, which is also evident in this research.

ZAKLJUČAK

Provedenim istraživanjem utvrđeno je kako studenti koji percipiraju koronakrizu ozbiljnijom, ujedno procjenjuju veću osobnu ugroženost, te izvještavaju o višim razinama anksio-

CONCLUSION

The research found that students who perceived the corona crisis as serious, at the same time assessed a higher personal risk, and reported higher levels of anxiety symptoms, as well as nomophobia and cyberchondria. Consequently, students

znosti, nomofobije i kiberohondrije. Nadalje, studenti koji su anksiozniji, doživljavaju i više razine nomofobije i kiberohondrije. Na temelju rezultata na upitniku nomofobije moguće je predvidjeti rezultat na ljestvici kiberohondrije pri čemu studenti koji su skloniji nomofobičnim obrascima ponašanja skloniji su i kiberohondriji. Dodatni nalaz ovoga istraživanja jest uloga anksioznosti u odnosu između kognitivnih procjena situacije i nomofobije odnosno kiberohondrije. Naime, anksioznost se pokazala kao djelomični medijator kada je ishodišna varijabla nomofobija, a potpuni u modelu u kojem je kiberohondrija ishodišna varijabla. To znači da percipirana ozbiljnost situacije i ugroženost mogu direktno pojačati nomofobiju, dok percepcija ugroženosti pojačava anksioznost i tako doprinosi razvoju kiberohondrije.

who experienced more anxiety symptoms also experienced higher levels of nomophobia, or cyberchondria. Based on the results of the nomophobia questionnaire, it is possible to predict the result on the cyberchondria scale, where students who were more prone to nomophobic behavioural patterns, were also more prone to cyberchondria. An additional finding of this research is the role of anxiety in the relationship between cognitive assessments of the situation and nomophobia, that is, cyberchondria. Namely, anxiety has been shown to be a partial mediator when the source variable was nomophobia, and a complete mediator in a model in which cyberchondria was the source variable. This means that perceived severity of the situation and vulnerability can directly increase nomophobia, while the perception of vulnerability intensifies anxiety and thus contributes to the development of cyberchondria.

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