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Predictors of Engagement on Social Media and Instant Messaging Platforms during the COVID-19 Pandemic: Evidence from Romania

Abstract

The COVID-19 pandemic raised important questions about news patterns of interaction on social network sites (SNS) and instant messaging platforms (IM), especially in the context of the massive replacement of face-to-face interactions with mediated interactions, due to the restrictive measures taken in many parts of the world. In this context, by means of a national survey conducted in Romania (N=1160), we investigated people's willingness to engage on social media and instant messaging platforms about the topic of the COVID-19 pandemic. Results show that people are eager to share information about the topic on both SNS and IM, less interested in getting involved in debates, and even less in voluntary work. All these behaviors are predicted by trust of SNS and news consumption on these platforms, perceived size of the personal digital network, belief in conspiracy theories about the virus, uncertainty about the impact of the crisis, and level of education.

Keywords: COVID-19, engagement, news consumption, media trust, conspiracy theories

1. Introduction

The SARS-CoV-2 pandemic has affected many countries around the world, generating all sorts of difficulties. The World Health Organization has declared the COVID-19 outbreak a global pandemic on March 11, 2020, and Romania had a state of emergency from March 16, 2020, till May 2020. During the interval March 20-23, 2020, at the beginning of the emergency period, we conducted a national survey using an online panel to assess people's online engagement during the outbreak. Analyzing online engagement during a pandemic is highly

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relevant as engagement is a double-edged sword: it can lead to an increased sharing of valuable information, help, and voluntary work, as well as to a high distribution of disinformation and misleading facts that can be harmful to others. As the pandemic evolved globally, disinformation, along with conspiracy theories went viral (Liu & Huang, 2020).

During the pandemic, many people turned to social media for updates and advice. According to Kantar's COVID-19 Barometer on 25,000 consumers across 30 markets, online engagement increased by 61% over regular usage rates as countries moved deeper into the pandemic (Kantar, 2020). During times of uncertainty as was the case of the debut of a pandemic, people rely more on media for risk assessment information and recommendations. People with a high level of concern may seek out more media coverage of the event, while repeated media exposure may create a cycle of distress that maintains the need for information (Lachlan et al., 2016; Thompson et al., 2019). Considering this particularity and the lack of studies focusing on the debut of the pandemic in Romania, studying online engagement patterns with the topic and predictors of engagement is of high relevance.

At the time of the study, on March 20, 2020, Romania had a total number of 308 confirmed cases of COVID-19, the patients being aged between 17 and 89 years, while 4,044 people were under institutionalized quarantine, and 45,432 people were isolated at home (Romania Insider, 2020). The information was scarce and the number of infestations was growing fast. On March 23, the total of confirmed cases almost doubled, there were five deaths, 27 doctors and nurses were infected with COVID-19 at a large hospital in north-eastern Romania, 5.066 people were in quarantine, and 72.247 were isolated (Ministry of Health, 2020). On the same day, the Romanian Government announced the first lockdown measures while the COVID-19 cases in Europe were highly present in the Romanian news. In this context, we sought to analyze the engagement patterns in times of crisis considering the massive sharing of content about COVID-19 on social media and instant messaging platforms and high demand for information. A second objective of this study consisted in identifying a series of predictors for increased online engagement such as the size of personal digital networks, the volume of information about the virus received on SNS and IM platforms, the level of news consumption about the pandemic on social media, the belief in conspiracy theories, along with the education level and the trust in SNS regarding the COVID-19 information.

In addition to being a primary source of information, social media also offer a sense community and emotional support, especially during a crisis when people reach out to each other in an attempt to make sense of what is happening. Moreover, at the beginning of the pandemic, there were Facebook groups that offered support for those in need of assistance with shopping or healthcare, numerous apps, live chat and video sessions to assist with telework or remote education (De Valck, 2020). However, without openness and transparency at different administrative levels, there is a ground for rumor and social unrest which are damaging in dealing with a crisis (Ashton, 2020). The World Health Organization (2020) labeled the situation as *infodemic*, as incorrect information on the COVID-19 topic widely spread in social media. In his research about the reasons people spread false information online, Buchanan (2020) shows that people reporting the highest likelihood of sharing disinformation thought it to be true, or had pre-existing attitudes consistent with it. The level of reliance on emotions also increases belief in fake news (Martel et al., 2020). Health misinformation circulated online in previous crises as well, such as during the Ebola outbreak in 2014 or the Zika virus case in 2016 (Singh et al., 2020).

Online platforms are the primary source of dissemination of false and misleading content as they allow for large-scale and fast sharing without quality control or source checking (Lazer et al., 2018). The circulation of false information on COVID-19 was growing fast at the beginning of the pandemic (Chakravorti, 2020), and because of the uncertainty regarding the ways in which the infection was transmitted, either by human contact, breading, sneezing, or by food and objects, the anxiety was high and led to a degree of irrationality (Loveday, 2020).Therefore, the understanding of social media engagement in times of crises and the predictors of different ways of engagement might help in acquiring a deeper perspective on social behavior during an outbreak, and might support the development of communication strategies during similar times.

1.1. Engagement on digital platforms during the pandemic

The media narrative surrounding new COVID-19 cases fed the general fear, and concomitantly, the need to stay informed. In the case of previous crises (e.g., H1N1, Ebola, and Zika epidemics), media coverage focused on the social aspect, including the economic disruption; the scientific component highlighting the medical aspects; and the pandemic theme emphasizing the global and the governmental response. If the coverage lacked aspects about what people could do to limit their exposure to the infection or to help (Loveday, 2020), social media enclosed these parts either through false or true data. Consequently, social platforms registered a high increase in terms of engagement (Kantar 2020 Barometer). During the COVID-19 pandemic, users generated rich situational information, including notifications regarding the casualties, assistance operations, content to express empathy with the victims, or comments on the ways of dealing with the crisis (Li et al., 2020).

Psychosocial stressors, particularly related to the isolation/quarantine measures, increased the use of social media. By mid-March, WhatsApp, Facebook, and Instagram registered a 40% increase in usage in the context of the COVID-19 pandemic as consumers relied on social media for crisis updates, for maintaining their well-being by virtually interacting with family and friends, for work-related aspects, as well as entertainment (Guzman, 2020). Therefore, the research question guiding this study is: *RQ1. What are the most active forms of engagement on social media concerning the COVID-19 topic at the beginning of the pandemic?*.

Moro et al. (2016) distinguished two main types of measurements for online engagement. The first consists of visualization, which measures the number of times a post was loaded on a user's page or browser. The second type measures the explicit actions of a user with the content through clicks, likes, shares, comments, video or image views, and tagging. We focused on the second type of engagement and considered the sharing of information about Sars-Cov-2 on social media and instant messaging platforms, the willingness to get involved in online debates about the topic, and charitable actions (at the beginning of the pandemic, people were voluntarily helping others in various ways, most of them online: ordering other people's groceries online, donating money, creating support groups, etc.).

It is common during difficult times for people to use social media frequently or to seek social support online (Mowbray, 2020). During a crisis, people often search for event-related data to stay informed (Purgato et al., 2018; Nelson & Lewis, 2022). The 2020 COVID-19 pandemic affected people's online news consumption. Both trustworthy and untrustworthy news outlets benefitted (albeit to variable extents) from greater Facebook engagement and web traffic (Altay et al., 2022). Fear of the unknown leads to higher anxiety levels, so in trying to

reestablish a sense of control, people may seek out information, as well as scapegoats, and engage more (Mowbray, 2020). Consequently, we hypothesize that *higher levels of news consumption about* COVID-19 *on SNS lead to a higher level of engagement about the topic (H1).*

While the Internet provides an excellent platform for news and engagement, rumor and misleading information can spread through both stories and user comments, triggering concerns about speed versus accuracy (Auter et al., 2016; Kahn et al., 2021). However, after being exposed to rumors, people reach for the expertise and comfort provided by science, seeking verified information (Wu, 2020). Social media apps joined forces to combat disinformation and build software solutions to address the issue and provide quality information. Moreover, COVID-19 searches are redirected to the WHO or other national health organizations, thus rebuilding the users' trust in finding accurate information (Skopeliti & John, 2020).

According to the Global Web Index, trust in information shared on social media is lower than trust in information shared on the radio or news websites and higher than trust in word of mouth from friends and family (Jones, 2020). The Digital Trust Report shows that Facebook is the most trusted among other platforms for the content it provides, with users feeling confident to share content they find there, which generates high engagement (Elder & Gallagher, 2017). In one study, trust in news from social media contributed to increasing belief in COVID-19 misinformation, and indirectly contributed to uncritical social media posting practices (Melki et al., 2021). Therefore, we hypothesize that *the higher the trust in social media information about COVID-19, the higher the users' social media involvement with the topic (H2).*

In Romania, Internet users trust the information they find online regarding Sars-Cov-2 only partially (79%), while 7% trust it completely (Statista, 2020). However, by allowing a rapid spread of information, social media can intensify the collective alarm and become an instrument of panic production (Walsh, 2020). Social media favor the content that is likely to generate emotion; they promote messages based on predicted popularity and reward virality (Van Dijck, 2013; Bossetta, 2018).

Following its emergence, the COVID-19 crisis led to widespread scapegoating and fearmongering in social media, while digital platforms played an essential role in encouraging misleading interpretations and a general over-reaction (Yang, 2020). By assessing the engagement (likes, shares, mentions), Facebook's tailored news feed determines what is worthy of attention for each user, filtering out the messages deviating from the estimated preferences (McIntyre, 2018; Meta Business Help Center, n. d.). However, in times of crisis, as architectures of amplification, social media expand panic production, thus favoring engagement (Walsh, 2020; Saahar et al., 2021). Through social media sites, people search for information concerning disease risks and dangers, and part of COVID-19's fame is given by the specific attention of media, particularly social media (Tsoy et. al, 2021). Considering the context, we hypothesize that *the more people received information about COVID-19 on SNS and IM, the higher their social media engagement with the topic (H3).*

Social media offer a sense of community, and various attributes such as likes, shares, hashtags, and mentions, promote awareness of others and provide a sense of unity (Murthy, 2013). As ordinary citizens are empowered to make their news, to address some issues as public concerns, they feel they can shape the collective sentiment (Turner, 2010). An individual's status in a community is determined by their capacity to provide information and explanation. By sharing the truth and engaging, the individual gains social value and increases their influence, and the more community members, the bigger the social rewards (Humphreys,

2020). Social exchange theory argues that much of what we do is motivated by maximizing our social rewards and minimizing our costs (Aronson et al., 2015; Cook & Rice, 2003). Helping can relieve the personal distress of a bystander and lead to social approval gains or an increased feeling of self-worth; in this context, the larger the group of witnesses, the bigger the feeling of validation (Aronson et al., 2015). In this vein, status seeking is listed among the motivations for sharing COVID-19 related information on Facebook (Malik et al., 2021). While information disseminated by corporations can be perceived with skepticism, information shared by regular users is more often considered to be authentic, and its sharing gets rewarded in terms of increased social capital (Mejias & Vokuev, 2017). Considering these aspects, we hypothesize that *the more people perceive their digital networks as being bigger than those of other people, the more they engage on social media about the* COVID-19 *situation (H4).*

People share information to fulfill the need to be heard, understood, emancipated, and the need to matter (Information Resources Management Association, 2015). Social media features facilitate personal influence, increasing the salience of opinionated information and making users more likely to read endorsed content (Anspach, 2017). Online platforms have become prominent means to understand the pandemic's social discussion (Chen et al., 2020) Facebook, for instance, has gained a pivotal role for people around the globe experiencing the COVID-19 pandemic (Malik et al., 2021).

While past epidemics highlight the importance of studying social media content during crises (see Singh et al., 2020), there is a sense of urgency in exploring the engagement with SARS-CoV-2 virus-related content on social media. In general, when the stakes are high and have personal relevance, and when there is a great deal of uncertainty about the issue, people experience a greater need for orientation, leading to increased media use (Weaver, 1991/2016).

As Garfin, Silver and Holman (2020) indicate, past research documented the increased reliance on the media to make better, informed decisions during several types of crises marked by uncertainty, including health crises. Lack of information or improper communication can become driving sources of uncertainty; uncertainty, in turn, becomes a significant stressor for the individual (Taha et al., 2014). This psychological mechanism mediates social media engagement intentions (Zhang et al., 2018).

People who seek to avoid/reduce uncertainty to a greater extent are also prone to actively seek information on available media (Starbird et al., 2016) and to engage more in online self-disclosure activities concerning their health (Lin et al., 2016). Uncertainty avoidance, as a cultural trait, is strongly related with people's perceptions of social media importance, usefulness, and perceived ease of access for health-related information (Ittefaq et al., 2022). In contexts of uncertainty, users seek social support as well. Practical experience with traumatic events indicates that individuals who feel uncertain about the causes of significant societal events turn to social media for consolation. Internet users in a crisis tend to go online to activate weak ties in their social networks (Procopio & Procopio, 2007). During the COVID-19 pandemic, intolerance to uncertainty is correlated to psychological distress (Reizer et al, 2021). By extrapolating these insights to the research context of the present study, we expect that *the more uncertain individuals feel about the COVID-19 situation, the more intense their social media engagement (H5).*

One form of public engagement with COVID-19 information and news on social media is disseminating and discussing conspiracy theories. Digital platforms offer ideal arenas for

uniting the conspiratorial, spreading, and facilitating the engagement with these messages (Walsh, 2020), while any citizen can emerge as a crusader and activate a collective vibrancy (Hier, 2018).

Unfortunately, conspiracy theories flourish in crisis times, as simple explanations are not satisfying. The appeal of conspiracy theories is strong when the situation is complex and official explanations are lacking or are perceived as being contradictory (Clarke, 2002). Conspiracy theories find an adequate medium for dissemination on the Internet, as online communities increasingly turn to conspiracy-driven news sources (Marwick & Lewis, 2017). Due to their shocking nature and public appeal, these claims are then covered by mainstream news media, exposing them to even larger audiences. Research on the dynamics of transmission of scientific information compared to conspiracy theories shows that the latter receive more likes and shares, indicating a commitment of conspiracy users to promote favored content (Bessi et al., 2015).

The repetition of claims increases their credibility even in the absence of proof, a mechanism identified to be one of the drivers of misinformation (Ecker et al., 2022; Foster et al., 2012; Hassan & Barber, 2021). The popularity of conspiracy theories could lead to a superficial impression of trustworthiness, prompting users to interact with that content to a greater extent, creating a snowball effect of engagement (for a discussion about the propagation of conspiracy beliefs on social media, see Dow et al., 2021; Enders et al., 2021). Virality metrics, which are readily available in the case of social media posts, have been proven to have a normative impact on users. Exposure to high virality metrics results in greater viral behavioral intentions, such as liking, sharing, re-twitting, and recommending that content (Kim, 2018). There is evidence that social media engagement related to the COVID-19 pandemic revolves, among other topics, around the latest conspiracy theories (Dow et al., 2021; Theocharis et al., 2021). Following these considerations, we hypothesize that *the more people trust conspiracy theories about COVID-19, the more they engage on social media (H6).*

Lastly, the level of education may influence the way individuals use social media for information, support, and discussion during the COVID-19 pandemic. Education is among the main drivers of the digital divide, and it has been linked to inequalities in access, skills, and patterns of Internet use (Dutton & Reisdorf, 2019). For highly educated individuals see the Internet as an efficient tool for finding information and are more likely to use social media (Dutton & Reisdorf, 2019; Perrin, 2015). Education is a significant variable of online activities of civic participation (Gil De Zúñiga et al., 2012) and it is positively associated with online social support (Wang et al., 2019). Given that discussing COVID-19 related topics implies at least basic scientific knowledge (e.g., understanding what a virus is and how it spreads) and provides numerous opportunities for participation in civic and political groups, we expect educated individuals to get more involved on social media about the pandemic-related topics. As a form of online participation, their increased social media engagement (if confirmed) might come from the desire to help or advance their opinion on the pandemic's socio-political consequences. We hypothesize that *the more educated a person, the more likely they are to get engaged on social media about COVID-19 (probably to help others) (H7).*

2. Materials and methods

To assess people's online engagement during the COVID-19 crisis, we conducted a national survey using an online panel provided by the national pollster Questia. The sample (N=1160) is non-probabilistic, with soft quotas for age and gender matching the data for the population of Romania, aged 18 or above, non-institutionalized, who has an Internet connection. The sample is somewhat over-representative for women (56.7%), urban areas (87.2%), and higher education (56.2%). The survey was conducted on March 20-23, 2020. As a reference point, on March 23, Romania officially registered 576 cases of infection with the SARS-CoV-2 and 7 deaths. Worldwide the number of cases had already surpassed 300,000, and the total number of deaths was around 14,500. At the time, countries had already instituted total isolation practices, while in Romania, there was a vivid public debate about the imminent lockdown in the next days (the military ordinance that instituted official lockdown was issued on March 24). The design of the study and the content of the questionnaire were approved by the Ethics Committee of the university. Before answering the questions, respondents were briefly informed about the purpose of the study, the anonymous treatment of the data, and explicitly asked for their consent to take the survey.

2.1. Measurements

The engagement was measured using four items with 7-point Likert scales, three regarding online behavior (sharing information about COVID-19 on social media and instant messaging platforms, and willingness to get involved in online debates about the topic), and one about voluntary work (getting involved in voluntary actions about the COVID-19 crisis). The four items formed a one-factor scale (PCA), with loadings from .694 to .847, explaining 64.68% of the variance (á=.816, M=2.68, SD=1.60). Descriptives for individual items could be found in Table 1.

News consumption about COVID-19 *on social network sites* (SNS) was measured on an 8-point Likert scale (M=4.19, SD=2.77), estimating the number of days in the „last week" people followed the news about COVID-19 on social network sites (from 0 to 7).

Trust in social network sites (SNS) was measured on a 7-point Likert scale, asking people to assess the level of trust they hold about SNS in the context of the information that circulated about the COVID-19 pandemic. (M=3.25, SD=1.60).

The amount of *information about* COVID-19 *received on social network sites* (SNS), *and instant messaging platforms* (IM) was assessed through two items measured on a 7-point Likert scale, highly correlated (r_{SB}=.810, M=5.26, SD=1.62), estimating the frequency of receiving information about COVID-19 on SNS and IM (separately).

The relative size of the personal digital network (SNS and IM) was measured with four 5-point Likert items, worded as „Compared with most people, how large do you appreciate your circle of friends and acquaintances with whom you frequently interact online on Facebook/ Instagram/ Whatsapp/ Tik-Tok) to be?". All items grouped in one factor (PCA), with loadings from .718 to .827, explaining 57.13% of the variance (á=.748, M=2.41, SD=.81).

To assess the *uncertainty about the impact of the* COVID-19 *crisis,* we used four items, measured on 7-point Likert scales (from 1="very uncertain" to 7="very certain"), asking people about how they feel with regard to general information about the COVID-19 pandemic, own future, country's future, and the future of the world. Items group in one factor (PCA)

with loadings ranging from .749 to .910, explaining 75.24% of the variance (á=.889, M=23.36, SD=1.62).

Belief in conspiracy theory – we constructed a 5-item scale based on the main narratives identified in the week prior to the survey in the alternative media circles and largely shared on SNS. The items were worded as follows: „Coronavirus is a bioweapon developed by China to dominate the world", „Coronavirus was artificially created in order to trigger a worldwide economic crisis", „Coronavirus was artificially created in order to stop the aging process", „There is fake news about Coronavirus topics shared with the purpose to make people ill", and „Coronavirus is a bioweapon developed by the USA in order to dominate the world". Items loaded on one factor (PCA), with loadings from .570 to .892, explaining 65.08% of the variance (á=.859, M=3.73, SD=1.89).

As far as socio-demographics are concerned, *education* was measured on an 8-point scale, *income* was assessed as perception about how people are coping on their current income on a 5-point scale, *residence* was measured as a dichotomic variable (rural vs. urban areas).

3. Results

When asked about their willingness to engage in various types of actions regarding the COVID-19 situation, people revealed that they are somewhat willing to share information about the COVID-19 pandemic on social networks and personal messaging platforms but not so keen to get engaged in debates and even less to do voluntary work. This last result is probably even slightly more prominent in these reports than in reality, as it is, to some extent, subject to social desirability bias. (see Table 1)

Table 1. Descriptives of types of engagement

	N	Mean	SD
Share info about COVID-19 on IM	1160	3.32	2.26
Share info about COVID-19 on SNS	1160	3.20	2.25
Get involved in online debates about COVID-19	1160	2.30	1.84
Get involved in voluntary actions regarding the COVID-19 crisis	1160	1.92	1.54
Engagement overall	1160	2.68	1.60

However, willingness to get engaged in any of them could be enhanced in various ways, given that there are significant predictors related to how people interact with media and other people on the subject of COVID-19. This type of engagement is, nonetheless, a double edge sword, considering the overwhelming amount of disinformation circulating online in this particular period of time. Sharing information with all good intentions could lead to negative consequences, as well as very positive ones. Therefore, the results should be put in the correct context.

Generally speaking, we found that the more people consume news about the COVID-19 topic on SNS, the more they engage in all online activities, but not in voluntary work, which is probably much more influenced by personal fears and doubts. (H1 validated only for online behavior). (Table 2)

Table 2. OLS Regressions predicting engagement behavior

	Engagement overall (ß)	**Share info about** COVID-19 **on SNS** (β)	**Share info about** COVID-19 **on IM** (β)	**Get involved in online debates about** COVID-19 (β)	**Get involved in voluntary actions regarding the** COVID-19 **crisis** (β)
Block 1					
Education[a]	.115**	.103**	.108**	.073*	.081**
Income[b]	-.055*	-.067*	-.032	-.039	-.036
Gender (female)[c]	-.035	-.012	.014	-.099**	-.028
Residence (rural)[d]	.055*	.052	.015	.061*	.057*
Age	-.055*	-.011	-.075**	-.023	-.077*
R^2 change	.013	.013	.017	.012	.011
Block 2					
News consumption about COVID-19 on SNS[e]	.160**	.142**	.184**	.111**	.055
Trust SNS with regard to info about COVID-19 [f]	.190**	.169**	.139**	.170**	.135**
Information about COVID-19 received on SNS and IM[g]	.210**	.233**	.248**	.092**	.059
Relative size of the personal digital network (SNS and IM)[h]	.174**	.146**	.104**	.164**	.159**
Uncertainty about impact of COVID-19 crisis[i]	.095**	.057*	.059**	.083**	.126**
Belief in conspiracy theory[j]	.107**	.072**	.044	.102**	.150**
R^2 change	.305	.256	.247	.175	.143
Total R^2	.318	.269	.265	.187	.153
Adj. R^2	.311	.261	.257	.179	.144
N	1066	1066	1066	1066	1066

**p < .01, *p < .05

The reported β weights in the hierarchical regressions are final β weights.

Codes:

a. 1 low to 8=high; b. 1=female, 0=male; c. 1=low to 5=high; d. 1=rural, 0=urban;
e. 0=never to 7=every day; f. 1=low to 7=high; g. 1=very rarely to 7=very often;
h. 1=small to 5=high; i. 1=very uncertain to 7=very certain; j. 1=low to 7=high.

Trusting the information circulating on social networks about the topic of the COVID-19 pandemic plays an essential part in engagement (β =.19, p<.01), in all its aspects: sharing information on SNS (β =.17, p<.01) and IM (β=.14, p<.01), getting involved in online debates (β=.17, p<.01) and in voluntary work (β=.14, p<.01). (H2 validated) A quick explanation would be that trusting information on social media makes people doubt less the accuracy of content they forward (share) and raise solidarity feelings that might boost willingness to help.

The most powerful predictor of sharing behavior is, not surprisingly, the amount of information people receive on social media and instant messaging platforms about the COVID-19 topic (β=.23, p<.01. for SNS and β=.35, p<.01 for IM). However, this is a very weak predictor for engaging in online debates (β=.09, p<.01), and not significant at all for voluntary work. (H3 partially validated) There is a sort of vicious circle, with unpredictable results, as it is still unclear what type of information people share in SNS and IM: the more they receive information, the more they share, which leads to a loop of virality of both crucial information and questionable content, including conspiracy theories or any type of dis- or misinformation. In the same loop, the relative size of the digital personal network plays an important part: the more people perceive their network to be larger than most of other people's, the more likely they are to share information on SNS (β=.15, p<.01) and IM (β=.10, p<.01), but also to get engaged in debates (β=.16, p<.01) and even in voluntary actions (β=.16, p<.01). (H4 validated)

Uncertainty about the impact of the COVID-19 situation could make people act in various ways (all types of engagement are significantly predicted by it), in the sense that low levels of uncertainty lead to more engagement. However, the predictor explains to a lesser extent engagement than the variables related to actual information about the crisis, H5 is invalidated, as we predicted the opposite direction of the correlation, thinking that the more people need to get oriented in an uncertain world, the more they might feel the need to do something, anything. This is to be further investigated, and a possible explanation could be that high levels of uncertainty lead to apathy, everything starting to feel useless in everyday life.

Conspiracy theories about COVID-19 are very prominent on social media with narratives of many sorts and with some spectacular results (more than 40% of the population believe some of the stories to be probably true or entirely true). This is a dangerous situation, as it is correlated to both willingness to share information on SNS (β=.07, p<.01) (not on IM, though), to get involved in debates (β=.10, p<.01), and do voluntary work (β=.15, p<.01). (H6 validated) Sharing information or getting engaged in debates in this context might lead to even greater levels of beliefs in such narratives.

Socio-demographics are not particularly strong (or even significant) predictors, with the exception of education: the more educated a person, the more likely he or she is to engage in all types of activities discussed here (Table 2). (H7 validated). Gender is significant only for getting involved in debates, which is rather the apanage of men (β=-.10, p<.01), while age is related to sharing information on IM (β=-.07, p<.01) or doing voluntary work (β=-.08, p<.05): older people are less prone to take action. Residence matter only for getting involved in debates and doing voluntary work, in the sense that people from rural areas are more likely to get engaged, but differences are rather small.

When looking at engagement overall, as a scale, all predictors considered in the model are significant (with the exception of gender). Information received on SNS and IM (β=.21, p<.01) and trust in SNS (β=.19, p<.01) are the most powerful predictors. Changes in R^2 show socio-demographics being much less important than all other variables, which is to say that

the way information about the COVID-19 pandemic is transmitted, processed, trusted, and believed to be true are very important in predicting engagement. This is even more important during a crisis period, in which all information sources are flooded by news about the crisis, and almost any other topic is almost entirely missing.

4. Discussion and conclusions

According to our findings, Romanian citizens manifested certain engagement behaviors online at the beginning of the pandemic. This builds on previous findings that in exceptional crisis periods, people turn to media, and especially social media, for information, recommendations, support, and for reducing feelings of anxiety and uncertainty (Guzman, 2020; Lachlan et al., 2016; Thompson et al., 2019).

However, the most active forms of engagement are limited to sharing information by taking advantage of the affordances of the digital platforms. The relative reluctance expressed by respondents to get involved in online debates challenges common sense perceptions that the Internet is a safe place for expressing opinions or concerns and is worth investigating in future research on the topic.

In terms of what drives social media engagement during the COVID-19 crisis, all the predictors directly related to the inflow of information from all channels proved to be significant – news consumption about COVID-19 pandemic on SNS, trust in SNS concerning information about COVID-19, the relative size of the personal digital network, uncertainty, and belief in the conspiracy theory. This finding suggests that what matters most for explaining the levels of engagement in this context are not personal characteristics (socio-demographic variables) but how people use social media as a significant arena for news and information. We also found a weak, positive correlation with the level of education, adding to the existing body of evidence that people with higher levels of education are more likely to seek information online (Dutton & Reisdorf, 2019; Perrin, 2015), and to engage in activities of online social support (Wang et al., 2019).

Information about the COVID-19 situation received on SNS and IM ranks as the most important predictor of engagement, consolidating the reconfiguration of social media from private spaces for social interaction to public fora for the exchange of information, where any user can produce and distribute content (Yar, 2014), while favoring emotional responses in the audience (Van Dijck, 2013; Walsh, 2020).

Found on the second and third place in the hierarchy, trust in SNS with regard to information about COVID-19 and relative size of the personal digital network shed additional light on the motivations for social media engagement. In general, users feel confident to share the content they find on Facebook and trust the news shared on social media (Elder & Gallagher, 2017). The larger the community of followers and online friends, the higher levels of satisfaction derived by increasing personal influence (see Humphreys, 2020), thus explaining our findings on the positive correlation between the relative size of the private digital network and engagement.

News consumption, while important, ranks only fourth in terms of predictive power. Instead, information circulating on non-traditional media (SNS and IM platforms) has a paramount influence, raising concerns related to the level of accuracy, credibility, and legitimacy of peer-to-peer communication through social media engagement. There is a longstanding

line of evidence on the shortcomings of social media when it comes to facilitating the spread of disinformation (Lazer et al., 2018). When we corroborate the somewhat secondary importance of news consumption as a driver for online engagement behavior with the steadfast beliefs in conspiracy theories endorsed by the respondents of this study (M=3.73, SD=1.89, on a 1 to 7 scale), we find reasons to be alarmed about the audience's vulnerability to disinformation. While individuals are eager to contribute to social media by sharing information related to SARS-CoV-2, their limited ability to discern accurate information from any false or misleading content can turn them into unwitting agents of disinformation.

Furthermore, evidence resulting from this study shows a significant positive correlation between belief in conspiracy theories and levels of social media engagement, confirming previous research on the commitment of conspiracy users to actively promote the content that supports their conspiratorial worldview (Bessi et al., 2015). Belief in conspiracy theory should be interpreted in the context of the high importance of information circulating on social media, as these types of narratives emerge and are nested within social media (Dredze et al., 2016). Therefore, the impact of what people choose to share might be significant.

Lastly, the invalidation of the hypothesis on the positive correlation between perceived feelings of uncertainty about the COVID-19 situation and intensity of social media engagement is in contradiction with findings in the literature showing that high uncertainty leads to information-seeking behaviors (Goodall & Reed, 2013; Starbird et al., 2016). Although our opposite findings require further investigation, one possible explanation could reside in psychological factors left unaccounted for. Among these relevant psychological factors, we can include reactions to stress. More specifically, repeated news exposure can lead to increased anxiety and heightened stress responses (Garfin et al., 2020). In turn, this situation can determine the more vulnerable people to seek out news less often and show greater apathy in online participatory behavior. Alternatively, it might be the case that being more certain about what the future holds could make people be more proactive in doing something, helping others (e.g., doing voluntary work).

A direct implication of these findings for the public officials and other leaders involved in crisis management is the need to show particular interest in what kind of information they make available on social media. In the early stages of a pandemic, when scientifically vetted information about the virus is scarce (Loveday, 2020), social media users can assume the role of experts, by disseminating unreliable health advice, and suggestions for protective behaviors. To avoid this, official sources must fill any information gaps as soon as possible, increase the body of accurate news and advice shared via SNS, and alleviate the public's uncertainty-driven anxiety (Zhang et al., 2018).

However, one must admit that conspiracy theories are difficult to contain in times of crisis. Unfortunately, there is evidence from the outbreak of other epidemics that corrective information has a limited efficiency (Carey et al., 2020). Given these considerations, public communication should be done consistently and in a unitary fashion (to avoid hesitations, denials, contradictions between institutions, and between decision-makers), with the end goal of reducing uncertainty surrounding the COVID-19 crisis. Furthermore, interventions need to acknowledge and address the anxieties of the citizens in a reassuring, empathic, and assertive manner to reduce the temptation to pay more attention to alternative, conspiracy-laden information sources.

There are some limitations of the present study that should be taken into account when interpreting the results. First of all, findings should be discussed in the particular context of

the timeframe related to the COVID-19 crisis. The survey was conducted in the initial phases of the crisis, not at the peak, but far enough into the crisis to produce powerful effects. Additionally, as this is a one-country cross-sectional study, results should be corroborated with similar studies conducted in various other countries, preferably in both similar and different moments of the crisis, to draw evidence-based conclusions about how and why people engage during crisis times. Moreover, at the specific moment of conducting our study, only 3% of the people in the sample knew someone (close or distant) being infected with the virus. Consequently, it was impossible to control for this probably essential variable in our statistical model.

How information about the COVID-19 pandemic is transmitted, processed, trusted, and believed to be true matters the most for predicting engagement with it. The practical implications of this insight are important. We witness an overabundance of true and false information during this health crisis, making orientation very difficult. Our recommendations for health communication and crisis communication revolve around the necessity to address information overload on social media and raise public awareness of how to make sense in the digital environment. Furthermore, public communication should be done consistently, and unitary both in traditional media, and in social media, with the end goal of dominating the narrative with reliable, official information while reducing public anxiety surrounding the COVID-19 crisis, or similar crises of the future.

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