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Attenuating the crisis: the relationship between media use, prosocial political participation, and holding misinformation beliefs during the COVID-19 pandemic

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ABSTRACT

In a global crisis like the COVID-19 pandemic, governments around the world are dependent on voluntary support of their citizens. Based on a four-wave panel survey conducted in the Netherlands between April and July 2020 ($n = 1742$), this study investigates the development of citizens' engagement in prosocial political activities and what motivates such acts of political participation. With previous research indicating strong relationships between news as well as social media use and political participation, we test whether these types of information consumption drive participation over time. The spread of misinformation during the COVID-19 crisis, however, was described as an "infodemic". The study therefore explores how holding misinformation beliefs directly and indirectly affects participation in COVID-19 related activities.

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Introduction

In a global crisis like the COVID-19 pandemic, governments around the world are dependent on voluntary support of their citizens. This study goes beyond compliance with health regulations by focusing on acts of prosocial political participation that can help combat the pandemic. Based on a four-wave panel survey conducted in the Netherlands ($N = 1742$) between April and July 2020, we study how active citizens were in participatory activities (e.g. donations, volunteering, or online opinion expression) that were possible despite the heavy restrictions in public life. We further explore how

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information consumption motivates participation. Previous research found that following the news is related to higher levels of political participation under normal circumstances. However, crisis situations can significantly alter news consumption, need for information, and reliance on different information sources (Van der Meer 2018). This study fills the research gap by investigating the role of news consumption for political participation during a global crisis.

Even though the media had a particularly important role in providing information (Ohme et al. 2020), citizens also believed that the media contained relatively high levels of misinformation (Hameleers, van der Meer, and Brosius 2020). Since extant research has documented the omnipresence of misinformation during (public health) crises (e.g. Oyeyemi, Gabarron, and Wynn 2014), we examine to what extent the potential effect of media use on prosocial political participation is conditional on whether people perceive their information environments as more or less truthful. This allows us to explore whether misinformation perceptions may have created a participation gap among the public.

Political participation in times of crisis

“This pandemic is a democratic imposition”. With these words, German Chancellor Angela Merkel described the situation a society finds itself in when public life is partly on hold during a pandemic. Lockdown measures during the COVID-19 crisis not only imposed restrictions on work, education, traveling, and shopping, but around the globe, the number of political activities that citizens could engage in declined (e.g. attending political meetings or protests, see Metternich 2020). Governments were put in a peculiar situation: While they had to restrict public life in order to contain the spread of the virus, the measures also restricted some democratic rights, including political activities by citizens. This study therefore investigates the level of engagement in prosocial political activities that were available to citizens in the early stage of the crisis and how this engagement developed over time.

Political participation is described as voluntary acts carried out by citizens to address political life (van Deth 2014). Recently, research has acknowledged that participation can take various forms and take place in different spheres of society, online as well as offline (Ohme, de Vreese, and Albæk 2018; Theocharis and van Deth 2016; van Deth 2014). In a participatory democracy, it is believed that, through means of political participation, citizens influence society by supporting political causes, criticizing them, or suggesting new directions (Strömbäck 2005). In routine times, governments become aware of and sometimes adapt to political beliefs in society.

During crises, this function partly changes, as governments need to rely on an active citizenry to help them steer the country through the crisis since they

lack manpower and resources to provide immediate support to all those affected by a crisis. However, active support from citizens can help to mitigate political challenges more successfully (Kornberg and Clarke 1992). For citizens, participatory activities provide a way to be proactive – and often pro-social – in a crisis, for example by filling sandbags during a natural flooding disaster or providing primary care for newly arrived refugees (Guo et al. 2020; Ohme 2021). Typically, during such crises, citizens initially follow the greater political lines proposed by authorities, rather than opposing them, given the lack of viable alternatives and opposition. Authorities and citizens form an quasi “unnatural alliance”, where political participation mostly consists of essential primary response actions.

Research about political participation during crises is sparse and mostly focuses on slowly evolving situations, such as economic or financial disruptions, where protest is one of the main participatory means to *react to a crisis* (Grasso and Giugni 2016; Memoli 2016). Such protests also happened in response to COVID-19 regulations. Much less, however, is known about the extent to which citizens *act*, rather than *react*, politically in a crisis situation. Studies have explored organizations and networks of volunteers during crisis and emergency management, mostly in local case studies (Boersma et al. 2019; Waldman et al. 2018), or social media activity in the aftermath of a crisis (Guo et al. 2020; Chen et al. 2020). Our study, however, is interested in the share of a population that is active in a broad set of pro-social, political activities. We focus on four activities of political participation that resemble forms that were conceptualized as political participation by prior research (Gibson and Cantijoch 2013; Teorell, Torcal, and Montero 2007; Theocharis and van Deth 2016) and adapted them to the COVID-19 crisis: Volunteering, donating, expression of public opinion, and promoting social causes. We are specifically interested in how participation develops throughout different stages of the crisis. Citizens possibly participate less when the crisis becomes less severe, and when media attention fades. Given the lack of research on the over-time development of these behaviors, we ask:

RQ1: How does participation in COVID-19-related activities develop over time?

News media use as driver of political participation

While already a major provider of political information in routine times, during crisis, the media become the main connection between the government, public authorities, and citizens (Schultz, Utz, and Göritz 2011; Van der Meer 2018). Both via online and offline channels, news media updated the public on the latest developments during the outbreak of COVID-19, such as numbers of infections, dangers of the disease, and containment

measures. Not surprisingly, news use spiked in the first weeks of the pandemic (Ohme et al. 2020).

Following news consumption effects literature (e.g. McLeod, Scheufele, and Moy 1999), there are reasons to expect that news use is a positive predictor of participation, also during a state of emergency. First, the news media's informational role increases in importance during partial lock down of society, given the described lack of other information sources. Second, during a crisis, information provided by the news media most strongly affects public understanding and framing of the situation at hand (Van der Meer 2018). Frames that the media use in their coverage about the crisis tend to align with public frames over time and thereby shape the interpretation of a crisis situation (Van der Meer et al. 2014). In addition, the way media frame crisis coverage often conveys frames from official sources. This common form of indexing (Livingston and Bennett 2003), where journalistic news frames correspond to public authority frames, gives reason to believe that news media use fosters prosocial behaviors that are in line with or complement government crisis responses. Hence, we expect:

H1a: Higher levels of exposure to news during the COVID-19 pandemic increases levels of participation in COVID-19-related activities.

Social media use was high during the beginning of the COVID-19 outbreak. Platforms like Facebook or Twitter helped citizens to stay informed, but also to bridge the physical distance to family, friends or acquaintances (Ohme et al. 2020). However, numbers dropped as lockdown regulations eased (Nielsen et al. 2020). There is evidence that communication of governmental actors on social media in China increased citizens engagement in the form of likes and comments (Chen et al. 2020); however, it is unclear whether social media usage increased political participation during the pandemic.

Ample research exists that shows social media use to be a strong driver of political participation (see Boulianne 2017 for an overview). The combination of different items in one newsfeed creates a unique mix of information with mobilizing potential: Algorithmic personalization selects information with high personal relevance, political actors can directly communicate with citizens and place calls for action, and social evaluation of peers on SNS can drive news selection, shape the assessment of political issues and thereby drive participation (Bond et al. 2017; Kruijemeier, Sezgin, and Boerman 2016; Ohme and Mothes 2020; Vaccari and Valeriani 2015). Ohme et al. (2020) found that social media use coincides with news exposure during key events of the COVID-19 outbreak. We argue that social evaluation may mobilize participation during this crisis as well. We therefore expect:

H1b: Higher levels of social media use during the COVID-19 pandemic increase levels of participation in COVID-19-related activities.

Misinformation perceptions and COVID-19 participation

Misinformation can refer to information that is false or inaccurate without the intention to mislead (Wardle 2017). Misinformation thrives in times of health crises (Dredze, Broniatowski, and Hilyard 2016; Oyeyemi, Gabarron, and Wynn 2014); the WHO even dubbed the information ecology at times of the pandemic an “infodemic” (Nielsen et al. 2020). Especially during the first stages of the pandemic, misinformation can be the result of a lack of expert agreement and verified empirical evidence on the causes, consequences and treatments of the new virus (Hameleers, van der Meer, and Brosius 2020). This can result in a selection bias among audiences, who deselect less trusted outlets from their news diet (see Tsfaty and Cappella 2005).

The prevalence of misinformation on COVID-19 in offline and online sources may trickle down to perceptions of false information among news users, who are most likely to distrust information on social media (Nielsen et al. 2020). Distrust in the veracity and honesty of information may have important consequences for pro-social behavior and attendance to or avoidance of novel information (Hameleers, van der Meer, and Brosius 2020).

In this paper, we conceptualize misinformation beliefs as users’ evaluations of the veracity of information disseminated on the new coronavirus and COVID-19. As people can associate misinformation with different (social) media sources (Nielsen et al. 2020), we rely on a general measurement of perceived misinformation. As perceptions of salience can strongly differ based on individual interpretations, we do not ask participants to estimate the exact amount of misinformation in their information setting, but rather measure the extent to which participants perceive that misinformation is a pervasive issue.

The more citizens believe that the media report on the new coronavirus in a dishonest way, the less they are willing to comply with the authorities’ interventions (Hameleers, van der Meer, and Brosius 2020). Likewise, during the Influenza A outbreak (H₁N₁) in 2009, Prati, Pietrantoni, and Zani (2011) found that higher levels of media trust correspond to higher levels of compliance. Extrapolated to the role of news media use in times of COVID-19, people might evaluate the official guidelines conveyed by news media more negatively if they perceive media information as erroneous or dishonest. This could demotivate citizens to participate in behaviors that are in line with the interventions communicated by the authorities and the news media. Alternatively, it could be argued that the more people perceive the media as failing to deliver accurate information, the more they feel the urge to participate – taking over the role of authorities to combat the negative consequences of COVID-19. In line with these competing arguments, we introduce the following research questions:

RQ2: Are misinformation perceptions related to COVID-19 participation?

RQ3: Do misinformation perceptions moderate the relationship between news exposure and COVID-19 participation, and if so, in what direction?

As social media in particular have been associated with COVID-19 misinformation and considering the low levels of trust in social media during the pandemic (Nielsen et al. 2020), it could be argued that misinformation perceptions have the strongest impact for social media diets (although people may associate all sources with misinformation to different extents). Therefore, we finally assess if, and if so how, the moderating role of misinformation perceptions is different for social media versus traditional news media use:

RQ4: Is the (moderating) impact of misinformation perceptions on participation different for traditional news media exposure compared to social media use?

Method

We conducted a four-wave online survey panel study in the Netherlands, which was part of a greater, collaborative research project (Bakker et al. 2020). The single waves were conducted between April, during partial lockdown, and July 2020,¹ the beginning of reopening. The sample consists of 1742 Dutch citizens, of which 49% identified as female and 30% were between 18 and 39 years old, 43% between 40 and 64, and 27% were 65 or older.

Measures

Political participation was measured by asking respondents how often they had participated in four different political activities in the last three weeks (0 = never; 4 = four or more times): (1) Volunteering to help people or organizations affected by the crisis, (2) donating money or goods, (3) posting calls for actions online to comply with health measurements, and (4) convincing people personally to follow official rules. These four behaviors were selected because they had been conceptualized as political participation by previous research (Gibson and Cantijoch 2013; Teorell, Torcal, and Montero 2007; Theocharis and van Deth 2016), were possible to engage in during the first weeks of the crisis, and were seen as crucial means for citizens to attenuate consequences of the crisis. The items were added and divided by four, resulting in an average score per wave (see Figure 1). With some activities being more likely to participate in than others, this index takes the variation of

¹W1: 10 April–16 April ($n= 1.742$), response rate (AAPOR1) 46%; W2: 30 April–10 May ($n= 1423$); W3: 25 May–2 June ($n= 1241$); W4: 29 June–7 July ($n= 1092$).

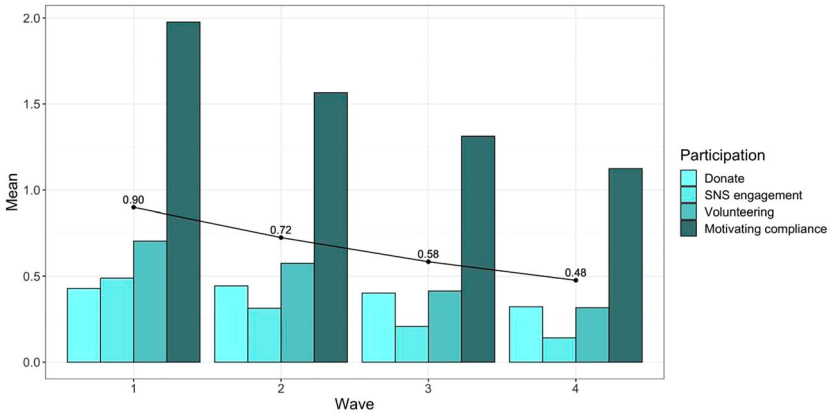


Figure 1. Mean scores participation in COVID-19-related activities across the four waves. Individual items were measured on 4-point activity-frequency scales.

likelihood for participation in different activities into account and indicates an overall propensity of participation in prosocial behavior.

News media use was measured as the sum of the average number of days that respondents watched TV news (RTL Nieuws, NOS Journaal, Hart van Nederland, Editie NL, Nieuwsuur, and EenVandaag), read newspapers (De Telegraaf, NRC Handelsblad, Algemeen Dagblad, Trouw, De Volkskrant, FD, and regional or local newspapers), and used online news sources (nos.nl, nu.nl, rtlnieuws.nl) in the past week. The selection of these sources captures the most prominent news media in the Dutch context, and is varied in terms of left- and right-wing leanings, tabloid and broadsheet outlets, and hard and soft news. Each individual outlet could be used for 0–7 days. *Social media use* was measured as the mean number of days that respondents used Facebook, Instagram, Twitter, and WhatsApp in the past week.

Misinformation perceptions were measured as the mean agreement on a 7-point agreement scale with the items “False information about the coronavirus is spread because there is a lack of knowledge about the subject”, “There is a lot of inaccurate information about the coronavirus”, and “There is a lot of misleading information about the coronavirus”.

Results

RQ1 asked how levels of participation in COVID-19-related activities developed over the course of time during the pandemic. The overall means, and means on the individual participation items, which each range from 0 to 4, are visualized in Figure 1. The average level of participation decreases with every wave. In early April, 64% of citizens participated in at least one activity; in July, only 33% did so.

We ran panel models with fixed effects, using the *plm* package (Croissant and Millo 2008) in R (R Core Team 2016) to explain variation in the dependent variable participation; the results were visualized using the R packages *stargazer* (Hlavac 2018) and *ggplot2* (Wickham 2016). Specifying the panel structure controls for unobserved time-invariant factors, like sociodemographic characteristics. The results are detailed in Table 1. To further explore RQ1, the effects of the time-series dummies are included in all three models. The significant negative effects of all wave-dummies provide more evidence for the large drop in participation over time.

H1 assumed that higher levels of exposure to news (H1a) and social media use (H1b) during the COVID-19 pandemic increase levels of participation in COVID-19-related activities. Model 2 in Table 1 shows that news media use has a significant, yet small, effect on participation while the effect of social media use is insignificant. Thus, more news media exposure is, to a limited extent, associated with higher levels of participation, which provides some cautious support for H1a, but no effect of social media use on participation is observed; H1b is therefore rejected.²

RQ2 explored whether misinformation perceptions play a role in levels of participation in COVID-19-related activities. Model 2 in Table 1 shows that misinformation perceptions have a small significant positive effect on participation. Ergo, those who perceive their information environment to contain more inaccurate and false information are slightly more likely to engage in prosocial political participation. Finally, RQ3 and RQ4 asked whether misinformation perceptions moderate the relationship between news exposure and social media use with COVID-19 participation. Model 3 includes interaction effects between misinformation perceptions with both news exposure and social media use. Since both effects are insignificant, there is no indication that misinformation perceptions moderate the relationship between both news exposure and social media use with participation.

Discussion

Following the COVID-19 outbreak, levels of prosocial political participation in the Netherlands were relatively high, with almost two thirds of the population engaging in activities that extended to or supported governmental decisions. This findings also reflects the increased support for the government during the early days of COVID-19 in Europe (Bol et al. 2020). However, this particular type of participation strongly decreased in later stages of the crisis. Prosocial political participation thus likely develops in

²In additional analysis, individual exposure to left or right leaning newspapers was both found to be positively associated with participation, suggesting that general media exposure rather than exposure to different (partisan) content drives participation.

Table 1. Results panel analysis explaining variation in participation in COVID-19-related activities.

	DV: participation		
	(1)	(2)	(3)
Wave 2	-0.17*** (0.02)	-0.16*** (0.02)	-0.16*** (0.02)
Wave 3	-0.30*** (0.02)	-0.29*** (0.02)	-0.29*** (0.02)
Wave 4	-0.41*** (0.02)	-0.39*** (0.02)	-0.39*** (0.02)
News media use		0.02*** (0.01)	0.03* (0.01)
Social media		-0.01 (0.01)	0.01 (0.02)
Misinformation perceptions		0.01* (0.01)	0.04* (0.02)
Misinformation * social media			-0.01 (0.004)
Misinformation * news media use			-0.001 (0.002)
Observations	5497	5494	5494
R ²	0.14	0.15	0.15
Adjusted R ²	-0.26	-0.25	-0.25
F Statistic	207.41*** (df = 3; 3752)	106.64*** (df = 6; 3746)	80.33*** (df = 8; 3744)

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

parallel with the perceived severity of the crisis and the level of personal restrictions. During the height of the crisis, government and citizens formed an “unnatural alliance” – but this alliance is broken when the crisis becomes less severe.

Media use, as measured in this study, only has a limited mobilizing effect on participation, suggesting that following the news was no crucial driver for participation in COVID-19 related activities. This, and the rather high unexplained variance in the models, suggest that other indicators, such as political trust, government satisfaction (Bol et al. 2020), and ultimately having resources to engage personally may have had an influence. The unusual situation, with schools and workplaces closed, and concerns about relatives and friends, may have impeded participation for many, despite them following the news. It is also possible that there was simply very little inter-personal variation in media use, which would impede the detection of individual-level effects.

Despite previous research suggesting a strong relationship between social media use and political participation (see Boulianne 2017), we could not establish it in this study. This is surprising, given that posting online was one of the measured means of participation. The proliferation of social media platforms was described as weakening the relationship where media channels allowed for a distribution of political information that was framed by legacy media to the public that acted on these information sources

(Bennett and Livingston 2018). While this mechanism still seems to function for legacy news media channels, we find that social media usage is unable to foster a prosocial crisis response in the form of citizen participation. Social media were considered the least trusted information source during the pandemic (Nielsen et al. 2020) and it is possible that people consumed more anti-establishment and (alternative) critical coverage on the pandemic via social compared to legacy media, that may have been impeding prosocial behavior.

It is interesting that stronger misinformation beliefs corresponded to more participation but did not attenuate the relationship between media use and participation. One potential explanation is that, the more people cast doubt on the veracity of information about the pandemic, the more they perceive the pandemic as a threat, and are more willing to act upon it. This corresponds with literature arguing that moderate levels of distrust and skepticism (but not cynicism) contribute to a well-functioning democracy (Jackob et al. 2019). The lack of support for the moderating role of misinformation beliefs may be explained by considering misinformation perceptions as a single indicator for the state people perceive a society to be in, rather than something that is related to each and every encounter they have with the media. Hence, misinformation beliefs are not just evaluations of the media's performance or honesty, but rather map people's beliefs of the extent to which they can rely on the authorities in informing them in a truthful way.

Limitations

Our study relies on a four-wave panel survey covering the main period of the COVID-19 outbreak in the Netherlands. While this design gives us unique data about an unprecedented moment in time, it has several limitations. First, given the field time of the first wave and the reference period of the participation question (i.e. three weeks), we cannot make statements about participation levels in the first two weeks after the outbreak. Second, this is a single country study and we therefore cannot speak for the development in other countries. However, other first studies (e.g. Bol et al. 2020; Hameleers, van der Meer, and Brosius 2020) find similarities between political developments in some Western countries during COVID-19, indicating a degree of generalizability. Third, the effects of media use and misinformation on participation are significant, but small in size. One reason for this might be that our design is not able to measure the actual media content people were exposed to. It is possible that the selection of specific news items (e.g. more and less supportive of governmental policies) attenuates the general relationship examined in this study. Future research should link exposure measures with content analysis to better understand what drives political participation (see, for example, Andersen et al. 2021). Lastly, due to a lack of resources, we can only rely on a rough measurement of social media use. Previous research

has found that social media in general, but also during the COVID-19 crisis, is used for different purposes (e.g. Ohme et al. 2020). Our measure cannot account for these differences, and therefore the explanatory power of our findings is limited to a very general measure of social media use.

These limitations notwithstanding, this study provides important insights into participation during crises. Many citizens support governmental decisions with their political participation in early stages of the crisis, before this support fades again. Media were a less important driver of participation. Was distrust towards media information responsible for weak media effects? We find that this was not the case but that living in a perceived 'mis-information ecology' does not necessarily lead to apathy, but is related to prosocial political participation during the COVID-19 crisis.

Disclosure statement

No potential conflict of interest was reported by the authors.

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