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Anti, hostile, and alternative: an exploration of anti-elite attitudes, hostile-media perceptions, and alternative media use in the context of opposition to Covid-19 measures

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ABSTRACT

During the Covid-19 pandemic, significant parts of the population deliberately opposed prevention measures as an expression of protest. In this study, I investigated the role of anti-elite attitudes ('we', the people, vs. 'they', the elite) in the context of opposition behavior, considering anti-elite attitudes towards politics, science, and media. Drawing from social identity theory, I examined how such anti-elite attitudes correlated with hostile media perceptions, alternative media use, and opposition to Covid-19 measures. To this end, I used data of a cross-sectional survey in the German-speaking part of Switzerland ($N = 1011$) in spring 2023. The results suggest that stronger anti-elite attitudes were associated with stronger hostile perceptions of legacy news media, a higher likelihood of consuming alternative news media, and stronger opposition to prevention measures. This study contributes to an understanding of how anti-elite attitudes influence public dissent during crises. The findings emphasize the importance of addressing polarized perceptions to foster collective action in response to global challenges, like pandemics and climate change.

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Although most people complied with the prevention measures during the Covid-19 pandemic – such as social distancing, mask wearing, and getting vaccinated – a significant number of people opposed these measures (e.g., Hannawa & Stojanov, 2022; Reinemann et al., 2022). Qualitative studies on protest movements have found that people who showed measure opposition united through a strong identity as critics of the authorities, such as government, science, and legacy media (Frei et al., 2021). The 'anti' sentiment against the news media also manifested in the claim that the reporting was biased and the turn to alternative news media (Frei et al., 2021).

Compared to the knowledge of measure compliance during the Covid-19 pandemic, we know little about measure opposition – that is, deliberate opposition to the Covid-19 prevention measures as an expression of protest. While protest in itself is an important

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component of democracy, the protests during the Covid-19 pandemic had polarizing and aggressive elements (cf. Post, 2019). This not only impacted the effectiveness of the prevention measures, but also increased polarization in society through a confrontational public discourse (Allcott et al., 2020; Jungkunz, 2021). It is therefore pertinent to understand the phenomenon of measure opposition, especially as humanity is currently facing multiple severe crises that require tremendous collective effort, such as the climate crisis (Homer-Dixon et al., 2022).

The present study aimed to contribute to the understanding of deliberate measure opposition during the Covid-19 pandemic. There have been some qualitative studies on the so-called movement of ‘Querdenker*innen’ in the German-speaking area (Frei et al., 2021) and some quantitative surveys to segment and describe the population in terms of perceptions of the pandemic and Covid-19 prevention measures (Hannawa & Stojanov, 2022; Reinemann et al., 2022). The findings of these studies have highlighted anti-elite attitudes, hostile perceptions of media coverage, and the use of alternative news media in the context of opposition to the measures for preventing the spread of Covid-19. However, the literature is lacking a theoretically informed, quantitative understanding of measure opposition and its correlates.

Starting with the finding that anti-elite attitudes were a defining aspect of opponents’ social identity (Frei et al., 2021), I referred to social identity approaches to collective action (SIMCA; van Zomeren et al., 2008), populism (Schulz et al., 2020), and polarizing responses in mediated conflicts (Post, 2019) and applied them to measure opposition during the Covid-19 pandemic. Informed by these approaches, this study examined the extent to which ‘anti’ attitudes toward elites correlated with perceptions of hostile media (i.e., perceptions that legacy media’s coverage was biased), alternative news media use, and measure opposition during the Covid-19 pandemic. I considered anti-elite attitudes toward politicians (Schulz et al., 2018), scientists (Mede & Schäfer, 2020), and journalists (Fawzi & Krämer, 2021). Therefore, the findings will offer insight into which ‘anti’ attitudes were the most relevant during the Covid-19 pandemic.

The study relied on data from a population-wide survey that I conducted with colleagues in the German-speaking area of Switzerland in spring 2023 ($N = 1011$) on measure opposition during the Covid-19 pandemic. Importantly, this survey was cross-sectional, and thus did not allow for testing causal order between constructs. Having said that, the developed theoretical ideas and respective insights are yet of high relevance as they can help understand the role of legacy and alternative media in a crisis context.

Anti-elite attitudes: a salient part of social identity during the Covid-19 pandemic

Despite some ideological heterogeneity, measure opponents shared a unifying commonality: They united through a strong identity as critics of the established authorities (Frei et al., 2021). Such anti-elitism is one – if not the central – dimension of populism and refers to a perceived antagonism between the people and the elite, with the elite allegedly ignoring the interests and will of the people (Schulz et al., 2018). I note that such anti-sentiments towards the elite have also been examined in the context of ‘anti-establishment orientations’ (Uscinski et al., 2021). I orient here towards the research tradition

of populism as it made important efforts to extend the populism concept beyond the area of politics, that is, to media-related (Fawzi & Krämer, 2021; Krämer, 2018) and science-related populisms (Mede & Schäfer, 2020; Mede et al., 2021).

The extension of the populism concept is important because during the Covid-19 pandemic, an already emerging trend became even clearer: Anti-elitism was not only directed at politicians but also at scientists and the media. This was related to the complexity of this crisis, where the prevention measures required continuous adaptation, scientific knowledge was constantly evolving, and the media reported on the latest political decisions and scientific recommendations. Of course, these anti-elite attitudes had certain overlaps owing to the perceived antagonism between the people and the elite as well as the perception that politicians, scientists, and journalists were conspiring agents. Nevertheless, it is important to distinguish between these anti-elite attitudes to address the complexity of the Covid-19 pandemic and to learn which of them was most prevalent during the crisis and decisive for measure opposition.

From a social identity perspective (Tajfel & Turner, 1979; Turner et al., 1987), anti-elitism offers clear categories of the society along which self-categorization can unfold (Schulz et al., 2020, p. 205). This perspective encompasses social identity (Tajfel & Turner, 1979) and self-categorization theories (Turner et al., 1987) and bases its argument on the human need for a positive social identity. The social identity is part of the self-concept and derives from the knowledge ‘of the membership of a social group together with the value and emotional significance attached to that membership’ (Tajfel, 1978, p. 63). The process of self-categorization is key to the social identity: People categorize themselves as being part of a social group and see themselves less as unique individuals (‘I’) and more as members of this social group (‘we’). They accentuate positive aspects of the ingroup (ingroup favoritism) and negative aspects of the outgroup (outgroup derogation, Turner et al., 1979).

Following this perspective, anti-elite attitudes represent a cognitive categorization of the society into two groups – namely, the people and the elite (Schulz et al., 2020). People with anti-elite attitudes self-categorize as being part of the people (‘we’); as part of ingroup favoritism, they perceive this ingroup as pure. On the contrary, they perceive the elite (‘they’), the outgroup, as immoral (outgroup derogation). During the Covid-19 crisis, this self-categorization was likely a salient part of the self-concept because the introduction of prevention measures highlighted the existence of authorities who make decisions that the people must follow. In what follows, I will theorize on anti-elite attitudes toward politicians, scientist, and journalists related to perceptions of hostile media, alternative news media use, and measure opposition during the Covid-19 pandemic.

Perceptions of hostile media: perceptions of bias as part of social identity

Perceptions of hostile media refer to the judgment that the news media’s coverage is biased against one’s own views (Vallone et al., 1985). The social identity perspective suggests that perceptions of hostile media coverage during the Covid-19 pandemic were due to group psychological mechanisms related to self-categorization (Schulz et al., 2020). Individuals who self-categorize as members of the people (as opposed to politicians, scientists, and journalists) would likely categorize legacy news media as an

outgroup. They understand the legacy media as being part of the elite to the extent that they blame them for biased coverage in favor of the elite (Schulz et al., 2020). This might be particularly true for anti-journalist attitudes as these explicitly include perceived opposition between the people and the media, but it might also apply to anti-politician and anti-scientist attitudes as they make ingroup membership (the people) salient as well. Research has shown that self-categorization can explain perceptions of hostile media: People with a salient group identity tend to perceive media coverage that addresses issues of personal importance as hostile (Hartmann & Tanis, 2013; Reid, 2012). More specifically, Schulz et al.'s (2020) results revealed a link between populist attitudes (of which anti-elite attitudes are a part) and perceptions of hostile media, that is, the stronger the populist attitudes are, the stronger the perception that media coverage is biased against one's own views is. Therefore, applied to the present study, I hypothesized that the stronger anti-elite attitudes were toward politicians, scientists, and journalists, the stronger the perception would be that the media coverage about the Covid-19 pandemic and related measures was biased against one's own views.

H1: Anti-elite attitudes toward politicians, scientists, and journalists positively correlate with hostile media perceptions.

Alternative news media: selective media use as part of social identity

Self-categorization can also be applied to theorize on selective news media use during the Covid-19 pandemic. With legacy media – also referred to as mainstream media by populists – being regarded as part of the detached elite, people holding anti-elite attitudes would likely prefer other media outlets. Alternative news media ‘position themselves as correctives of the mainstream news media’ (Holt et al., 2019, p. 862) and as a counterweight to the political system (Holt, 2018). The anti-establishment sentiment has been only recently discussed in research as central defining element of alternative media (de León et al., 2024). During the Covid-19 pandemic, this anti-establishment was crucial in the self-conception of alternative media, which aimed to provide alternative information and views on the government-implemented prevention measures and the scientific evidence behind these measures (Boberg et al., 2020; Schug et al., 2023). Following the social identity approach – which previous scholars had already adapted to selective media exposure (e.g., Knobloch-Westerwick, 2015) – people with anti-elite attitudes were likely to select alternative news media because the coverage resonated well with their anti-elite attitudes and thus helped them manage and regulate their self-concept. Corroborating this notion, a survey that Müller and Schulz (2021) conducted among German Internet users before the Covid-19 pandemic found that populist attitudes positively correlated with frequent alternative news media use. Moreover, based on a study in Germany and Switzerland in the context of the Covid-19 pandemic, de León et al. (2024) found that distrust of government is linked with use of alternative media. In the German-speaking area, some of the most popular alternative media comprise right-wing (e.g., *COMPACT Magazin*) and conspiracy/esoteric outlets (e.g., *Kla.TV*, *Bittel TV*), as well as German versions of Russia- and US-based outlets, such as *RT deutsch*, *Sputniknews* or *Epoch Times* (Müller & Schulz, 2021; Vogler et al., 2024). Against this background,

I expected to identify positive correlations between the use of such media outlets and anti-elite attitudes.

H2: Anti-elite attitudes toward politicians, scientists, and journalists positively correlate with alternative news media use.

Opposition: defensive, corrective, and mobilized behavior as part of social identity

Anti-elite attitudes and opposition

Opposition to prevention measures encompassed deliberate noncompliance, criticism of the measures in conversations and on social media, and/or street protests against them. Social identity theory (Tajfel & Turner, 1979) and specifically its application to collective action in the SIMCA model (van Zomeren et al., 2008) suggest that people attempt to defend the value of their ingroup in the face of an identity threat. Here, the term threat describes the negative status of social identity compared to the outgroup (Tajfel & Turner, 1979). The need for a positive social identity motivates group members to become active to overcome the negative status of their social identity and restore the ingroup's positive image (Branscomne et al., 2000). Thus, in this specific context, collective action refers to the expression of protest and is defined as 'the protest intentions or behaviors of members of a social group that are directed at removing the perceived underlying causes of the group's disadvantage or problem' (van Zomeren et al., 2008, p. 512). In the case of the Covid-19 pandemic, the need to comply with prevention measures that the authorities, the outgroup, introduced meant that people with strong anti-elite attitudes likely perceived the need of compliance as a threat to their social identity. Populism research has defined the belief in unrestricted popular sovereignty, which accords power to the people, as part of populism and thus as a correlate of anti-elite attitudes (Schulz et al., 2018). Therefore, people with anti-elite attitudes might have refused to comply with the measures as a defense strategy and to restore their sovereignty. In addition, people who perceived a threat to their identity might have engaged in extensive outgroup derogation (Branscomne et al., 2000) and criticized the measures in conversations and on social media, and/or protested them in the streets to defend their positive image in public. Specifically, surveys in the US found that an anti-establishment orientation (Uscinski et al., 2021) is correlated positively with arguing online. Thus, I assumed that the stronger the anti-elite attitudes, the stronger the opposition to the prevention measures, encompassing deliberate noncompliance, criticism of the measures in conversations and on social media, and/or street protests against them.

H3: Anti-elite attitudes toward politicians, scientists, and journalists positively correlate with measure opposition during the Covid-19 pandemic.

Hostile media perceptions and opposition

In addition to this direct association between anti-elitism and measure opposition, perceptions of hostile media might add to the understanding of measure opposition. According to the model of polarizing responses in mediated conflicts (Post, 2019), perceptions of hostile media coverage can explain intentions to participate in the public

discourse and to become politically active. Such behavior can be understood as corrective behavior intended to correct perceived errors in media coverage and their potential negative effects on others (Rojas, 2010). Specifically, the model of polarizing responses in mediated conflicts (Post, 2019) suggests that perceptions that others are influenced by biased media coverage as well as anger and indignation are reasons to become active. Following this perspective, the prevention measures received criticism in conversations and on social media and were the subject of street protests to counteract presumed influences of one-sided media coverage on others and because people took offense to the media coverage and reacted with anger and indignation. These reflections suggest that the stronger the perceptions of hostile media, the stronger the opposition to the prevention measures.

H4: Hostile media perceptions positively correlate with measure opposition during the Covid-19 pandemic.

Alternative media use and opposition

Besides hostile media perceptions, alternative media likely played a role in measure opposition. Previous research has suggested the existence of a mobilizing mechanism of media by reinforcement (Boyle & Schmierbach, 2009). This mechanism, identified by previous communication research on protests (Boyle & Schmierbach, 2009), can be understood as a reinforcement of social identity by the media. Comparably, Hameleers et al. (2019) propose – based on the SIMCA (van Zomeren et al., 2008) – that populism communication (i.e., the ‘we’ vs. ‘they’ narrative) lead to collective actions, including online and offline discussion as well as taking part in demonstration. According to research, alternative media are guided by this anti-establishment orientation (de León et al., 2024; Mayerhöffer, 2021), and provided views on the pandemic and related measures that corroborated the populism narrative (Boberg et al., 2020). I can therefore assume that alternative news reinforced the social categorization into ‘we’ and ‘they’ and thereby strengthened people’s self-esteem and mobilizing them to show measure opposition. I thus suggested that there is a positive correlation between alternative media use and measure opposition.

H5: Alternative media use positively correlates with measure opposition during the Covid-19 pandemic.

Research shows that there is also some heterogeneity among alternative media users in terms of their disapprove of the Covid-19 measures (de León et al., 2024; Reinemann et al., 2022). It may therefore not be the alternative media use per se that is correlated with measure opposition, but rather the interaction with further identity threatening perceptions and beliefs. Specifically, I assume that the mobilizing effect of alternative news media use was particularly true for people who perceived the legacy media to be hostile. The perception that the views of one’s own group are not well-represented could reinforce the mobilizing effect of using alternative news media and lead to stronger opposition to correct what one sees as potential biases in the public debate. Thus, I formulated the following interaction hypothesis.

H6: Alternative media use and hostile media perception interact in their correlation with measure opposition during the Covid-19 pandemic.

Method

Sample

To test the hypotheses, this study leveraged data from an online survey in the German-speaking part of Switzerland. The study was part of a larger project that was funded by the Swiss National Science Foundation [project no.: 198299] and the Federal Office of Public Health. The ethics committee of the Faculty of Arts and Social Sciences of the University of Zurich approved the survey [no. 23.04.13]. For the data collection, we, the project team, contracted the social and market research company YouGov, which is committed to the ethics and guidance code of the European Society for Opinion and Marketing Research. The data collection occurred from 9 to 17 May 2023. Members of the Internet panel of YouGov received an email invitation to complete the survey in exchange for a compensation of 50 credits, which they could exchange for vouchers (e.g., supermarket vouchers) or a cash transfer or could donate to charities. Before starting the survey, participants needed to provide informed consent. The consent form included information about the project leaders, a note on the voluntary nature of participation, specification of data protection, and contact information. On average, participants needed 19 min to answer the survey questions.

We set quotas for age and gender to ensure a diverse sample. More specifically, the sample was cross-stratified for age and gender, meaning that the proportions of groups defined across both variables were based on data from the Federal Statistical Office. The final sample included 1011 participants ranging from 16 to 79 years of age ($M = 47.37$, $SD = 17.21$), and half the sample was female (49%). The sample included people with varying education levels: 34% were higher-educated (university or university of applied sciences), 25% medium-educated (diploma school or technical school), and 41% lower-educated (vocational training or less). The distribution of sociodemographic characteristics closely follows the distribution in the German-speaking Swiss population, according to the Federal Statistical Office.

Measures

The data was collected in spring 2023, one year after the Covid-19 phase with measures relevant to everyday life. Thus, the survey questions were retrospective and introduced as follows: ‘Please think back to the coronavirus pandemic, that is, roughly the period from March 2020 to March 2022.’

Measure opposition

We measured opposition to Covid-19 measures in accordance with the idea of collective action in the SIMCA (Hameleers et al., 2019; van Zomeren et al., 2008) using three items: ‘I deliberately did not comply with the corona measures’ ($M = 1.39$, $SD = 0.88$), ‘I have criticized the corona measures in conversations or on social media’ ($M = 1.93$, $SD = 1.22$), and ‘I took to the streets and protested against the corona measures’ ($M = 1.17$, $SD = .36$). Participants provided their answers on a scale of 1 (*does not apply at all*) to 5 (*fully applies*). The items showed internal consistency (Cronbach’s $\alpha = .71$) and were combined into a mean index ($M = 1.50$, $SD = 0.75$).

Anti-elite attitudes

To measure and compare anti-elite attitudes toward politicians, scientists, and journalists, we consolidated the most recent populism scales – that is, Schulz et al.’s (2018) populist attitudes scale (see also Reinemann et al., 2022), Mede et al.’s (2021) SciPop scale for measuring science-related populism, and Fawzi and Krämer’s (2021) scale for antimedia populism. Across these scales, we identified three items of the anti-elitism dimension that applied well to politics, science, and media. These items address perceptions of the elites being out of touch with ordinary people, actions of the elites that harm the interests of ordinary people, and a large gap between ordinary people and the elites. Table 1 reports the specific wordings of these items, as well as the means and standard deviations, Cronbach’s alphas, and the correlations. Anti-elite attitudes toward politicians, scientists, and the media correlated moderately with each other.

Hostile media perceptions

We measured perceptions of hostile media using four items on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). We derived the items from Matthes (2011) and applied them to the Covid-19 measures as follows: ‘There were hardly any media reports that wrote exactly what I think about the corona measures’ ($M = 2.66$, $SD = 1.23$), ‘Most news media reported more about the views of others rather than my view’ ($M = 2.67$, $SD = 1.18$), ‘I found media coverage about the corona measures biased’ ($M = 2.67$, $SD = 1.27$), and ‘The news media did not cover all relevant facts’ ($M = 3.07$, $SD = 1.22$). The four items were consistent (Cronbach’s $\alpha = .88$) and combined into a mean index ($M = 2.77$, $SD = 1.05$).

Alternative news media use

To measure alternative news media use, we considered the measurements and results of the most recent studies on alternative news use in Germany (Müller & Schulz, 2021) and Switzerland (Vogler et al., 2024). Specifically, we relied on the previous work by Müller and Schultz (2021) that used the outlet’s self-descriptions to identify a first set of outlets and then a survey to determine the best-known in Germany. We combined these results with the one of Vogler et al. (2024) to define a set of 11 alternative news media that was

Table 1. Means, standard deviations, and reliability of anti-elite attitudes.

Anti-Politician Attitudes	<i>M</i> (SD)	Anti-Scientist Attitudes	<i>M</i> (SD)	Anti-Journalist Attitudes	<i>M</i> (SD)
Politicians very quickly lose touch with ordinary people.	3.36 (1.13)	Scientists very quickly lose touch with ordinary people.	2.92 (1.18)	Journalists very quickly lose contact with their readership.	2.69 (1.08)
Politicians make decisions that harm the interests of ordinary people.	2.72 (1.16)	Scientists make recommendations that harm the interests of ordinary people.	2.17 (1.11)	Journalists report in a way that harms the interests of ordinary people.	2.59 (1.16)
There is a large gap between ordinary people and politicians.	3.33 (1.10)	There is a large gap between ordinary people and scientists.	3.14 (1.11)	There is a large gap between ordinary people and journalists.	2.76 (1.11)
	3.14 (0.97)		2.84 (0.81)		2.78 (0.87)
Cronbach’s alpha	.84		.76		.85

Note. $N = 1011$, scale: 1 = do not agree at all, 5 = fully agree.

found to be the most popular alternative media outlets in the German-speaking area: *Bit-tel TV*, *Breitbart*, *COMPACT Magazin*, *Epoch Times*, *Kla.TV*, *Legitim.ch*, *RT Deutsch*, *Schweizer Morgenpost*, *Sputniknews*, *Tichys Einblick*, and *Uncut-News*. For each alternative news outlet, respondents assessed how often they visited it to stay informed about the pandemic on a scale of 1 (*never*) to 5 (*very often*) and 99 (*don't know*). Corroborating previous studies, the index across all outlets indicated rare usage of alternative news media in the overall sample ($M = 1.07$, $SD = .29$). Therefore, following Vogler et al. (2024) and Müller and Schulz (2021), alternative news media use was transformed into a binary variable, with 1 representing the use of at least one outlet at least *occasionally* (> 2 on the 5-point scale) and 0 indicating no use or knowledge of any outlet. Within the sample, 100 participants were alternative news media users (9.9%).

Covariates

We measured the use of public and private broadcast media to stay informed about the Covid-19 pandemic with two items each (i.e., use of public TV and public radio, use of private TV and private radio) on a 5-point frequency scale of 1 (*never*) to 5 (*very often*). We calculated mean indices for the use of public broadcast news ($M = 3.37$, $SD = 1.19$) and private broadcast news ($M = 2.06$, $SD = 1.01$). We also asked participants to indicate their use of print news media ($M = 3.08$, $SD = 1.49$) and tabloid press ($M = 2.61$, $SD = 1.38$) on the same frequency scale.

We included gender, coded as 1 = female (49.4%) and 0 = male and diverse, age measured as a continuous variable ($M = 47.34$, $SD = 17.21$), and education as a binary variable coded as 1 = higher education degree (58%) and 0 = below. To assess political attitude, we used a 7-point scale from 1 (*very left*) to 7 (*very right*; $M = 4.11$; $SD = 1.28$).

Analysis

To test the hypotheses and examine multivariate correlations between anti-elite attitudes, perceptions of hostile media, alternative media use, and measure opposition, I used a multi-step regression approach. First, I ran regressions for H1 and H2 to examine how anti-elite attitudes toward politicians, scientists, and journalists correlated with perceptions of hostile media (H1) and alternative media use (H2). I conducted the latter as a logistic regression because alternative media use was a binary variable. In the second step, I performed a blockwise regression to examine how anti-elite attitudes (H3), hostile media perceptions (H4), and alternative media use (H5) correlated with measure opposition. In the first block, I entered anti-elite attitudes; in the second block, I added perceptions of hostile media and alternative media use; and finally, in the third block, I added the interaction term between alternative media use and perceptions of hostile media (H6). I included age, gender, education, political attitudes, and legacy media use in each regression as controls.

Results

As Table 1 shows, the descriptive statistics indicated that anti-elite attitudes toward politicians, scientists, and journalists were on a comparable and moderate level (around the

Table 2. Zero-order correlations.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
(1) Measure opposition	1												
(2) Age	-.18***	1											
(3) Gender (female)	-.11***	-.02	1										
(4) Education (high)	-.11***	-.12***	-.06*	1									
(5) Political attitude (right)	.22***	.03	-.22***	-.14***	1								
(6) Public broadcast media	-.22***	.29***	.02	.06	-.12***	1							
(7) Private broadcast media	.08*	.00	-.06	-.13***	.17***	.19***	1						
(8) Print media	-.10**	.28***	-.02	.09**	-.11***	.38***	.10**	1					
(9) Tabloid media	.03	-.07*	-.01	-.08**	.10***	.13***	.38***	.09**	1				
(10) Anti-politician	.30***	.04	-.10*	-.07*	.17***	-.14***	.06	-.12***	.08*	1			
(11) Anti-scientist	.33***	.06	-.13***	-.14***	.26***	-.21***	.05	-.15***	0	.51***	1		
(12) Anti-journalist	.37***	.06	-.05	-.13***	.25***	-.13***	.02	-.12***	.04	.57***	.53***	1	
(13) Alternative news media use	.31***	-.04	-.02	-.10**	.08*	-.01	.17***	.01	.12***	.17***	.14***	.17***	1
(14) Hostile media perceptions	.51***	-.09***	-.09**	-.10**	.29***	-.29***	.04	-.19***	.00	.47***	.54***	.50***	.23***

Note. $N = 1004-1011$, $p < .001^{***}$, $p < .01^{**}$, $p < .05^{*}$.

Table 3. Regressions for hostile media perceptions and alternative news media use.

	Hostile Media Perceptions Adjusted $R^2 = .41$				Alternative News Media Use Adjusted $R^2 = .15$			
	<i>beta</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>z</i>	<i>p</i>
<i>Sociodemographics</i>								
Age	-.10	.03	-3.57	<.01	-.01	.01	-1.56	.12
Gender (female)	.01	.05	-0.04	.88	.04	.23	0.19	.85
Education (high)	-.01	.05	-0.18	.85	-.44	.23	1.93	.05
Political attitude (right)	.12	.03	4.60	<.01	.01	.10	0.14	.89
<i>News media use</i>								
Public broadcast media	-.13	.03	-4.55	<.01	-.01	.11	-0.10	.92
Private broadcast media	.03	.03	1.09	.28	.37	.11	3.51	<.01
Print media	-.02	.03	-0.68	.50	.07	.08	0.85	.39
Tabloid media	-.04	.03	-1.39	.16	.11	.09	1.31	.19
<i>Anti-elite attitudes</i>								
Anti-politician	.16	.03	5.21	<.01	.32	.15	2.11	.03
Anti-scientist	.21	.03	6.62	<.01	.41	.18	2.31	.02
Anti-journalist	.29	.03	9.41	<.01	.15	.16	.92	.36

Note. $N = 1004$ (listwise deletion); ordinary least squares regression for perceptions of hostile media; logistic regression for alternative news media use; *beta* = standardized regression coefficient; *b* = unstandardized regression coefficient.

midpoint of the scales) and moderately correlated with each other as Pearson's r ranged between .51 and .57 (see Table 2).

Table 3 displays the extent to which these anti-elite attitudes correlated with perceptions of hostile media and alternative media use. Specifically, regarding H1 about hostile media perceptions, anti-elite attitudes were significant correlates (Table 2). In addition to sociodemographics and news media use, anti-elite attitudes explained 26% of the variance of hostile media perceptions ($\Delta R^2 = .26$). Anti-journalist attitudes appeared to be the strongest correlate of these perceptions, as the standardized coefficients indicated. Thus, these results corroborated H1. Concerning the controls, it is notable that younger people and people with right-wing political attitudes perceived legacy media to be more hostile. Furthermore, the more frequent the use of public media was, the lower the perceptions of hostile media were.

Concerning H2 about alternative news media use, anti-politician and anti-scientist attitudes correlated with alternative media use (Table 3). There was no association between 'anti' sentiment toward journalists and alternative news media use. Thus, there was support for H2 only concerning anti-politician and anti-scientist attitudes. Regarding the controls, lower education and the consumption of private broadcast media notably correlated with alternative news media use.

Turning to measure opposition, as Table 4 reveals, anti-elite attitudes toward politicians, scientists, and journalists correlated with measure opposition (first column), confirming H3. Hostile media perceptions and alternative media use explained 11% of the variance of measure opposition in addition to anti-elite attitudes ($\Delta R^2 = .11$), confirming H4 and H5 (second column). Lastly, there was an interaction between alternative media use and perceptions of hostile media in their correlation with measure opposition (third column). Figure 1 shows that when perceptions of hostile media were at a relatively low level (hostile media perceptions = -1 SD), alternative media use did not correlate with measure opposition ($beta = -.06$, $p = .23$); however, when hostile perceptions of legacy media were at higher levels, there were positive correlations between alternative news media use and measure opposition, and the higher the level, the stronger the

Table 4. Regressions for measure opposition.

	Measure Opposition, Block I Adjusted $R^2 = .24$				Measure Opposition, Block II Adjusted $R^2 = .35$				Measure Opposition, Block III Adjusted $R^2 = .36$			
	beta	SE	t	p	beta	SE	t	p	beta	SE	t	p
<i>Sociodemographics</i>												
Age	-.20	.03	-6.58	<.01	-.16	.03	-5.55	<.01	-.15	.03	-5.34	<.01
Gender (female)	-.06	.03	-2.16	.03	-.06	.03	-2.42	.02	-.06	.03	-2.21	.03
Education (high)	-.06	.03	-2.12	.03	-.05	.03	-1.77	.08	-.05	.03	-1.99	.05
Political attitude (right)	.09	.03	2.94	.00	.05	.03	1.68	.09	.04	.03	1.46	.15
<i>News media use</i>												
Public broadcast media	-.10	.03	-3.24	<.01	-.06	.03	-2.04	.04	-.06	.03	-2.05	.04
Private broadcast media	.06	.03	1.86	.06	.02	.03	0.82	.41	.03	.03	1.13	.26
Print media	.06	.03	2.08	.04	.06	.03	2.19	.03	.06	.03	2.05	.04
Tabloid media	-.03	.03	-1.12	.26	-.03	.03	-1.06	.29	-.03	.03	-0.91	.36
<i>Anti-elite attitudes</i>												
Anti-politician	.08	.04	2.22	.03	.01	.03	0.29	.77	.01	.03	.19	.85
Anti-scientist	.24	.04	6.63	<.01	.15	.03	4.43	<.01	.15	.03	4.49	<.01
Anti-journalist	.12	.04	3.55	<.01	.02	.03	0.60	.55	.03	.03	.84	.40
<i>Hostile media perceptions and alternative news media use</i>												
Hostile media perceptions					.34	.03	9.84	<.01	.34	.03	10.15	<.01
Alternative news media use					.18	.03	6.71	<.01	.08	.03	2.60	.01
Alternative * Hostile									.15	.03	5.24	<.01

Note. $N = 1004$ (listwise deletion); ordinary least squares regressions; beta = standardized regression coefficient.

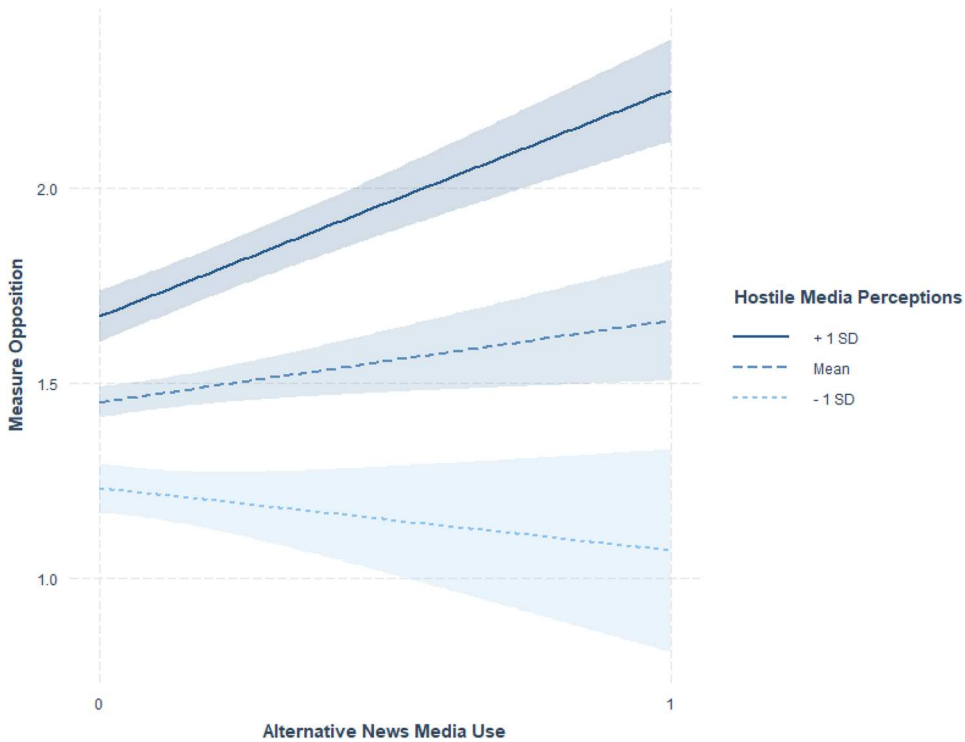


Figure 1. Interaction between alternative news media use and hostile media perceptions in their correlation with opposition behavior.

Note. Slope of alternative news media use when (a) hostile media perceptions = -1 SD = 1.72: β (SE) = $-.06$ (.05), $p = .23$; (b) hostile media perceptions = M = 2.76: β (SE) = $.08$ (.03), $p = .01$; (c) hostile media perceptions = 1 SD = 3.81: β (SE) = $.23$ (.03), $p \leq .01$.

correlation (hostile media perceptions = M : $\beta = .08$, $p = .01$; hostile media perception = $+1\text{ SD}$: $\beta = .23$, $p \leq .01$). It is notable that among the anti-elite attitudes, those toward scientists remained the only significant correlate of measure opposition when adding perceptions of hostile media and alternative media use to the model. Regarding controls, younger and male participants showed higher levels of measure opposition.

Discussion

In this study, I examined opposition to Covid-19 measures from a social identity perspective. Starting with the finding that anti-elite attitudes played a significant role during the pandemic, I investigated the extent to which such attitudes correlated with perceptions of hostile media, alternative news media use, and, ultimately, measure opposition. Despite its cross-sectional character, the present results are of high relevance, especially given the lack of research on measure opposition and its societal relevance. Overall, they indicate that anti-elitism was a central component of measure opposition during the Covid-19 pandemic. This relates to perceptions that media coverage of the measures and the pandemic was biased against one's own views, the choice to use alternative news media, and, ultimately, opposition against the measures. In addition, the results suggest that

perceptions of hostile media and alternative news media use add to the understanding of measure opposition. In the following, I will discuss the results in detail, highlighting differences between ‘anti’ attitudes toward politicians, scientists, and journalists.

First, anti-elite attitudes are associated with perceptions of hostile media to a significant extent. This is in line with previous research on the association between populism and hostile media perceptions (Schulz et al., 2020). While this research focused on ‘anti’ attitudes toward politicians, the results reveal that anti-scientist and anti-journalist attitudes were also significant correlates of the perception that media coverage of the Covid-19 pandemic was hostile toward one’s own views. While this is self-evident for anti-journalist attitudes, anti-scientist attitudes require further discussion. This result underlines the notion of the central intermediating role of the media in times of crisis. People not only learn about politics but also about science from media coverage, and science played a crucial role during the Covid-19 pandemic in enabling discussions about the evidence regarding the coronavirus itself but also regarding the measures to prevent its spread.

Second, regarding alternative news media use, it is notable that it was not anti-journalist attitudes but anti-politician and anti-scientist attitudes that were significant correlates. This is in line with previous studies on populism as a factor in the use of alternative news media (Müller & Schulz, 2021). It indicates that alternative media outlets resonate well with anti-elite attitudes and provide access to alternative political and scientific views (de León et al., 2024; Mayerhöffer, 2021). Indeed, research on alternative media coverage during the Covid-19 pandemic has shown that while alternative news media reported on science, the lines of argumentation mostly followed ideologies and political agendas against Covid-19 policies (Schug et al., 2023).

Third, the anti-scientist attitude remained the only direct predictor beyond perceptions of hostile media and alternative media use. This points to the central role of science-related populism in today’s society (Mede & Schäfer, 2020) and the importance of good science communication to counter ‘anti’ sentiment to prevent opposition to crisis measures. In addition to anti-elite sentiment, there was a significant association between the perception that the media coverage was biased against one’s own views and measure opposition. This is in line with the model of polarizing responses in mediated conflicts (Post, 2019) and suggests that people use opposition behavior as a measure to correct a biased public discourse and to make views visible that does not find a place in legacy news media.

Theoretical implications

The social identity approach was of great value in the analysis of anti-elite attitudes and measure opposition. Building on existing applications of this approach to populism (Schulz et al., 2020), collective action (van Zomeren et al., 2008), and polarized conflicts (Post, 2019), the findings highlight that this approach resonates well with the underlying social categorization of anti-elitism (‘we’ vs. ‘they’) and helps in theorizing on the possible consequences of this worldview. As simple as it seems, from this perspective, legacy media belonged to an outgroup, and people consequently perceived the legacy media news coverage as hostile, while they perceived alternative news media as part of the ingroup and therefore turned to these outlets to stay informed about crisis developments

and respective measures. Further, measure opposition can be regarded as a defensive behavior in response to the social identity threat due to the outgroup's introduction of measures and as a corrective behavior aimed at balancing the biased public discourse about these measures. In this context, alternative news media seemed to play a mobilizing role because of their identity-enforcing populist narrative.

Because of the cross-sectional data structure, the results should not be interpreted in causal terms. However, there is solid theoretical evidence supporting the assumption that anti-elitism is the underlying social categorization that motivates measure opposition directly (i.e., SIMCA, van Zomeren et al., 2008) but also indirectly through perceptions of hostile legacy media and use of alternative news media that follow a populist narrative (Hameleers et al., 2019; Post, 2019; Schulz et al., 2020). Specifically, the SIMCA (van Zomeren et al., 2008) suggests that social identity concerns, that is, anti-elite attitudes in the present case, drive measure opposition; and the model of polarizing responses in mediated conflicts (Post, 2019) provides theoretical explications of how media use and hostile media perception relate to measure opposition (see Hameleers et al., 2019 as well). Most of this work is theoretical or cross-sectional and thereby does not provide *empirical* evidence for causality. It is notable, however, that in the tradition of the SIMCA, empirical tests of (reversed) causality were conducted in a meta-analytical approach (van Zomeren et al., 2008). This research shows that there were no significant differences in effect sizes in cross-sectional and longitudinal or experimental studies, suggesting that even 'if reverse causality can, in some cases, be a significant occurrence, the magnitude of these reverse effects is not such that they would entirely invalidate causal inferences drawn from the observations of cross-sectional data' (van Zomeren et al., 2008, p. 516). Nevertheless, future studies will need to substantiate the causal order for all proposed relationships between anti-elite attitudes, hostile media perceptions, alternative media use, and measure opposition.

Beside identity, the SIMCA (van Zomeren et al., 2008) refers to further factors that may motivate collective action, that is, efficacy and injustice. While I focused on the identity path, the findings suggest that engaging with the other SIMCA factors and paths in future studies might be promising. Specifically, the result that hostile media perceptions (i.e., the perception that the media reporting was biased against own views) were an important correlate of the anti-elite attitudes as identity-defining factor points to the idea that injustice (i.e., perceptions and feelings of relative deprivation; van Zomeren et al., 2008), plays an important role in this context.

Although I tested hypotheses concerning the relationship between anti-elite attitudes and measure opposition in the context of the Covid-19 pandemic, they are likely transferable to other crises as well, such as the climate crisis. In the climate crisis context, there are people who deliberately do not follow any measures, criticize them in conversations and on social media, and protest them in the streets. Studies in the political science field have already established an association between populism and measure opposition (Meijers et al., 2023). The propositions here can help in understanding the role of media and communication from a social identity theory perspective and specifically point to the significant role of perceptions of legacy media and the turn to alternative media in this context.

Practical implications

Considering these theoretical and empirical findings, the goal should be to increase compliance with crisis mitigation measures and to counter polarization in society. Social identity theory and the understanding of the role of media and communication is helpful to derive corresponding practical implications. Given that anti-elite attitudes are an identity-giving force in contemporary society and that sovereignty is a central value to people with populist attitudes (Schulz et al., 2018), communication strategies and measures should start here. In other words, the framing of crisis measures, and their introduction must be less of a top-down process that the elite dominate and more of a bottom-up initiative that requires community effort and collective action. This frame must guide political communication in times of crisis but also science communication in particular given the notable finding of the direct role of anti-scientist attitudes in measure opposition.

Furthermore, considering the role of news media as well as perceptions of hostile media in this context, it seems that legacy news media coverage can make a difference. In their coverage, media outlets should strive to overcome any categorization of society and stereotyping of measure opponents and be as inclusive as possible. Of course, this is challenging as the media should avoid giving a disproportionate voice to opponents and thereby challenging the scientific consensus (Brüggemann & Engesser, 2017); at the same time, it is important that the audience (with its heterogeneity) finds itself represented in the public discourse to avoid a turn to alternative media. Brüggemann and Engesser's (2017) findings on climate reporting corroborate this; they suggest that media reporting must take the focus from the clash between opponents and instead pay more attention to the understanding of complex issues, like climate change and climate politics.

Limitations

The most important limitation of this study is that the survey was cross-sectional. Therefore, I cannot make statements about causal relationships between constructs. Future research will have to follow up on the presented ideas with longitudinal or experimental designs to substantiate the causalities between anti-elite attitudes, hostile media perceptions, alternative measure media, and measure opposition, for instance in the context of the climate crisis.

Second, social identity was proposed to be the underlying theoretical explanation, but some mechanisms were not directly measured. Future research should include a more explicit measurement of the social identity as being part of the people (e.g., 'I see myself as part of the people'; van Zomeren et al., 2008) and include empirical information about the content of alternative media, for instance, in terms of the prevalence of the populist narrative (Hameleers et al., 2019). Together with the longitudinal design, the combination of survey and content data would allow testing media effects on media perceptions and measure opposition.

Third, the data was collected in spring 2023, one year after the Covid-19 phase with measures relevant to everyday life. This means that data collection was retrospective, and participants had to look back to answer the questions about measure opposition, hostile media perceptions, and (alternative) media use. However, given that the

pandemic was a unique turning point and all dimensions refer to deliberate, well-reflected perceptions, attitudes and behaviors, I expect the self-reports to be reliable and to provide solid insights into a still under-researched phenomenon.

Fourth, only 10% of the sample were alternative media users which is in line with previous survey studies (e.g., Vogler et al., 2024) but has reduced the statistical power to detect effects related to this variable. Moreover, the group of alternative media users might also be more sensitive to outliers. Future studies that focus on alternative news media use might consider boosting the sample of alternative news media users to overcome the problem of imbalanced data and increase power.

Fifth, the sampling procedure that I employed affects the generalizability of the study's findings. I collected the data through an online panel in the German-speaking part of Switzerland, which is not representative of the overall population. How these results translate to countries and media environments across the world is thereby a question to be addressed in future studies. Research conducted in the Covid-19 context indicates that success in crisis management and compliance with crisis measures was contingent on media systems (e.g., authoritarian vs. democratic media system) and cultural values (e.g., collectivism vs. individualism; Geber & Ho, 2023; Gelfand et al., 2021). Future research might conduct cross-national comparisons between countries with different media systems to understand how these structures affect the interplay of social identity, media perceptions, and measure opposition.

Conclusion

This study revealed that individuals with strong anti-elite attitudes were more likely to perceive mainstream media as biased, turn to alternative news media, and demonstrate measure opposition. The findings highlight the significant destructive role of a populist narrative dividing 'the people' from 'the elite' and impacting perceptions and behaviors during the pandemic. Addressing these polarized perceptions is crucial for fostering societal unity in response to global challenges. Overall, this research contributes to the understanding of deliberate measure opposition, offering theoretical and empirical insights into the interplay between social identity, media perceptions, and behavior during crises. Future studies should examine causal relationships, for instance, in the context of the climate crisis.

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Data availability statement

Selected and fully anonymized data for this study can be requested from the author.

Ethical approval and informed consent statement

The ethics committee of the Faculty of Arts and Social Sciences of the University of Zurich approved the survey [no.: 23.04.13]. Participants of the survey provided written informed consent.

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