Authoritarianism and perceived threat from the novel coronavirus

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The threat of COVID-19 has triggered nationalism, prejudice and support for anti-democratic political systems around the world. Authoritarianism—an individual's orientation toward social conformity and individual autonomy—shapes interpretations of and responses to threat. We drew on theories of authoritarianism and threat to propose that authoritarians and libertarians will interpret the threat of COVID-19 in distinct ways. An online survey of 368 Scottish nationals was administered via the Prolific platform. Original measures of realistic and symbolic threat from COVID-19 were included, along with an established measure of the authoritarian predisposition. Linear regression analyses showed that COVID-19 was perceived primarily as a realistic threat to physical and material well-being; however, authoritarians were more likely than others to interpret the novel coronavirus as a symbolic threat to their prevailing values. Our findings contribute to understanding the psychology of pandemic-era attitudes and behaviours and provide insight into possible political consequences of the coronavirus threat. The results also demonstrate how considering authoritarians' subjective construal of threats can resolve questions in the authoritarianism and threat literature and advance theory.

Keywords: Authoritarianism; Values; Threat; Coronavirus; Pandemic.

Research on the psychological foundations of political preferences seeks to identify the processes by which individuals translate their psychological inclinations into political attitudes, beliefs and action. Central to this literature is the psychological concept of authoritarianism—an individual's orientation toward social conformity and individual autonomy (Adorno et al., 1950; Feldman, 2003). Those predisposed to authoritarianism are more sensitive to threat (Stevens & Vaughan-Williams, 2014), particularly threats to the unity and uniformity of the in-group (Butler, 2013). When they perceive a threat, authoritarians submit to authorities and aggress against perceived norm-violators in an attempt to regain a sense of control (Manzi et al., 2015).

The threat of the novel coronavirus has triggered nationalism and prejudice among authoritarians (Golec de Zavala et al., 2021; Hartmann et al., 2021) and increased support for right-wing candidates (Karwowski et al., 2020) and anti-democratic political systems (Amat et al., 2020; Roccato et al., 2020). Research on the individual-level dynamics of authoritarianism and threat in the COVID era has assumed that COVID-19 poses an existential threat, but little research has measured participants' own perceptions of the type of threat posed by the virus (for an exception, see Kachanoff et al., 2021). In general, people may experience COVID-19 primarily as a realistic threat to their physical and material well-being. We argue, however, that authoritarians should be more likely than others to interpret the novel coronavirus as a symbolic threat to their prevailing values, with implications for democracy in the post-pandemic era.

Authoritarianism and threat

The earliest theorising on the authoritarian personality hypothesized that threat was a driver of right-wing attitudes and ideology (Adorno et al., 1950). In this formulation, authoritarianism was conceived as a syndrome emanating from anxiety stemming from threatening experiences in childhood. As children, authoritarians cope with anxiety by obeying parental authority and conforming to the behaviours of others around them. As adults, authoritarians translate these habits into obedience to strong leaders and conformity to societal norms (Adorno et al., 1950). Once formed, this "authoritarian syndrome"

was thought to be psychologically and behaviorally stable over a lifetime.

Authoritarians are especially sensitive to threat (Lavine et al., 2002; Stevens & Vaughan-Williams, 2014) and therefore more likely to perceive the world as threatening (Duckitt, 2001, 2013). Studies show that authoritarian attitudes are associated with greater perceived threat from outgroups (Dhont & Van Hiel, 2011) and viewing the world as a dangerous place (Duckitt & Fisher, 2003). Although some findings suggest that authoritarians are more sensitive to threats of all kinds (Hetherington & Weiler, 2009), other research indicates that authoritarians are particularly sensitive to threats to social cohesion (Feldman, 2013). For example, Butler (2013) found that although authoritarians perceived higher levels of threat from a variety of sources, they were particularly sensitive to perceived threats from social deviance and dissimilarity.

Distinguishing among authoritarian attitudes, beliefs and predispositions

Rather than showing consistency and resistance to change over the lifetime, as would be expected of a personality trait, recent scholarship shows that the expression of authoritarian attitudes varies in response to situational factors (Duckitt, 2013; Lavine et al., 2002). Consequently, commentators have argued that widely-used measures of authoritarianism like Altemeyer's (1996) Right-Wing Authoritarianism (RWA) scale capture attitudes and beliefs rather than personality, and are better characterised as measures of ideology (Duckitt, 2001; Feldman, 2003).

Critics have further argued that the RWA scale is largely redundant with one of the outcome variables it is supposed to predict—political conservatism (Stenner, 2005). Definitions of conservatism overlap significantly with RWA; both emphasise resistance to change and a desire to maintain the existing social order (Nilsson & Jost, 2020). Studies have shown a positive association between RWA and measures of right-wing political orientation around the world (Vargas-Salfate et al., 2018). Newer measures of authoritarian attitudes purged of conservative content also show moderate-to-high correlations with political ideology (rs = .38–.58; Dunwoody & Funke, 2016), suggesting that the association between conservatism and authoritarian attitudes is more than a methodological artefact (Nilsson & Jost, 2020).

Psychologists' interest in the psychological foundations of political preferences makes it important to distinguish between psychological predispositions, on the one hand, and their social and political consequences, on the other hand (Stenner, 2005). To this end, some scholars have theorised abstract, enduring predispositions that underlie more specific, situationally-dependent beliefs and attitudes such as RWA. In one line of work unpacking the psychological foundations of ideology and prejudice, Duckitt (2001) proposed a model in which authoritarian attitudes measured by the RWA scale are conceived as an expression of enduring motivational goals that are activated in part by the nature of the social environment, including external threat. According to the model, high scores on the RWA scale are an expression of security and conformity goals, whereas low RWA scores express the goals of freedom and autonomy. This model proposes that enduring motivational goals are pre-political in nature and shape individual interpretations of threat. Those for whom the motivational goals of security and conformity are most salient are predisposed to perceive threats to the social order which, in turn, drives the expression of authoritarian attitudes (Duckitt & Fisher, 2003).

Measuring the authoritarian predisposition

The vast body of research on authoritarianism demonstrates the value of ideological attitude measures like the RWA scale. However, we argue that it is the authoritarian predisposition—a more enduring psychological tendency grounded in values—that is of primary interest when considering how people interpret and react to external threats like the COVID-19 pandemic. The authoritarian predisposition is a stable values orientation concerned with a relative preference for social conformity over individual autonomy; anchored at one end by those who strongly favour social conformity and have no regard for individual autonomy (i.e., authoritarians), and at the other end by those who strongly prefer individual autonomy and have little regard for social conformity (i.e., libertarians; Feldman, 2003). Individuals are expected to express attitudes that are generally consistent with their location on this scale, but due to situational factors, may sometimes express attitudes that are more or less strongly associated with their underlying predisposition (Stenner, 2005).

There is a significant overlap between Duckitt's (2001) concept of "motivational goals" and the notion of "values" in theories of authoritarianism (e.g., Feldman, 2003). Schwartz (1992) proposed and found empirical support for a universal structure of value relations in which the values of conformity and tradition exist opposite the values of stimulation and self-direction. Feldman (2003) combined responses to Schwartz's (1992) conformity and tradition and self-direction and stimulation items, then subtracted participants' scores on the self-direction-stimulation scale from the conformity-tradition scale to produce a measure of the authoritarian predisposition (see Dunn et al., 2020 for cross-cultural validation of a similar measure). Scores on this measure were strongly correlated with RWA scores in a convenience sample of U.S. undergraduates (r = .68; Feldman, 2003).

A number of other studies have suggested a possible integration of Duckitt's (2001) model and Schwartz's (1992) theory of basic human values. This work shows that of the 10 values clusters identified by Schwartz, RWA is most closely associated with conservation values—security, conformity and tradition—in a variety of nations (e.g., Choma et al., 2010; Cohrs et al., 2005; Feather & McKee, 2012). Like high RWAs, individuals with an authoritarian predisposition also appear to be more sensitive to external threat (Stevens & Vaughan-Williams, 2014). Moreover, subjective and experimentally manipulated threats activate authoritarian predispositions to shape endorsement of a variety of authoritarian attitudes and political preferences (Claassen & McLaren, 2019; Hetherington & Weiler, 2009; Stenner, 2005).

Authoritarian responses to COVID-19

Through the lens of the literature on authoritarianism and threat, the novel coronavirus and related economic and social disruption have the potential to activate authoritarian attitudes on a global scale. Mounting evidence suggests a link between the pandemic and conservative and anti-democratic political preferences. In an experimental study of U.S. and Polish residents. Thinking about COVID-19 elevated participants' anxiety and, in turn, increased social conservatism and support for conservative political candidates (Karwowski et al., 2020). Amat et al. (2020) found that demand for strong leadership, willingness to give up individual freedom, and support for technocratic governments increased in Spain as a result of the pandemic, and that the change was particularly pronounced among those personally exposed to COVID-19. Using longitudinal methods in an Italian sample, Roccato et al. (2020) showed that exposure to COVID-19 and perceived economic threat were associated with a preference for anti-democratic government.

The role of individual-level authoritarianism in these responses to the pandemic remains unclear. For example, rather than an interaction between authoritarianism and threat, Roccato et al. (2020) found that anti-democratic preferences increased regardless of participants' initial preference for a strong leader. In a U.S. sample, Manson (2020) found that RWA was positively correlated with support for authoritarian policies and practices—but did not measure or test hypotheses about perceived threat. Looking beyond political preferences, research has examined other authoritarian responses in the context of the pandemic. In Ireland and the United Kingdom, Hartmann et al. (2021) found that the association between RWA and nationalism and anti-immigrant sentiment was stronger at higher levels of perceived threat. In a longitudinal study of authoritarian intolerance, Golec de Zavala et al. (2021) found that RWA increased in Poland in response to the pandemic, and that this increase was associated with a greater desire for national cohesion and rejection of sexual dissenters at later time points. Taken together, the developing body of research on authoritarianism during the pandemic suggests that threat from COVID has triggered widespread authoritarian responses, although the individual-level dynamics of this process have not been fully explicated.

Perceived threat from COVID-19

According to theories of authoritarianism, the most relevant psychological element in authoritarian responses is perceived threat (Feldman, 2003, 2013; Feldman & Stenner, 1997). Research has begun to explore the question of whether authoritarians perceive greater threat from COVID-19 than others do, with mixed results. In a U.S. sample, Prichard and Christman (2020) found that RWA was associated with less concern about the health impact of COVID-19. In contrast, Hartmann et al. (2021) reported positive associations between RWA and anxiety about COVID-19 among both UK and Irish participants. Using data from Australia, Clarke et al. (2021) found that perceived threat from COVID-19 was positively associated with the submission subfactor of right-wing authoritarianism, and negatively associated with the conventionalism subfactor. The multifactorial content of the RWA scale and country-level differences may account for these variations.

Most of the research on the perceived threat from COVID-19 uses measures that narrowly construe COVID-19 as a personal existential threat. For example, the measure of COVID threat used by Clarke et al. (2021) included items such as, "Thinking about the coronavirus makes me feel threatened." Yet, the COVID-19 pandemic can also be considered an economic, social and political threat. Kachanoff et al. (2021) set out to assess whether COVID-19 can be construed as both a realistic threat—a danger to a group or individuals' physical or material well-being—and a symbolic threat—a danger to a group's values and identity. They developed and validated a 10-item measure of realistic and symbolic threat, with exploratory and confirmatory factor analyses supporting these two distinct types of threat from COVID-19 among U.S. respondents. They argued that from the perspective of intergroup threat theory (Stephan et al., 2016), both types of threat are likely to cause distress, but would also be associated with different mitigation behaviours. They found that individuals who saw COVID-19 as a realistic threat were more likely to follow socially disruptive health recommendations like social distancing, whereas those who experienced COVID-19 as a symbolic threat were less likely to do so. Social distancing challenges the established norms of social groups, and may therefore increase feelings of symbolic threat by undermining

group cohesion, even as such behaviours mitigate the realistic threat of COVID-19.

The present research

As individuals make sense of the pandemic, we argue that authoritarian predispositions will shape the interpretation of the threat from COVID-19. Previous research shows that authoritarians perceive a greater degree of threat (Stevens & Vaughan-Williams, 2014), respond more strongly to threat (Cohrs & Ibler, 2009), and are particularly sensitive to threats to group cohesion (Butler, 2013). We extend these perspectives to propose that authoritarians and libertarians will interpret the threat from COVID-19 in distinct ways. This is particularly likely given the ambiguity of the developing pandemic. As people grapple with this new threat, the value priorities that are most salient to them should shape their developing understanding of that threat (Higgins, 1996). Thus, this is a rare opportunity to observe an early stage of the threat construal process, before a collective understanding has solidified. Insights gained studying the threat from COVID-19 can be compared or extended to other individual differences or types of threat, and prompt new research questions.

To minimise contamination from political ideology and partisan frames, we focus on a values-based measure of the authoritarian predisposition in our study. For authoritarians, the values of social conformity and tradition are chronically salient, making them readily available to guide interpretations of new or ambiguous social phenomena. Thus, authoritarians should interpret the threat from COVID-19 through the lens of their desire to enforce social conformity. In contrast, the values of stimulation and self-direction are most salient for libertarians. Libertarians should interpret threats through the lens of their desire for personal autonomy, and will be relatively unconcerned with maintaining and defending social norms (Feldman, 2003).

Media and health communication about COVID-19 focus heavily on infection rates and death tolls. Previous research on the threat of COVID-19 largely assumes that the virus constitutes an existential threat. This suggests that perceptions of COVID-19 as a realistic threat—a danger to physical or material well-being—are likely to be salient for everyone, regardless of their underlying values orientation. Thus, our first hypothesis is as follows:

H1: Authoritarians and libertarians will be equally likely to interpret the threat from COVID-19 as a realistic threat.

Because social conformity and traditional values are chronically salient for authoritarians, they should be particularly attuned to aspects of the coronavirus pandemic that constitute a symbolic threat—a danger to their in-group's values and identity. Authoritarians scan the environment for values, beliefs and behaviours that challenge social conventions (Feldman, 2003). They may experience mask-wearing and other government constraints as an alarming disruption of social norms. Disagreement among government leaders and institutions about the appropriate response to the pandemic may exacerbate the sense that the uniformity of the in-group is threatened. This leads to our second hypothesis:

H2: Authoritarians will be more likely than libertarians to interpret the threat from COVID-19 as a symbolic threat.

METHOD

Participants

Study participants were 374 adults, all of whom identified as Scottish nationals on pre-screening indicators. Six participants who originally consented to participate did not submit their responses, leaving the final sample at $N = 368$ individuals. Participants were between 18 and 75 years old ($M = 38$, $SD = 13$). Sixty-four percent were women ($n = 237$) and 94.3% ($n = 347$) were White. Seventy percent ($n = 258$) of the participants were employed and 52.4% ($n = 193$) had a university-level education. A sensitivity power analysis conducted in G*power (Faul et al., 2009) indicated that with our sample size of 368 and $\alpha = .05$, we had 80% power to detect a small effect of $f^2 = .053$.

Potential participants were recruited on June 19, 2020 using the Prolific research platform (www.prolific.co). Prolific is a research-oriented, online platform that provides high-quality samples (Pe'er et al., 2021). We selected participants based on their reported nationality (Scottish) using the pre-screening feature available in Prolific. Participants were paid £2.90 upon completion of the 20-minute survey.

All procedures performed in studies involving human subjects were in accordance with the ethical standards of the Institutional Review Board for the Protection of Human Subjects at the University of Wisconsin-La Crosse, USA, and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual adult participants included in the study.

Materials

Threat

Perceived threat from COVID-19 was measured using an original battery of items designed to measure the two major types of threat proposed by intergroup threat theory (Stephan et al., 2016): realistic and symbolic threat. Although we were not aware of Kachanoff et al.'s (2021)

Table 1
Measures of realistic and symbolic threat from COVID-19

Scale item	Threat type	M	SD	Factor 1	Factor 2
The health and safety of you and those you care about	Realistic	4.67	1.13	−0.08	**0.70**
The health and safety of all Scots	Realistic	4.58	1.22	−0.05	**0.77**
The financial security of you and those you care about	Realistic	4.77	1.21	0.11	**0.48**
The financial security of all Scots	Realistic	4.88	1.07	0.04	**0.60**
The values and traditions of you and those you care about	Symbolic	2.70	1.65	**0.88**	−0.03
The values and traditions of all Scots	Symbolic	2.74	1.61	**0.93**	−0.10
The unity and harmony of Scots	Symbolic	3.01	1.66	**0.79**	0.05
The place of Scotland on the world stage	Symbolic	2.83	1.70	**0.71**	0.07

Note: Prompt was "Do you agree or disagree that the novel coronavirus poses a threat to.." Table entries are factor loadings based on the results of a Promax rotation. Entries in bold indicate items that loaded on each factor.

Table 2
SC-IA measure of the authoritarian predisposition

Scale item	Value	M	SD	Factor 1	Factor 2
They believe they should always show respect to their parents and to older people. It is important to them to be obedient	Conformity	2.91	1.35	−0.06	**0.70**
It is important to them to always behave properly. They want to avoid doing anything people would say is wrong	Conformity	3.00	1.27	−0.10	**0.54**
Religious belief is important to them. They try hard to do what their religion requires	Tradition	0.77	1.36	0.13	**0.43**
They think it is best to do things in traditional ways. It is important to them to keep up the customs they have learned	Tradition	2.03	1.23	−0.06	**0.67**
They think it's important to be interested in things. They like to be curious and to try to understand all sorts of things	Self-direction	3.92	0.95	**0.59**	−0.17
Thinking up new ideas and being creative is important to them. They like to do things in their own original way	Self-direction	3.06	1.23	**0.54**	−0.10
They like to take risks. They are always looking for adventures	Stimulation	2.17	1.36	**0.63**	−0.03
They think it is important to do lots of different things in life. They always look for new things to try	Stimulation	3.10	1.20	**0.70**	0.02

Note: Prompt was "Here we briefly describe some people. Please read each description and think about how much each person is or is not like you." Table entries are factor loadings based on the results of a Promax rotation. Entries in bold indicate items that loaded on each factor.

measure of realistic and symbolic threats from COVID-19 at the time of our study, both measures use a similar item stem and response format and include both personal (e.g., "the financial security of you and those you care about") and national-level threats (e.g., "the values and traditions of all Scots"). The items of the scale were introduced with the following prompt: "The novel coronavirus can affect people in a variety of ways. Do you agree or disagree that the novel coronavirus poses a threat to:" Participants then responded to the eight threats listed in Table 1 using a 7-point scale ranging from *strongly disagree* (0) to *strongly agree* (6). The four realistic items were averaged to form the Realistic Threat scale ($M = 4.7$, $SD = 0.9$, $\alpha = .72$) and the four symbolic items were averaged to form the Symbolic Threat scale ($M = 2.8$, $SD = 1.4$, $\alpha = .89$). Next, both were rescaled to range from 0 to 1 to ease the interpretation of the regression coefficients.

Authoritarian predisposition

Participants' authoritarian predisposition was measured following the Social Conformity—Individual Autonomy Values approach (SC-IA; Feldman, 2003) validated in cross-national research (Dunn et al., 2020). We measured four broad personal values using eight items from the 20-item Values Inventory (TwIVI; Sandy et al., 2017). The introduction to the items read: "Here we briefly describe some people. Please read each description and think about how much each person is or is not like you." Participants responded on a scale from *not like me at all* (0) to *very much like me* (5). The specific items of the scale along with their means, standard deviations and factor loadings are shown in Table 2.

Following a similar procedure to Feldman (2003) and Dunn et al. (2020), the two self-direction items were averaged with the two stimulation items to create the Individual Autonomy Scale ($M = 3.06$, $SD = 0.87$, $\alpha = .70$),

and the two conformity items were averaged with the two tradition items to create the Social Conformity Scale ($M = 2.18$, $SD = 0.91$, $\alpha = .66$). The individual autonomy scale was then subtracted from the social conformity scale to create the SC-IA Scale used in our analyses. Values ranged from -4.25 to $+3.00$ ($M = -0.88$, $SD = 1.30$) with higher scores indicating a higher degree of authoritarianism. The zero-point of the SC-IA Scale divides those who prefer individual autonomy values to social conformity values (libertarians) from those who prefer social conformity values to individual autonomy values (authoritarians).

Health and financial impacts of COVID

The health impact of COVID was assessed with two questions taken from the Quinnipiac University poll (https://poll.qu.edu/Poll-Release?releaseid=3750): "Have you or someone you personally know been infected by the coronavirus?"; "Have you or someone you personally know been hospitalized due to the coronavirus?" Participants responded "yes" or "no." "No" responses were assigned a value of 0, and "yes" responses were assigned a value of 1. These two variables were summed to create a 3-point categorical variable with 0 set as the reference category.

Personal financial impact was assessed with two questions from the same poll: "Have you or someone in your household had your working hours or salary reduced due to the coronavirus pandemic?"; "Have you or someone in your household lost your job or been furloughed due to the coronavirus pandemic?". Participants responded "yes" or "no." As above, "no" responses were assigned a value of 0, and "yes" responses were assigned a value of 1, and the two items were summed to create a 3-point categorical variable with 0 set as the reference category.

Party identification

Participants' party identification was measured with the question: "If you had to choose, which party would you say most closely represents your values?" Participants selected from the following response options: Conservatives ($n = 42$, 11.41%), Green Party ($n = 36$, 9.78%), Labour ($n = 61$, 16.58%), Liberal Democrats ($n = 25$, 6.79%), Scottish National Party (SNP; $n = 181$, 49.18%), United Kingdom Independence Party (UKIP; $n = 3$, 0.82%), and other ($n = 20$, 5.43%). Given the small number of participants who identified as UKIP, we re-categorised these respondents as "other" ($n = 23$, 6.25%). SNP was set as the reference category.

Demographic control variables

Several demographic variables that potentially correlate with perceptions of threat were also included in the analyses. Participants indicated the year they were born, and we subtracted their birth year from the year in which data were collected to create the age variable, which indicated the participant's age in years. Participants selected their level of education from a set of 15 choices derived from the Scottish census; we recoded the education variable to correspond to a value of 1 for participants with a university degree ($n = 193$, 52.45%) and a value of 0 for participants without a university degree ($n = 175$, 47.55%). Participants were asked to indicate their race(s) and ethnicity(ies) from a set of nine choices derived from the Scottish census; we recoded the ethnicity variable to correspond to a value of 0 for participants who identified as White ($n = 347$, 94.29%) and a value of 1 for participants who identified as a Black or minority ethnicity (BaME: $n = 21$, 5.71%). Participants indicated their gender from the following options: man, woman, non-conforming/non-binary, trans man, trans woman or other. We recoded the response options into a three-category nominal variable with men ($n = 124$, 33.7%) assigned as the base category. The comparison categories are women, for participants who identified as women ($n = 237$, 64.4%) and other, for participants who identified as outside the man/woman binary (i.e., non-conforming/non-binary, $n = 4$; trans man, $n = 1$; and trans woman, $n = 2$; 1.9%).

Procedure

Potential participants were invited to participate in "A study into how different people understand and respond to the current coronavirus (COVID-19) pandemic," which was administered online using Qualtrics survey software. After giving their informed consent, participants responded to questions about their basic demographics and political orientation, perceptions of and experiences with COVID-19 and measures of the authoritarian predisposition and authoritarian attitudes. Analyses using the SC-IA scale are reported below; conceptual replications of our findings using two additional measures of authoritarianism are provided in the Supporting Information. Participants also completed measures that are not used in this research: modern sexism and evaluations of the pandemic response by various individuals and institutions in Scotland and the UK. Details of these measures are provided in the Supporting Information.

The study was correlational. We tested our hypotheses about the association between the authoritarian predisposition and perceptions of threat using a series of OLS regressions, which allowed us to control for other variables likely to influence perceptions of threat (e.g., gender; Prichard & Christman, 2020; and political affiliation; Calvillo et al., 2020). In each analysis, the statistical significance of the coefficient of the authoritarian predisposition measure was assessed using a t-test at an alpha level of .05.

Table 3
Regression analyses of realistic and symbolic threat from the coronavirus

| | Realistic threat | | Symbolic threat | |
| | Model 1 | | Model 2 | |
	b	SE	b	SE
SC-IA authoritarianism	0.00	0.01	**0.03**	0.01
Health impact (none)				
Known infected	0.02	0.02	−0.05	0.03
Known hospitalised	**0.06**	0.02	0.02	0.04
Financial impact (none)				
Reduction in hours/salary	0.01	0.02	−0.02	0.03
Lost job/furloughed	0.00	0.02	0.01	0.03
Party representation (SNP)				
Conservatives	**−0.07**	0.02	−0.03	0.04
Labour	**−0.08**	0.02	−0.04	0.03
Liberal democrats	−0.03	0.03	0.01	0.05
Green party	−0.02	0.03	**−0.10**	0.04
Other	**−0.15**	0.03	−0.02	0.05
Age	0.00	0.00	0.00	0.00
Education (non-university)				
University	−0.01	0.02	**−0.08**	0.03
Ethnicity (White)				
BaME	−0.02	0.03	0.06	0.05
Gender (man)				
Woman	0.03	0.02	0.02	0.03
Other	0.11	0.05	−0.03	0.09
Constant	**0.82**	0.03	**0.58**	0.05
r^2	0.14		0.11	
n	368.00		368.00	

Note: Boldfaced coefficients are significant at $p < .05$.

RESULTS

Descriptive analyses

Ratings of realistic and symbolic threat were positively correlated ($r = .23, p < .001$); if a participant saw the coronavirus as a realistic threat, they were also somewhat more inclined to see it as a symbolic threat. The mean of the realistic threat scale ($M = 0.79$) was above the midpoint of the scale, $t(367) = 38.68, p < .001, d = 2.02$, indicating that, on average, participants agreed that COVID-19 was a realistic threat. The lower average for the symbolic threat scale ($M = 0.47$) was below the midpoint of the scale, $t(367) = -2.39, p = .02, d = 0.12$, and suggested that participants, on average, disagreed that COVID-19 was a symbolic threat. SC-IA was not correlated with ratings of realistic threat ($r = .01, p = .92$), but was positively correlated with symbolic threat ($r = .21, p < .001$). A table of correlations among the main variables of interest in our study is provided in Supporting Information.

Authoritarianism and perceptions of threat

Hypothesis 1 was that authoritarians and libertarians would be equally likely to interpret the threat from COVID as a realistic threat. To test this hypothesis, we

regressed participants' ratings of COVID as a realistic threat onto the authoritarian predisposition, along with control variables. The results are presented in Table 3, Model 1. The coefficient of SC-IA was small and non-significant, $b = 0.003, \beta = 0.026, t(352) = 0.46, p = .64$, indicating no association between the participants' predisposition toward authoritarianism and their perceptions of COVID as a realistic threat. Thus, the results provide support for Hypothesis 1: Authoritarians and libertarians are equally likely to interpret the threat from COVID as a realistic threat.

Hypothesis 2 was that authoritarians would be more likely than libertarians to interpret the novel coronavirus as a symbolic threat. To test this hypothesis, we regressed participants' ratings of COVID as a symbolic threat onto the authoritarian predisposition, along with control variables. The results are presented in Table 3, Model 2. The coefficient of SC-IA was positive and significant, $b = 0.03, \beta = 0.159, t(352) = 2.85, p = .005$, indicating that participants predisposed toward authoritarianism were more likely than libertarian participants to perceive COVID as a symbolic threat. To illustrate the magnitude of the association between the measures of authoritarian predisposition and perceptions of COVID as a symbolic threat, we graphed the predicted values of symbolic threat across the range of the authoritarian predisposition
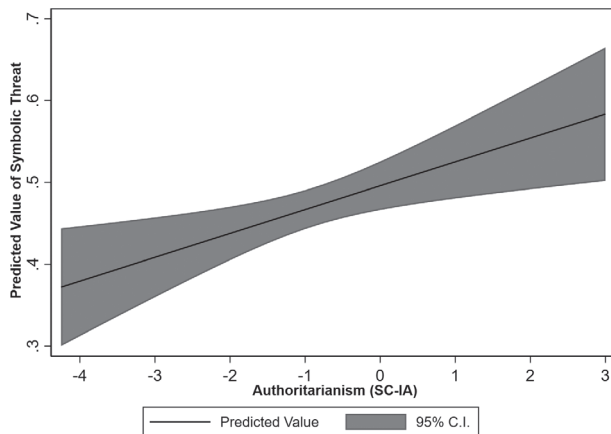
Figure 1. Predicted Value of Symbolic Threat Across the Range of Authoritarianism (SC-IA)

measure. As illustrated in Figure 1, as SC-IA increased from the minimum to the maximum value represented in our sample, the regression model predicted that participants' perceptions of COVID-19 as a symbolic threat would increase by 21% ($SE = 7\%$). The results provide support for Hypothesis 2: Authoritarians are more likely than libertarians to interpret the novel coronavirus as a symbolic threat.

DISCUSSION

In this study, we drew on theories of authoritarianism to propose that authoritarians and libertarians would form distinct interpretations of the coronavirus threat. Given the dominant narrative, we expected that authoritarians and libertarians would be equally likely to experience COVID-19 as a realistic threat. We found that the authoritarian predisposition was not associated with realistic threat, in support of our first hypothesis. Moreover, an examination of the mean scores on our novel threat measures revealed that people in general tend to interpret the coronavirus as a realistic, but not a symbolic threat.

Second, we expected that authoritarians would be more likely than libertarians to interpret the coronavirus as a symbolic threat to their prevailing values. Libertarians are likely to be relatively unconcerned with the disruption of norms represented by new safety measures such as masking and social distancing. Authoritarians, however, scan the environment for values, beliefs and behaviours that challenge established social conventions. In the pandemic environment, the safety measures designed to mitigate the realistic threat of COVID-19 may themselves constitute a symbolic threat in the eyes of authoritarians. Consistent with our second hypothesis, the authoritarian predisposition was positively associated with perceptions of the coronavirus as a symbolic threat.

Implications

These findings can be understood in the context of intergroup threat theory. Perceiving a threat of any kind will produce anxiety and distress, but there are also likely to be distinct behavioural outcomes based on the type of threat (Stephan et al., 2016). Kachanoff et al. (2021) found that both realistic and symbolic threat from COVID-19 predicted distress and lower well-being; however, those who saw the coronavirus as a symbolic threat were less likely to adhere to safety measures that disrupt social norms, such as social distancing. Our findings add to this developing picture by identifying a group of individuals (i.e., authoritarians) who are prone to interpret the coronavirus as a symbolic threat. Established theories of authoritarianism articulate the reason for this difference: Authoritarians are likely to interpret the new, ambiguous pandemic as a symbolic threat because they value tradition and conformity over self-direction and autonomy (Feldman, 2003). They are particularly sensitive to violations of norms, or signs of disagreement or disharmony within their perceived in-group. Prichard and Christman (2020) found that authoritarians are over-represented among those who eschew masking and social distancing. Our findings suggest that this behavioural response follows from authoritarians' distinct interpretation of the coronavirus threat.

When people perceive a symbolic threat, they also take steps to increase their identification with a valued in-group (Jetten et al., 2002; Stephan et al., 2016). Kachanoff et al. (2021) found that those who saw COVID as a symbolic threat acted to affirm their national identity by cooking American foods or listening to American music. Such behaviours may offer relief to those coping with loneliness or seclusion during isolation or quarantine; however, combined with an authoritarian predisposition, a turn toward the in-group has darker connotations. Authoritarian responses to symbolic threat may include increased prejudice, intolerance, nationalism, ethnocentrism, support for the restriction of civil liberties, support for far right-wing candidates and policies and diminished support for democracy (Feldman, 2003; Stenner, 2005)—all issues of concern during and after the pandemic. Behaviours during the pandemic that on their face appeared anti-authoritarian—such as supporters of President Trump protesting government lockdowns in the US—can also be interpreted in light of our findings as a response to symbolic threat. Such protests served to bolster the in-group and its traditions and reaffirmed their belief in their leader.

The results of this study also speak to a paradox that has arisen in previous research about the relationship between authoritarianism and perceived threat from COVID-19. Some research shows that authoritarians are more sensitive to the threat from the coronavirus (Hartmann et al., 2021), whereas others show that authoritarians exhibit less concern (Prichard & Christman, 2020).

Researchers have begun to posit some explanations. Calvillo et al. (2020) found that partisan and media frames explained the tendency for conservatives (many of whom may also be authoritarian; Ludeke et al., 2018) to perceive the coronavirus as less threatening. Perceptions of the threat from COVID-19 may depend on whether authoritarian attitudes stem from conventionalism or submission (Clarke et al., 2021). We add to these possible explanations our insight that in the context of the pandemic, authoritarians are experiencing a qualitatively different threat than libertarians. Health officials, in implementing what they see as straightforward interventions for the realistic threat of COVID-19, may have unintentionally created a threat that is potent to authoritarians, although less consequential to others. Our findings suggest that for nations struggling to encourage vaccination and adherence to preventive health behaviours, strategies to mitigate symbolic threat may prove useful. Such strategies might include healthy ways to build perceptions of national unity, connect with family or reaffirm community norms.

The findings of our study also have implications for a pressing question in the literature about how libertarians experience and respond to threat. In a series of experiments, Stenner (2005) found that the attitudes of authoritarians and libertarians diverge in response to symbolic threat. In contrast, Hetherington and Suhay (2011) found that libertarians' attitudes become more similar to those of authoritarians under conditions of realistic threat. In light of our findings, we propose that this pattern of response will depend on how a given threat is construed by the individual. If, as in our research, libertarians and authoritarians in Hetherington and Suhay's (2011) research were equally likely to perceive a realistic threat from terrorism, this may explain the similarity in their response. If, in Stenner's (2005) research, libertarians did not construe symbolic threats as threatening, this may explain why they responded differently than the authoritarians. Future research should consider not only the degree of threat, but also the type of threat that authoritarians and libertarians perceive, in order to accurately predict and explain psychological and behavioural responses (see Duckitt, 2013 for a similar argument). We hope that future research will push forward on this question in the context of the novel coronavirus as well as other threats.

Limitations

Of course, our study also had some limitations. First, although the sample was an adequate size and included people with a range of ages, education levels and political affiliations, participants were mostly White, and all were Scottish nationals. During the summer of 2020, Scotland appeared to be moderate in terms of COVID spread and mitigation. In contrast to the US, where reactions to COVID-19 had become tied to partisanship, or New Zealand, where the government managed to keep infections extraordinarily low, the UK kept responses to the pandemic itself relatively nonpartisan and infection rates only moderately under control. Within the four nations, the Scottish government has instigated the most aggressive policies to try to keep infection rates down (Tatlow et al., 2021). At the time of our survey on June 19, these policies were beginning to come to fruition, with mass testing implemented on May 18 and easing of lockdown beginning on May 29. Given the particulars of the sample and the timing, the results of our study are not representative of all people around the world whose responses to the coronavirus threat are affected by their national and local contexts. Moreover, although our sampling method using Prolific is higher-quality than similar platforms (Pe'er et al., 2021), it did not produce a sample that is representative of the population of Scotland. There are likely individuals and groups who were systematically excluded from our sample, which may have affected our results in unknown ways.

Second, the measures of threat that we used in this research have some limitations. We created original measures of realistic and symbolic threat that have not been validated in previous research. An exploratory factor analysis revealed a clear two-factor structure, and our measures resemble those developed and validated by Kachanoff et al. (2021). Nevertheless, some items did not load as strongly as others on the realistic threat factor, and these scales would benefit from further validation work. We designed the measures of threat to capture a range of threats, from personal to collective, and included the collective most salient to authoritarians and relevant to COVID: the nation (e.g., "all Scots"). Responses to COVID have largely been handled at the national level (Amat et al., 2020), and Stevens and Vaughan-Williams (2014) showed that authoritarianism was positively associated with national and community threats, but not with perceptions of global-level threats. In the context of the coronavirus pandemic, however, threats to the world as a whole may be newly relevant to authoritarianism. Future research is needed to further examine the dimension of personal versus collective threat from COVID-19.

Conclusion

Authoritarians' unique perception of the novel coronavirus as a symbolic threat allows new insight into the psychology of authoritarianism. Our results set the stage, but do not document the social and political ramifications of authoritarians' perceptions of the coronavirus. Considered alongside other research, authoritarians' perceptions of COVID-19 suggest that the pandemic period will be characterised by increases in intolerance, punitiveness

and social conservatism. The novel coronavirus may initiate a widespread shift toward individual-level preference for, and tolerance of, authoritarian policies and governance. By illuminating a new aspect of the psychological mechanisms underlying these shifts, our study suggests that implementing strategies to mitigate symbolic threat may help to interrupt this authoritarian dynamic.

SUPPORTING INFORMATION

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Appendix S1: Supporting information

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