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## Short Communication

# Associations of political orientation, xenophobia, right-wing authoritarianism, and concern of COVID-19: Cognitive responses to an actual pathogen threat

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## ABSTRACT

Previous research has related the existence of pathogenic threat to an individual's social cognition, with people avoiding physical interactions with those who have potential contagion risks. These pathogenic induced behavioral responses have broader social consequences, such as avoidance of outgroup members or negative reactions to individuals foreign to one's own group. Specially, higher pathogen threat is associated with xenophobic attitudes and ideological tendencies, such as authoritarianism and political conservatism. The COVID-19 pandemic provides an unprecedented opportunity to investigate the effect of pathogenic threat on the above-mentioned variables in a real-world situation. Collecting data during a low ( $N = 598$ ) and heightened ( $N = 309$ ) perceived threat of the COVID-19 pandemic in the US, our results reveal that Right-Wing Authoritarian traits, but not xenophobia, increase with a rise in the number of national pathogenic cases. Moreover, our results replicate previous findings regarding the associations between pathogen threat, political orientation, xenophobia, and Right-Wing Authoritarianism, in an actual pathogen threat scenario.

## 1. Introduction

Adaptation to environmental conditions and pathogens has shaped human social cognition and behavior in identification and avoidance of pathogenic stimuli (Schaller, 2011), resulting in detection of the correlates of parasite infestation and avoidance of physical interactions with those who have potential contagion risks (Kurzban & Leary, 2001). However, this can result in behavioral responses to individuals that do not pose an actual pathogenic threat (Schaller & Park, 2011). For example, aroused feeling of vulnerability to disease and pathogenic threat may result into xenophobic reactions, prejudices, stigmatization and preference for in-group members (Faulkner et al., 2004; Kurzban & Leary, 2001; Navarrete & Fessler, 2006; Schaller, 2011; Schaller & Park, 2011). Moreover, in addition to xenophobic attitudes, increased pathogenic threat is associated with ideological tendencies, such as authoritarianism, traditionalism, and political conservatism (Fincher et al., 2008; Thornhill & Fincher, 2007; Tybur et al., 2016).

Previous research has tended to test the association of national-level parasite prevalence indices and sociality (Thornhill & Fincher, 2014); however, aggregated national-level indices may not be representative of the individuals present within them (Pollet et al., 2014). Alternatively,

at the individual level, previous research has tested the effect of pathogen disgust on social cognition (e.g., Tybur et al., 2016), while pathogen disgust may not necessarily indicate the pathogenic threat (Murray & Schaller, 2016; see Lieberman & Patrick, 2014 for a contrary argument). Therefore, the association of pathogenic threat and social cognition at an individual level remains to be investigated.

The COVID-19 pandemic provides an unprecedented opportunity to investigate the effect of pathogenic threat on the above-mentioned variables in a real-world situation. To this aim, we collected data on the concern of COVID-19, xenophobia and Right-Wing Authoritarianism comprised of conservatism, authoritarianism and traditionalism, during a low and a heightened perceived threat of the COVID-19 pandemic in the US. We hypothesized that with an increase in pathogen threat (the increased number of COVID-19 cases), there would be higher concern for contracting the disease, as well as higher xenophobia and higher conservatism, authoritarianism and traditionalism.

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## 2. Method

### 2.1. Participants

A total of 907 individuals (386 women and 521 men), aging between 18 and 70 years old ( $M = 36.66$ ;  $SD = 11.63$ ) participated in two rounds of data collection from United States (1st round:  $N = 598$ ,  $M_{age} = 37.22$ ;  $SD_{age} = 11.80$ ; 2nd round:  $N = 309$ ,  $M_{age} = 35.57$ ;  $SD_{age} = 11.22$ ). First round of data was collected on March 4th 2020, with a total of 128 confirmed COVID-19 cases including 9 deaths in US (94,251 global confirmed cases with 3214 deaths), and the second round was conducted on April 1st 2020, with a total of 190,740 confirmed case including 4127 deaths in US (a total of 887,067 global cases including 44,264 deaths). Data collection was conducted using MTurk and those who had participated in the first round were excluded from participating in the second round.

### 2.2. Measures and procedure

After consenting to participation, and answering demographic questions, participants were asked to answer a Fear-Based Xenophobia measure, a Right-Wing Authoritarian scale, questions about their political orientation, and their perception about the COVID-19 pandemic.

#### 2.2.1. Fear-based xenophobia measure

To measure individual differences in xenophobia, we used Fear-Based Xenophobia Measure, comprising 5 items, measuring xenophobic attitudes (the fear of ‘the others’ (i.e., the immigrants) causing personal and societal harm), from 1 (*strongly disagree*) to 7 (*strongly agree*), with higher value indicating a higher level of xenophobia (Van Der Veer et al., 2011, 2013).

#### 2.2.2. Right-Wing Authoritarian scale

A six-item version (Bizumic & Duckitt, 2018) of the Right-Wing Authoritarian Scale (Altemeyer, 1988) measuring authoritarian attitudes including three subscales of conservatism, authoritarianism and traditionalism was used from 1 (*strongly disagree*) to 7 (*strongly agree*). This short version consisted of two items for each of the three Right-Wing Authoritarian subscales and is shown to have satisfactory reliability and validity (Bizumic & Duckitt, 2018).

#### 2.2.3. Political orientation

Participants were asked to indicate their political views on a 7-point Likert scale from 1 (*extremely liberal (left)*) to 7 (*extremely conservative (right)*). Single item political orientation is a common approach in social sciences and has high predictive validity (Kunst et al., 2018; Weber, 2011).

**Table 1**

Independent samples *t*-test comparing xenophobia, right-wing authoritarianism and concern about COVID-19 across low ( $N = 598$ ) and heightened ( $N = 309$ ) perceived threat of COVID-19.

Variable	Round 1		Round 2		Cohen's <i>d</i>	<i>t</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Xenophobia	3.14	1.78	3.27	1.73	0.08	-1.10	0.271
Right-wing authoritarianism	3.32	1.24	3.65	1.19	0.27	-3.88	<0.001***
Conservatism	3.60	1.40	4.01	1.40	0.29	-4.19	<0.001***
Authoritarianism	3.54	1.36	3.88	4.00	0.26	-3.69	<0.001***
Traditionalism	2.83	1.63	3.07	1.71	0.15	-2.08	0.038*
COVID-19 outbreak concern	4.38	1.84	5.48	1.49	0.64	-9.08	<0.001***
COVID-19 contracting concern in public	4.02	1.93	5.36	1.49	0.75	-10.71	<0.001***
Confidence in government for COVID-19	3.79	1.92	3.88	1.90	0.04	-0.64	0.521

Note.

\*  $p < .05$ .

\*\*\*  $p < .001$ .

### 2.2.4. COVID-19

We asked participants to provide their answers about their attitude towards COVID-19 disease. They were asked to provide their answers on a 7-point Likert scale from *very low* (1) to *very high* (7) for the following questions: “How concerned are you in general about the coronavirus outbreak?”, “How confident are you about the government's control of the coronavirus epidemic?” and “When you are in public how concerned are you about contracting the coronavirus?”. The first question (i.e., general concern) intended to measure concern as a function of experiencing heightened vs. low distress, regardless of concern aspect.

## 3. Results

Table 1 shows the results for *t*-tests comparing concern about COVID-19, xenophobia and Right-Wing Authoritarianism as the function of data collection rounds differing in number of COVID-19 cases in US. Results showed that Right-Wing Authoritarianism, as well for the concerns about COVID-19 and its contraction significantly increased with an increase in the number of COVID-19 reported cases. No significant effect was found for the xenophobia and the confidence in government's ability in control of the pandemic as the result of increase in positive disease cases in US. The Cronbach's  $\alpha$  for Right-Wing Authoritarianism in our sample is 0.78 and acceptable.

Table 2 shows the Pearson correlation results between the variables. Political orientation was significantly correlated with xenophobia, right-wing authoritarianism, concern about contracting COVID-19 in public and confidence in government's ability to control the outbreak. Similarly, high concern of contracting COVID-19, xenophobia, and right-wing authoritarianism were associated with each other.

**Table 2**

Zero-order correlation matrix ( $N = 907$ ).

	1	2	3	4	5	6
1. Political orientation	–					
2. Xenophobia	0.65***	–				
3. Right-wing authoritarianism	0.54***	0.45***	–			
4. COVID-19 outbreak concern	0.06	0.11***	0.17***	–		
5. Confidence in government for COVID-19	0.45***	0.46***	0.37***	0.02	–	
6. COVID-19 contracting concern in public	0.12***	0.19***	0.20***	0.80***	0.12***	–

Note.

\*\*\*  $p < .001$ .

#### 4. Discussion

In this study we investigated the effect of an increased pathogenic threat on cognition by comparing authoritarianism and political conservatism data from two samples: one during the early stages of the COVID-19 pandemic in US with almost no deaths (low threat), and a second, one month later, when there was higher pathogenic threat (high threat), both when the federal governmental was downplaying its threat to the nation's health. Specifically, we compared xenophobia, Right-Wing Authoritarianism and concerns about the contracting COVID-19, and showed that as the number of positive cases in the country began its climb, individuals reported higher concern of contracting the disease as well as higher ratings on Right-Wing Authoritarianism including higher conservatism, traditionalism and authoritarianism. These results are in accordance with the previous findings showing higher prevalence of pathogens is associated with authoritarianism, higher conservative attitudes and beliefs (Murray et al., 2013; Terrizzi et al., 2013; Thornhill et al., 2009; Tybur et al., 2016). In other words, our results support the association between the spread of infectious disease and preference for an authoritarian socially conservative value system, as a protection against possible contamination from outgroup members, in an actual pathogen threat scenario.

However, an increase in the cases of the disease did not show an increase in xenophobia. In contrary to the previous research testing the effect of higher national-level pathogenic prevalence on xenophobic attitudes (Thornhill and Fincher, 2014), using an actual pathogenic threat, we could not confirm an increase in xenophobia. Also, this discrepancy between the current results and those of Faulkner et al. (2004) on xenophobia could be due to differences in methodology. While they used different experimental designs (e.g., implicit association test, visual exposure to pathogenic cues, etc.) and associated them with the perceived vulnerability to disease, in the current study we measured xenophobic attitudes using a self-report measure and sought the association with an actual pathogen threat.

The higher confidence in government's control of the COVID-19 pandemic was associated with conservative political orientation, higher xenophobia and authoritarianism. This result dovetails with the previous research showing parasite stress induces higher preferences for conformity, authority, and valuing obedience (Helzer & Pizarro, 2011; Murray & Schaller, 2012; Thornhill et al., 2009). In addition to the pathogenic mediated behavioral response proposed here, other theories might explain the relationship between saliency of mortality and heightened social responses. For example, terror management theory suggests mortality salience results in psychological distress and disorder which might in return influence social responses (Greenberg et al., 1997; Pyszczynski et al., 2020).

In summary, using a large sample size, we investigated the effect of increased pathogenic threat on cognition and our results showed that Right-Wing Authoritarian traits, but not xenophobia, increase with an increase in national pathogenic confirmed cases. Furthermore, we replicated the previous findings regarding the associations between pathogen threat, political orientation, xenophobia, and Right-Wing Authoritarianism. The results of the current study have clear implications, as it suggests the COVID-19 pandemic or alike may induce preference for conservative politicians, higher xenophobia, and harsher responses to normative transgressions.

#### CRedit authorship contribution statement

**Farid Pazhoohi:** Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing. **Alan Kingstone:** Conceptualization, Methodology, Writing – review & editing, Supervision.

#### Declaration of competing interest

The authors declare no conflict of interest.

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