

How Political Identity Influences COVID-19 Risk Perception: A Model of Identity-Based Risk Perception

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ABSTRACT Past research suggests that conservatives are usually more threat-sensitive than liberals are. Yet during the COVID-19 pandemic, conservatives consistently underestimated the risk from the virus. To reconcile this paradox, we introduce a model of identity-based risk perception (IRP). This model posits that risk perceptions depend not only on objective risk but also on people's political identity and whether the risk pertains to their group identity (*group risk*) versus individual identity (*individual risk*). When asked about the group risk posed by a threat ("How many Americans will die of COVID-19?"), conservatives focus on their national pride and underestimate the risk of contracting the virus compared to liberals. However, when asked about individual risk from the same threat ("What is the probability of an individual dying of COVID-19?"), conservatives focus on individual mortality threat and overestimate the risk of succumbing to the virus compared to liberals. Three national surveys support the IRP model.

On March 11, 2020, the World Health Organization declared COVID-19 to be a pandemic. Yet even as thousands died around the world, the response in the United States varied significantly. On March 13, 2020, the *New York Times* reported that "roughly six in 10 Republican voters nationwide said they were not especially concerned that the coronavirus would disrupt their lives. Two-thirds of Democratic voters said the opposite" (Russonello 2020). On March 20, 2020, the *Atlantic* stated, "A flurry of new national polls . . . reveals that while anxiety about the disease is rising on both sides of the partisan divide, Democrats consistently express much more concern about it than Republicans do" (Brownstein 2020).

These observations fly in the face of established findings. Several decades of research document that conservatives are more threat-sensitive than their liberal counterparts. Jost et al. (2003, 2007; also see Jost, Fitzsimons, and Kay 2004) proposed a positive association between mortality salience and conservative political attitudes, suggesting that people

with a conservative political orientation tend to have higher mortality salience and are more threat sensitive than liberals are. Moreover, they react more negatively to uncertainty (Thórisdóttir and Jost 2011) or to the unfamiliar (Wilson, Ausman, and Mathews 1973; Oxley et al. 2008). Conservatives also have greater activation of the right amygdala, the region of the brain associated with fear, when encountering risk (Schreiber et al. 2013). However, the COVID-19 pandemic highlights an apparent paradox in conservatives' behavior: if conservatives are more threat-sensitive than liberals are, why do they underestimate the societal threat of this potentially deadly virus?

IDENTITY-BASED RISK PERCEPTION

To resolve this apparent paradox, we propose a model of identity-based risk perception (IRP) model. Identity is a multidimensional construct (James 1890; McCall 1966; Stets and Burke 2014) that can vary along many dimensions such as social connectedness (individual vs. group; Tajfel and

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Turner 1979; Stryker and Burke 2000), political ideology (conservative vs. liberal; Huddy 2001), gender (male vs. female; Fischer and Arnold 1994), culture (individualist vs. collectivist; Hui and Triandis 1986), family role (parent vs. child; Stryker 1968), or occupation (soldier vs. teacher; Burke and Tully 1977). The IRP model assumes that people's perception of risk in a particular context, and thus their attitudinal and behavioral responses to this risk depend on the identity that is salient to them at the time. When their salient identity makes people feel invincible and strong, they will perceive low risk posed by a threat; when their salient identity makes them feel vulnerable and weak, however, they will perceive high risk from that same threat.

In the present research, we consider two important dimensions of identity that are particularly relevant in the context of the COVID-19 pandemic: social identity and political identity. We examine how the interplay of social identity (individual vs. group) and political identity (conservative vs. liberal) can influence the mental representation of risk.

Social Identity and Threat

With respect to *social identity*, we propose that the relative salience of individual versus group identity can direct attention to different types of threats. People can mentally represent the risk posed by the coronavirus at more of an individual level (e.g., What is the immediate risk to me and individuals I know?) or at more of a group level (e.g., What risk does the virus pose to the country as a whole?). Of particular relevance to our conceptualization is the distinction between a *physical threat* (an existential threat to one's mortality) and a *meaning threat* (a threat to one's social group membership). To elaborate, physical threats are "concrete concerns regarding the violation of one's physical safety and well-being through the potential of death or other physical trauma" (Crawford 2017, 356). Conservatives have been shown as particularly sensitive to such threats (Jost et al. 2004). In contrast, meaning threats are threats to one's sense of social belonging. Such threats can pertain to the meaning of "being an American" or the meaning of "being a Republican." We assume that activating one's individual identity directs attention to physical threats, whereas activating group identity directs attention to meaning threats. The COVID-19 pandemic can pose both types of threat. Making an individual risk assessment ("the probability of an individual dying of COVID-19") makes individual identity and physical threat salient, whereas assessing group risk ("the number of Americans who die of COVID-19") makes group identity and meaning threat salient.

Political Identity and Threat

We posit that in addition to their social identities, people's *political identity* can also influence how they respond to the risk posed by a threat. Although conservatives are generally more risk averse than liberals are (Jost et al. 2004; Thórisdóttir and Jost 2011), this difference can depend on the type of threat (Crawford 2017). We hypothesize that asking people about the likelihood of an individual dying of COVID-19 will make their individual-level identity salient and evoke a physical threat. Because conservatives are more sensitive to proximal, physical threat (Crawford 2017), they should manifest greater sensitivity to this threat than liberals do. In contrast, we hypothesize that asking people about the risk of Americans dying from COVID-19 will make their group-level identity salient. Compared to liberals, who tend to adopt a more universal humanistic perspective, conservatives believe that the United States has a privileged and special status relative to that of other nations (Onuf 2012). Because of their American exceptionalism, making conservatives' national group identity salient should motivate them to protect this national identity (Kuklinski et al. 1991; Crawford 2017), leading them to spontaneously underestimate such risks for the country. Thus, in summary, we predict that

H1: Conservatives' estimates of group risk are lower than that of liberals; however, their estimates of individual risk are higher than that of liberals.

The postulated effects of political ideology might be attributed in part to demographic factors (e.g., education level, selective exposure to types of media). In contrast, the IRP model argues that differences in risk perceptions are at least partly caused by deep-seated ideological values associated with the salient identity. To evaluate this possibility, we also assessed the respondents' adherence to the moral values that are associated with conservatism versus liberalism (Graham, Haidt, and Nosek 2009; Graham et al. 2011, 2013; Haidt 2013). Conservatives' values are typically centered on loyalty/betrayal, authority/subversion, and sanctity/degradation whereas liberals' values are centered on care/harm, fairness/cheating (Graham et al. 2013). If conservatives' adherence to these fundamental values drives both individual and group risk perceptions, then

H2: The strength of people's adherence to conservative values mediates (a) the negative effect of political conservatism on perceptions of group risk and (b) the

positive effect of political conservatism on perceptions of individual risk.

Downstream Behaviors

One might argue that the effects we predicted are an artifact of how individual and group risk are measured. To evaluate this possibility, we also measured behavioral responses to different types of risk. The IRP model predicts that conservatives are less likely than liberals to engage in behaviors associated with group risk (e.g., closing down churches, closing down schools to prevent the spread of virus) but more likely to engage in behaviors associated with individual risk (e.g., washing hands, cleaning).

Overview of the Studies

To evaluate our hypotheses and provide empirical support for the proposed IRP model, we conducted three national surveys in March and April 2020, when the impact of the pandemic in the United States was highly uncertain. We activated group identity by asking questions about the risk faced by Americans as a group (“How many Americans will die of COVID-19?”) and inferred group risk from their estimates of the number of national COVID-19 infections and deaths, 2, 4, or 6 weeks in the future. We activated individual identity by asking about individual-level risks (“What is the probability of an individual dying of COVID-19?”) and inferred individual risk from estimates of the likelihood that they and an average American will die if infected by the virus. Logically, the number of Americans who will die of the virus should have a one-to-one correspondence to the probability that an average American will die.¹ Yet our research demonstrates that people’s subjective assessments of individual and group risks do not follow this correspondence. By demonstrating how adherence to conservative ideology can simultaneously increase individual risk perceptions and reduce group risk perceptions, our research provides new insights into the role of individual and social identities in shaping risk perceptions and offers a parsimonious explanation for the paradoxical pattern of behaviors observed during the pandemic.

Study 1A was conducted on March 17, 2020, at the onset of the pandemic before any stay-at-home orders were issued and before social distancing was widely encouraged. Study 1B was conducted on the morning of March 24, after

stay-at-home orders had been issued in 10 states and social distancing had begun to be actively encouraged by the Centers for Disease Control and Prevention (CDC). However, mask-wearing had not yet been actively encouraged. Study 2 was conducted on April 7, after most of the country had become aware of the seriousness of the pandemic. At this point, all but eight states were under stay-at-home orders, and social distancing and mask-wearing were both actively encouraged by the CDC. Study 2 further examined whether conservative moral values drive perceptions of individual and group risk. Data and syntax for all studies are posted on Open Science Framework at http://bit.ly/osf_covid19. Supplemental materials, including experiment stimuli, additional graphs, and supplementary analyses are in the appendix, available online.

STUDIES 1A AND 1B: DIVERGENT EFFECTS OF CONSERVATISM ON GROUP VERSUS INDIVIDUAL RISK

Method

On March 18, 2020, 1,333 participants on Amazon’s Mechanical Turk (46% female; average age: 37.64 years) completed study 1A. On March 24, 2020, 1,337 different participants (49% female; average age: 38.34 years) completed study 1B. Participants were paid 75 cents and completed key measures described as follows (full details of the two studies are in app. 1a). The survey had three main sections. We first measured behavioral responses to individual and group risks, followed by group risk and individual risk perceptions and, finally, questions about political orientation (our primary independent variable), demographics, and other control variables. All of the measures and minor differences between the two studies are described in appendix 1a.

Risk-Alleviating Behaviors. Participants were asked how many times yesterday they had washed their hands with soap and water, used hand sanitizer, cleaned their counter tops, and cleaned their cell phone. These estimates were averaged ($\alpha = .63$ and $.72$ in studies 1A and 1B, respectively) to form an index of *individual* risk-alleviating behavior.

Participants were then asked how frequently they maintained a distance of 6 feet from others when outside on a scale from 1 = never to 5 = always and the extent to which they supported government mandated social-distancing initiatives on a scale from 1 = definitely no to 5 = definitely yes: closing down schools and universities, closing down restaurants and bars, banning all air travel, banning all social gatherings, banning religious gatherings, and supporting

1. Number of Americans who will die of COVID-19 = (probability of an average American dying of COVID-19) \times (population of America).

social distancing of at least 6 feet. These judgments were averaged ($\alpha = .90$ in both study 1A and study 1B) to provide an index of *group* risk-alleviating behavior. Note that our grouping of behaviors as “individual” versus “group” risk-alleviating is based on whether the behaviors tended to be evoked in an individual versus a group context and not whether the behaviors are actually more likely to protect an individual versus a group.

Group Risk Estimates. Participants were asked to estimate the number of people that would be infected by the coronavirus in the United States in 14 days (2 weeks), 28 days (4 weeks), and 42 days (6 weeks) given that as of that day, 4,500 people (study 1A) / 46,000 people (study 1B) in the United States had been infected. They were also asked to estimate the number of people in the United States that would die because of the coronavirus within these time frames, given that as of that day, 75 people (study 1A) / 600 people (study 1B) had died because of the virus.

Because these questions were asked during the early days of the pandemic, participants were provided with some numeric values to consider while coming up with their estimates. For example, when asked how many people would die of the coronavirus in 14 days, participants were asked to consider whether it would be about 100, 200, 1,000, or 2,000 or more in study 1A and about 750, 1,000, 2,000, 5,000 or more in study 1B. They then entered their estimate in a textbox.

Individual Risk Estimates. Participants were asked (in random order) how likely it was that they would die because of the coronavirus and how likely it was that an average American would die because of it on a scale from 0 = will definitely not die to 100 = definitely will.

Protecting Individuals versus the Economy. Participants in study 1B were asked if it was more important to protect individuals from harm from the coronavirus versus protect the nation from economic downturn due to the coronavirus (1 = definitely protect individuals from the coronavirus; 5 = definitely protect the nation from economic downturn). This question was added to study 1B and study 2 to evaluate the alternative possibility that observed results are due to conservative political leaders’ rhetoric about the economy.

Political Orientation and Demographic Variables. Demographic variables were collected, as well as variables related to people’s ability to work at home, the extent to which their

household income was affected by the coronavirus, and whether they had any underlying health conditions that put them at risk. Finally, participants were asked to describe their political identity along a scale from 1 = liberal to 7 = conservative. This was our primary independent variable.

Results

Open-ended estimates of responses for the number of infections and deaths due to the virus were log transformed due to their skewed distribution. No outliers were removed for this analysis, but for robustness, for all three studies, we also conducted analyses removing extreme responses more than 3 standard deviations from the median for open-ended numeric responses (estimates and frequency judgments). The results of both analyses are consistent.

In all key regression analyses, the independent measure of interest was participants’ political orientation where higher values indicate greater political conservatism. The following variables were also included as additional controls: age, education, income, gender, children in the home, underlying health risk for coronavirus, and the extent to which household income was affected by the coronavirus. To examine the effect of political identity over and above the political rhetoric at the time, control variables in study 1B also included the strength of belief in protecting the economy versus protecting individuals from the coronavirus. All variables were standardized for the analyses. The analyses reported here focus on the key hypotheses. However, complete tables of results concerning individual dependent measures are included in appendix 1b, tables 5 and 6. Figure 1 provides a visual summary of group and individual risk estimates and adherence to group and individual risk-alleviating behaviors (pooled over the three time periods) for studies 1A and 1B using standardized means² by political orientation where based on the political orientation scale, liberal = 1–3 and conservative = 5–7.³ Raw means are presented in the appendix 1b, tables 3 and 4.

Risk Estimates. Regression analyses of group-risk estimates in both study 1A and study 1B revealed a significant negative

2. Standardized means were used for ease of visualization given the large difference in the ranges of the dependent measures employed in the study.

3. For the purposes of visualization, liberals were defined as 1–3 and conservatives as 5–7 with the means of those who selected 4 are not included in the graph. (However, all participants are included in the reported statistical analysis.)

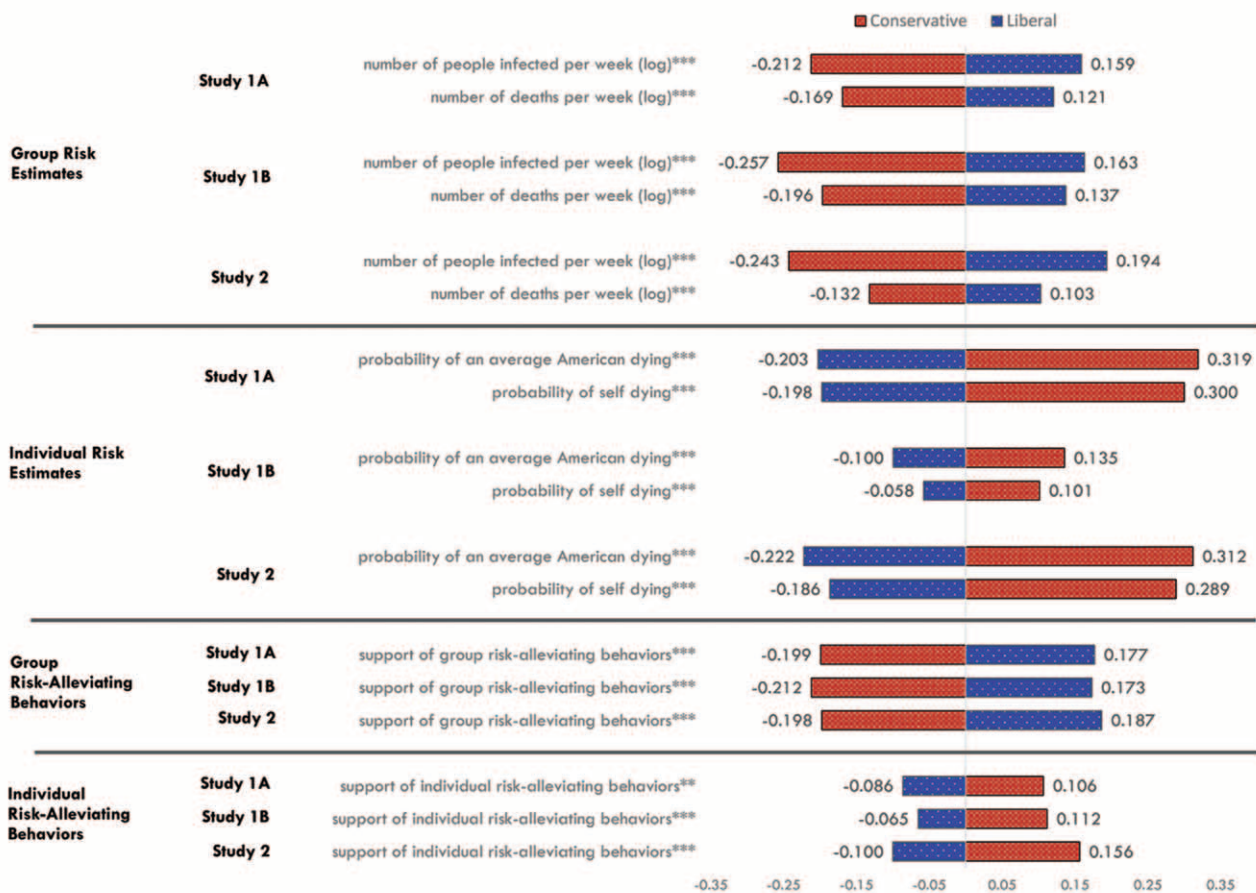


Figure 1. Means of standardized key dependent measures by political identity. Difference significant at ** $p < .01$, *** $p < .001$. All means are standardized for comparison: Liberals are defined as 1–3 on the liberal-conservative identity scale, and conservatives are defined as 5–7 on this scale. Group risk estimates are averaged across 2-, 4-, and 6-week estimates.

effect of political identity. That is, conservatism was negatively associated with estimates of population infections at 2 weeks (1A: $\beta = -.18$, $p < .0001$; 1B: $\beta = -.15$, $p < .0001$), 4 weeks (1A: $\beta = -.19$, $p < .0001$; 1B: $\beta = -.18$, $p < .0001$), and 6 weeks (1A: $\beta = -.20$, $p < .0001$; 1B: $\beta = -.20$, $p < .0001$) in the future. Similarly, conservatism was negatively associated with estimates of population deaths at 2 weeks (1A: $\beta = -.09$, $p = .0008$; 1B: $\beta = -.09$, $p = .002$), 4 weeks (1A: $\beta = -.15$, $p < .0001$; 1B: $\beta = -.16$, $p < .0001$), and 6 weeks (1A: $\beta = -.18$, $p < .0001$; 1B: $\beta = -.19$, $p < .0001$) in the future.

In contrast, regression analyses of individual risk indicated that conservatism was positively associated with estimates of the probability that one is personally likely to die (1A: $\beta = .15$, $p < .0001$; 1B: $\beta = .093$, $p = .0004$) and that the average American is likely to die (1A: $\beta = .17$, $p < .0001$; 1B: $\beta = .15$, $p < .0001$) due to the coronavirus.

Risk-Alleviating Behaviors. A regression analysis of group risk-alleviating behaviors yielded a negative effect of political identity, indicating that conservatism decreased support for these behaviors (1A: $\beta = -.20$, $p < .0001$; 1B: $\beta = -.10$, $p < .0001$). In contrast, an analysis of individual risk-alleviating behaviors indicated that conservatism was positively associated with the likelihood of engaging in these behaviors (1A: $\beta = .05$, $p = .005$; 1B: $\beta = .09$, $p < .0001$).

Discussion

Studies 1A and 1B demonstrate the seemingly paradoxical divergence of group versus individual risk perceptions. Conservatives were more likely than liberals to believe that the overall risk of contracting or dying from the coronavirus is low. At the same time, they were more likely than liberals to believe that they themselves and the average American are likely to die if they contract the virus. Furthermore, adherence

to group versus individual risk-alleviating behaviors mirrored judgments of group versus individual risk. Thus, these studies indicate that conservatives can hold the view that the group at large is relatively unsusceptible to the coronavirus while simultaneously being sensitive to the threat of personally contracting the disease.

STUDY 2: THE ROLE OF CONSERVATIVE AND LIBERAL IDEOLOGICAL VALUES

A question remains as to whether people's political identity per se accounts for their divergence between judgments of group versus individual risk or whether the effects are more fundamentally a result of the different moral values associated with conservatism (e.g., authority, loyalty, purity, etc.) versus liberalism (caring, fairness, etc.). If adherence to belief in fundamental conservative values underlies conservatives' perceptions of group and individual risk relative to liberals', the effects of political identity on risk perceptions should be mediated by these fundamental conservative values. Adherence to these conservative values should mediate the negative effect of conservatism on judgments of group risk and the positive effect of conservatism on judgments of individual risk (hypothesis 2).

Method

On April 7, 2020, 1,294 participants on Amazon's Mechanical Turk (47% female, average age: 37.88 years) completed our survey in exchange for a small amount of money. Study 2 was nearly identical to studies 1A and 1B, with the following exceptions.

First, in accordance with common CDC recommendations at the time, participants were asked how frequently they wear a mask when going out in public on a scale from 1 = never to 5 = always and estimated the number of times they went outside of their home during the previous week. Second, participants were asked the same group risk questions as in studies 1A and 1B, but we adjusted the response range for number of infections and deaths to millions and hundreds of thousands, respectively, based on the latest epidemiological data (see app. 2a). Third, they reported their estimates of group risk-alleviating and individual risk-alleviating behavior ($\alpha = .83$ and $.69$, respectively).

Finally, participants completed the widely used moral foundations questionnaire developed by Graham et al. (2011); see appendix 2a. They answered 32 questions on a 0- to 5-point scale of either (a) agreement or (b) relevance to judgments of right or wrong. Responses to items pertaining to *purity* ("People should not do things that are disgusting, even if

no one is harmed"), *loyalty* ("It is more important to be a team player than to express oneself"), and *respect* ("Respect for authority is something all children need to learn") were combined into an index of conservative values ($\alpha = .90$) and responses to items pertaining to *fairness* ("Justice is the most important requirement for a society") and *care* ("It can never be right to kill a human being") were combined into an index of liberal values ($\alpha = .78$). Note that the correlation between these conservative and liberal values was low ($r = .03$).

Results

The response transformations were identical to studies 1A and 1B, as were the key independent variables and analyses. Figure 1 reports all standardized means of key summary dependent measures by political orientation. Complete tables of results are included in appendix 2b, table 8.

Risk Estimates. Regression analyses indicated that political identity was negatively associated with estimates of population infections at 2 weeks ($\beta = -.15, p < .0001$), 4 weeks ($\beta = -.19, p < .0001$), and 6 weeks ($\beta = -.22, p < .0001$) in the future. Similarly, it was associated with low estimates of population deaths at 2 weeks ($\beta = -.06, p = .04$), 4 weeks ($\beta = -.13, p < .0001$), and 6 weeks ($\beta = -.17, p < .0001$) in the future. In contrast, political identity was positively associated with estimates of the probability that one is personally likely to die from the coronavirus ($\beta = .14, p < .0001$) and that the average American is likely to die from it ($\beta = .21, p < .0001$). These results are consistent with those of studies 1A and 1B supporting hypothesis 1: relative to liberals, conservatives' estimates of group risk were lower while their estimates of individual risk were higher.

Group Risk: Mediation by Conservative and Liberal Values.

We conducted a mediation analysis using Process model 4 (Hayes 2018) with the same control variables as the previous analyses and two mediators: adherence to conservative values (M_1) and adherence to liberal values (M_2).

For the average group risk estimate of total coronavirus infections across weeks 2, 4, and 6 (Y_1), the indirect effect of political identity (conservatism, X) through adherence to conservative values was significant and negative ($\beta = -0.060$, 95% CI = -0.100 to -0.021) while the indirect effect of adherence to liberal values was not significant ($\beta = -0.0048$, 95% CI = -0.018 to 0.007). The direct effect of political identity remained significant ($\beta = -.131$, SE = $.038$, $t = -3.42$, $p = .0007$; see table 1 for a summary of total, direct, and indirect effects).

Table 1. Study 2 Summary of Total, Direct, and Indirect Effects

	Group risk total infection Y_1	Group risk total deaths Y_2	Individual risk death: Av- erage person Y_3	Individual risk death: Self Y_4
Total effect (c): Political identity (conservatism) on risk, (p -value)	-.196 ($<.0001$)	-.121 ($<.0001$)	.205 ($<.0001$)	.141 ($<.0001$)
Direct effect (c'): Political identity (conservatism) on risk, (p -value)	-.131 (.0007)	-.048 (.22)	.031 (.35)	.048 (.15)
Indirect effect through adherence to conservative values (M_1), [confidence interval]	-.060 [-.100, -.021]	-.072 [-.114, -.034]	.187 [.151, .224]	.102 [.065, .139]
Indirect effect through adherence to liberal values (M_2), [confidence interval]	-.005 [-.018, .007]	-.003 [-.016, .010]	-.013 [-.025, -.003]	-.009 [-.020, .002]

Note.—Indirect effects with a confidence interval that does not encompass zero indicates a significant effect at a 95% confidence level. Bold font confidence intervals indicate these significant effects.

The results for the group risk estimate of total coronavirus deaths (Y_2) mirror those of infections: the indirect effect of political identity (conservatism, X) through adherence to conservative values was significant ($\beta = -0.072$, 95% CI = -0.114 to -0.034), while the indirect effect of adherence to liberal values ($\beta = -0.003$, 95% CI = -0.016 to 0.010) was not significant. The direct effect of political identity (conservatism) was no longer significant ($\beta = -0.048$, SE = .039, $t = -1.23$, $p = .22$ (see table 1). These results support hypothesis 2; adherence to conservative values mediates the negative effect of conservatism on group risk perceptions.

Individual Risk: Mediation by Conservative and Liberal Values. We conducted the same mediation analyses with assessments of individual risk. For the estimated probability of the average American dying of the coronavirus (Y_3), the indirect effect of political identity (conservatism, X) through adherence to conservative values was significant and positive ($\beta = 0.187$, 95% CI = 0.151 to 0.224). The indirect effect of adherence to liberal values was significant and negative ($\beta = -0.013$, 95% CI = -0.025 to -0.003), but note that the magnitude of the effect was significantly smaller than adherence to conservative values. The direct effect of political identity (conservatism) was not significant ($\beta = .031$, SE = .034, $t = .93$, $p = .35$; see table 1).

The results for the estimated probability of dying from the coronavirus (Y_4) mirrors those of judgments for the average American: the indirect effect of political identity through ad-

herence to conservative values was significant ($\beta = 0.102$, 95% CI = 0.065 to $.139$), while the indirect effect of adherence to liberal values ($\beta = -0.0087$, 95% CI = -0.199 to 0.0015) was not significant. The direct effect of political identity was no longer significant ($\beta = .048$, SE = .033, $t = 1.43$, $p = .15$ (see table 1). These results support hypothesis 2: adherence to conservative values mediates the positive effect of conservatism on individual risk.

Risk-Alleviating Behaviors. Mirroring the results of group risk estimates, a regression analysis of group risk-alleviating behaviors revealed that conservatism is associated with decreased support for and engagement in group risk-alleviating behaviors ($\beta = -.092$, $p < .0001$) but was associated with increased frequency of engaging in individual risk-alleviating behaviors ($\beta = .081$, $p = .0002$).

Discussion

Study 2 replicated the key paradoxical divergence of risk perception where conservative, relative to liberals, simultaneously perceive higher group risk while perceiving lower individual risk of succumbing to the coronavirus. Importantly, adherence to conservative values consistently mediates the negative effect of political identity (conservatism) on group risk while also consistently mediating the positive effect of political identity on individual risk. The summary in table 1 also shows that the coefficients of the effects of conservative values are orders of magnitude larger than those of the coefficients of the effects of liberal values. Liberal

values were a significant mediator in only one case. Finally, as in studies 1A and 1B, the effect of conservatism on the lack of engaging in downstream group risk-alleviating behaviors mirrors judgments of group risk and engagement in downstream individual risk-alleviating behaviors mirrors judgments of individual risk.

GENERAL DISCUSSION

Three studies conducted in the early stages of the COVID-19 pandemic reveal a possible reason why historically threat-sensitive conservatives seem to dismiss concerns related to the virus. Asking them about group risk highlights the national risk of infection and death from the coronavirus which activates their group identity, leading conservatives to perceive that the pandemic does not pose as much of a risk to the nation. However, asking them about individual risk by highlighting their own or another individual's probability of death increases their estimates of the individual risk of death from the coronavirus. Thus paradoxically, conservatives are more likely than liberals to *underestimate* the threat of the virus to the group as a whole but more likely than to liberals to *overestimate* its threat to an individual. In short, the way in which people are asked about risk (e.g., “the number of Americans dying of COVID-19” versus “the probability of an individual dying of COVID-19”) can influence their risk perceptions by making their groups versus individual social identity more salient, in turn shaping the mental representation of their risk perceptions.

Evidence that people's judgments of group and individual risk can depend on what identity is salient provides empirical support for our model of identity-based risk perception. Although we focused on political identity in the context of the coronavirus, other research could examine instances where evoking other aspects of identity—for example, gender or occupation—might evoke different assessments of group versus individual risk depending on whether group versus individual social identity is made more salient.

Other implications of our findings are noteworthy. The IRP model suggests that asking about risk perceptions in a way that implies a particular normative response can amplify responses and potentially bias data collection. For example, some surveys ask people about the change to their behavior in response to the pandemic. Liberals might feel normatively that they should say their behavioral changes were large whereas conservatives might feel that they should say their behavioral changes were small. This could be one reason why our individual risk-alleviating behavioral measures, which were asked in a frequency format as opposed to a

change format, showed that conservatives were reported being more likely to engage in these behaviors on an absolute basis.

Finally, our results also have implications for policy. Because risk judgments were associated with differences in group versus individual risk-alleviating behavior, it suggests that in some populations, it might be more useful to focus on either group or individual risk when trying to encourage a particular set of risk-alleviating behaviors. Our results suggest that conservatives are more likely to adopt risk-alleviating behaviors that are associated with physical threat and individual-level risks but are less likely to adopt risk-alleviating behaviors that are associated with meaning threat and group-level risks.

Limitations. Our research has several limitations that suggest fruitful avenues for future research. First, our results are correlational in nature, preventing us from making any strong causal inferences. Our research did not specifically test this in an experimental setting. Future research might be able to do so in an experimental setting. Other research could examine additional domains in which the type of divergence we identified might occur.

Our model of Identity-based Risk Perception provides a framework for examining how risk perceptions might be influenced by different dimensions of identity (social connectedness, religion, gender, etc.). Although we focused on political identity, identity along other dimensions might also distort people's risk perceptions and, therefore, their attitudinal and behavioral responses to risky situations.

Finally, we did not consider what specific personal behaviors can be driven by group risk perceptions. As we write this, a nontrivial proportion of the conservative population in the United States have decided not to be vaccinated against COVID-19. Although getting a vaccination against COVID-19 is a personal decision, it can be construed in terms of either group identity (“If I get vaccinated, I would be compromising on my group values”) or individual identity (“If I get vaccinated, I can work and travel without restrictions”). Thus, a pivotal question to address in the future is when and why personal behaviors are driven by group versus individual identity.

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