MORAL JUDGMENTS ON HEALTH MOTIVATED TRANSGRESSIONS: THE INTERPLAY OF MORAL FOUNDATIONS, EMPATHY, AND POLITICAL IDENTITY

by

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ABSTRACT

MARVIENE WAYNELL FULTON. Moral Judgments on Health Motivated Transgressions: The Interplay of Moral Foundations, Empathy, and Political Identity (Under the direction of DR. GALATI)

During the COVID-19 pandemic, scientific guidelines were rejected by many conservatives in the U.S. This polarization could have contributed to conservative counties' higher mortality rates. Given the potential for political ideology to influence health behaviors that increase death rates during a pandemic, it is important to understand how group characteristics affect reasoning during heightened health-threat. Using the Moral Foundations Theory, in this study (*N* = 380), I examined whether people rely on their moral foundations to make judgments on others' health-motivated transgressions, considering situations without health context, a context involving a lesser health threat, and a context involving a COVID health threat. Prior studies suggested that those with progressive ideology would judge health-threat moral transgressions as less egregious in contexts with increased health threat, unlike conservatives. Having established that progressives have higher affective (but not cognitive) empathy than conservatives, I examined the effects of empathy (cognitive and affective), moral foundations (Individualizing associated with progressives and Binding with conservatives), and political ideology (on a continuous spectrum) on health judgments. Data were best explained by a model with Individualizing foundations mediating the effect of empathy on Political Identity and Political Identity mediating the effect of foundations on health-salient judgments. There were also direct effects: judgments in the "no health" context relied on both Individualizing and Binding foundations and on affective empathy. Judgments about the lesser threat relied on affective empathy, Binding foundations, and Political Identity. Judgments about a COVID health threat relied on Binding foundations and Political Identity. In sum, Individualizing foundations had a direct effect only for contexts without a health threat, suggesting that progressives did not use

their moral foundations directly to make judgments on health motivated transgressions, instead drawing from their political ideology to make those judgments. In contrast, conservatives used foundations directly for all contexts, and the foundations were mediated by Political Identity for the health threat judgments. These findings suggest that health threats (including those posed by pandemics) are a political issue in the U.S., which has implications for how health messaging should target aspects of empathy (in particular, affective) and moral foundations for specific audiences.

Keywords: Moral Foundations Theory, Political Ideology, Cognitive Empathy, Affective Empathy, Progressives, Conservatives, COVID-19, Vignettes, Political Cognition, United States

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B	Unstandardized Beta Coefficient
CDC	Center of Disease Control
CFI	Comparative Fit Index
F	F-statistic
H	Hypothesis
IRI	Interpersonal Reactivity Index
M	Mean
MFQ	Moral Foundations Questionnaire
MFT	Moral Foundations Theory
MVHV	Moral Violation Health Vignette
N	Number of participants
p	p-value
RMSEA	Root Mean Square Error of Approximation
SD	Standard Deviation
SE	Standard Error
SRMR	Standardized Root Mean Squared Residual
t	t-statistic
TLI	Tucker-Lewis Index
U.S.	United States

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INTRODUCTION

Throughout pandemics, like COVID-19, disparate communities must collectively change their behavior to curb the spread of the pathogen to lessen its impact. To save lives, scientific guidelines and evidence-based recommendations need to be followed by everyone to the best of their ability. People need to exhibit prosocial behaviors, especially prosocial health behaviors, during pandemics. Prosocial behavior is “voluntary behavior intended to benefit another” (Eisenberg et al., 2016, p. 1688). This might mean that empathy is especially important during global crises, since it can increase prosocial behavior (Bailey et al., 2020; Davis et al., 2019; Rodriguez et al., 2019). Effective prosocial health behaviors to reduce COVID-19 transmission, sickness, and death, include vaccination, handwashing, wearing a mask in some settings, and quarantining when appropriate.

Following COVID-19 health recommendations became a highly politically polarizing issue between progressives and conservatives in the United States (U.S.) early in the pandemic. Progressives (politically left or liberal-leaning people) were much more likely than conservatives (politically right-leaning people) to follow guidelines (Stroebe et al., 2021). Evidence indicates other countries experienced the opposite pattern, where conservatives were just as likely or more likely to follow health guidelines when compared to progressives (Stroebe et al., 2021). From the limited data available, U.S. conservatives’ rejection of health protective measures differs significantly from conservatives’ behavior in other nations.

Political party solidarity (in-group loyalty) could be one of the explaining factors for U.S. conservatives rejecting public health recommendations. For example, Boykin et al. (2021) postulated that not wearing a mask became a signal of party affiliation rather than seen as a necessary health protection measure. At the beginning of the COVID-19 pandemic, most conservative politicians vociferously rejected public health-protection guidelines from the Center

of Disease Control (CDC) and the World Health Organization (Stroebe et al., 2021). Eventually, top conservative political leaders altered their public behavior to follow CDC health recommendations more often. The conservative leaders' change in behavior, including getting vaccinations, did not appear to influence their followers' behavior significantly. Conservatives continued to reject health guidelines, including getting vaccinations (Stroebe et al., 2021). For COVID-19, a desire to express solidarity with other conservatives, rather than party leaders, may have motivated the decision to follow or reject health measures. The counties that voted majority conservative in the 2020 Presidential election had a three times higher COVID-19 death rate (as of May 2021) when compared to counties that voted majority progressive (Wood & Brumfiel, 2021). A year later, in May 2022, conservative counties continued to have a much higher death rate at 2.26 times higher mortality (Wood & Brumfiel, 2022).

Another factor that could have contributed to conservative's rejection of public health recommendations is misinformation. Misinformation can have a strong negative effect on numerous behaviors, including health protection ones (Martel et al., 2020; Trevors & Duffy, 2020). Noncompliance with COVID-19 health recommendations by conservatives in the U.S. was argued to be an "infodemic of misinformation" by Trevors and Duffy (2020, p. 538). Consistent with previous research, they found that strong personal beliefs, such as those based on moral values (e.g., group cohesion and individual freedoms), were a challenge to overcome regardless of the validity of the information the belief is based on (Sinatra et al., 2014; Sinatra & Seyranian, 2016). Conservative morality is strongly tied to group cohesion, a moral value that can interfere with efforts to update (correct) misinformation. This might explain why efforts to provide corrective COVID-19 information, intended to promote prosocial health behaviors, have not been widely effective in changing conservative actions (e.g., increasing vaccination rates).

This thesis investigates the interplay between moral values, empathy, U.S. political ideology, and judgments about others' health-threat motivated transgressions. In what follows, I explore in separate subsections the main key constructs: empathy and moral foundations. In

each subsection, I review research and present theoretical frameworks (specifically, Moral Foundations Theory) that can account for how these constructs relate to health behavior judgment. Next, I describe the details of the current study, outline hypotheses, and cover the methods used to conduct this study. In the final part of my thesis, I cover the results from analyses and discuss implications. The current study's broad goal is to investigate whether political ideology (as a continuous variable) and empathy can account for (as mediators) some of the relationship between a person's moral foundations and judgments on other's health protective behavior.

Empathy

Empathy is important because it aids social functioning by increasing a person's ability to connect with others and successfully work in groups toward common goals (Weisz & Cikara, 2021). Empathy is a multifaceted socioemotional trait often studied as separate but related components. A common distinction is between cognitive and affective empathy components. Cognitive empathy is based on perspective taking, which requires understanding (or perceiving to understand) other people's differing viewpoints. Affective empathy is reflexively feeling the perceived emotions of other people; it is also sometimes referred to as emotional empathy or empathetic concern (Bajouk & Hansenne, 2019).

According to research conducted by Healy and Grossman (2018), brain imaging evidence supports the theory of two distinct yet partially overlapping components of empathy. Both types of empathy activate the medial prefrontal cortex and temporoparietal junction, which are parts of the default mode network. However, affective empathy engages the limbic system, basal ganglia, and ventromedial prefrontal cortex to a greater extent than the medial prefrontal cortex, while cognitive empathy engages the dorsomedial prefrontal cortex and dorsolateral prefrontal cortex, which are associated with more complex social cognition tasks, to a greater extent than affective empathy. Notably, previous electroencephalogram (EEG) studies have indicated that cognitive and affective responses to stimuli can be differentiated based on

separate event-related potentials (Pick et al., 2019), giving more evidence to the view that these two constructs represent distinct phenomena.

Empathy is especially important during a pandemic, given evidence that eliciting an empathetic response increases prosocial behaviors (Bailey et al., 2020). Differences in affective empathy account for variance in altruistic values, such as benevolence (Persson & Kajonius, 2016) and sharing (Edele et al., 2013), too. Further, affective empathy can be a source of emotional motivation to increase prosocial health behaviors, including handwashing (Sassenrath et al., 2016), mask wearing, and physical distancing (Pfattheicher et al., 2020). At the same time, high affective empathy is also linked to increasing people's bias toward their own group, with the potential to exacerbate inter-group conflict (Bruneau et al., 2017). Additional research is needed to effectively leverage empathy to increase prosocial health behaviors without increasing inter-group conflict.

There is some evidence that people who identify with different political parties differ in empathy. Previous research has linked moral values of progressives with higher levels of cognitive (Clark et al., 2019) and affective empathy (Iyer et al., 2012) compared to conservatives. However, Iyer and colleagues (2012) did not present inferential statistics evaluating the relationship between affective empathy and political affiliation. If these past effects (or suggested effects) are replicated, the results of this study could indicate that public health messages intended for progressives will have increased effectiveness if they elicit empathy. Because those findings suggest that conservatives have lower levels of empathy, public health messaging relying solely on eliciting general empathy (i.e., empathy for unknown and unrelated others) may not work well or as intended for U.S. conservatives, in terms of increasing adherence to health protective guidelines. However, as will be discussed in the next section, conservatives value ingroup loyalty. Therefore, messaging around moral values that are aligned with conservative ideology, such as loyalty to the ingroup (group cohesion), may work better.

Moral Foundations Theory

Moral reasoning and moral intuition are hypothesized to be a cognitive dual process system (Kahneman, 2003) involved in the formation of moral values and judgments. In this view, moral intuitions are an innate and immediate thought process. Moral intuitions precede and influence moral reasoning, which is a deliberate process (Chan, 2021; Kahneman, 2003). Social scientists commonly use the Moral Foundations Theory (MFT) as a framework that purports to explain differences in moral intuition between groups of people. However, the Moral Foundations Questionnaire (MFQ), the validated instrument used to evaluate moral foundations, lacks a mechanism to distinguish the degree to which responses reflect the person's moral intuition vs. their moral reasoning. In this thesis, I used the term moral reasoning to encompass both components of the dual process system – automatic moral intuitions and deliberate moral reasoning – since both are likely involved when responders provide self-reported answers to survey questions concerning moral values.

The MFT authors, Haidt and Graham (2007), propose that there are at least "five psychological systems that provide foundations" for perceiving and emotionally responding to issues within the context of culture (p. 98). The five foundations proposed by the MFT and measured by the MFQ are Care, Fairness, (ingroup) Loyalty, Authority, and Sanctity (also called Purity). Understanding the foundations requires knowing the topics included in the foundation's MFQ items, since the items cover a range of topics in specific ways.

Foundation Definitions

The Care foundation represents a person's sensitivity to the unexplained suffering of unknown and unrelated others. Through the Care foundation, a person might have an emotional response that includes compassion and kindness (Haidt & Graham, 2007). To measure the Care foundation, the MFQ includes items (without context) regarding responses to an unknown other's emotional suffering, (unidentified) vulnerable people, and cruelty to humans and animals

in general. This foundation's MFQ items concern reactions to the suffering of general others (others not identified as in the survey respondent's ingroup).

The Fairness foundation represents a person's sensitivity to justice issues that arise during reciprocal interactions between unknown people and people with their government. To measure the Fairness foundation, the MFQ includes items about equal treatment in general, acting unfairly, justice, and monetary inheritance inequalities. Some of the Fairness foundation's items appear to be opposite to other foundation's items. For example, someone who values equal treatment (as morally relevant) might disagree with the MFQ's Authority item which says, "men and women each have different roles to play in society" (Graham et al., 2011).

The Loyalty foundation represents a person's loyalty to the people with whom they reside and to their other in-groups. Political affiliation may serve as one such social group, particularly in the context of political polarization and the increasing divide between political parties. In the original paper proposing MFT, Haidt and Graham (2007) suggest that people high on the Loyalty foundation despise those they feel have betrayed their in-group, even if their in-group's beliefs or actions are wrong. To measure the Loyalty foundation, the assessment includes items about patriotism (such as pride in a country's history), betrayal in general, lack of loyalty in general, loyalty to family ("even when they have done something wrong") and being a team player (rather than expressing themselves) (Graham et al., 2011). The Loyalty foundation's items place higher value on national patriotism and maintaining ingroup solidarity than on truth or justice (as represented in the Fairness foundation).

The Authority foundation represents a person's feelings toward leaders and the duties of those being led. To measure the Authority foundation, the MFQ includes items about respecting authority, conforming to tradition, and causing chaos. It also has items asking about differentiated sex-roles in society and the duty of soldier obedience to ("disagreed with") orders (Graham et al., 2011).

The Sanctity foundation represents a person's socially driven emotion of disgust for bodily contamination. The social emotion of disgust is generally linked to bodily activities (e.g., feces) and specifically linked to religious virtues (e.g., virginity) (Haidt & Graham, 2007). To measure the Sanctity foundation, the MFQ includes items about (undefined) purity and decency standards, (unspecified) disgusting acts, (undefined) unnatural acts, God's approval, and the value of chastity.

Since the inception of MFT, Haidt (2012) proposed Liberty as a sixth foundation to represent libertarian political ideals that might be used during moral decision making. Libertarian's foundation pattern differed greatly from progressives and conservatives: in general, Libertarians have less Care and Fairness than liberals (but more than conservatives) and less loyalty and authority than conservatives (but more than progressives), along with low Sanctity (Iyer et al., 2012). The Liberty foundation's items represent a person's aversion to coercion, oppression, or the restriction of personal liberty by a dominant person or group (Iyer et al., 2012). To measure the Liberty foundation, Iyer et al. (2012) developed additional economic and lifestyle items to supplement the MFQ. This foundation is sometimes included in research (e.g., Clifford et al., 2015, Sutton et al., 2020). It has been included in the present study.

Individualizing and Binding Foundations

The moral foundations are classified as either Individualizing or Binding. The Individualizing foundations are Care and Fairness. Individualizing is defined as having "a concern for the well-being and maintenance of the individual" (Baldner et al., 2018, p. 360). The Binding foundations are Loyalty, Authority, and Sanctity. Binding is defined as "a concern for the well-being and maintenance of the group" (Baldner et al., 2018, p. 360).

A large body of past research agrees that people who have a significantly higher score on the Individualizing foundations are more likely to be progressive (these individuals fall on the left part of the left-leaning / right-leaning political ideological spectrum). Progressive is synonymous with being "liberal" (Democrat) in the U.S. context. However, elsewhere in the

world “liberal” has a different meaning (associated with market liberalism) and is associated with libertarian political values (Haidt, 2013). Given the ambiguity in the term “liberal”, throughout this thesis I use the term progressive instead. Using the MFT framework, Haidt and Graham (2007) proposed that progressives and conservatives cannot understand each other’s morality because they rely on different foundations. Progressives rely heavily on the two Individualizing foundations, while conservatives use all the foundations more equally, or rely on the Binding foundations more (Graham et al., 2009; Sutton et al., 2020; Turner-Zwinkels et al., 2021). My research will examine this long-standing assumption and build upon it.

Moral reasoning has been linked to health-related behaviors relevant to pandemic policy. MFT research into political parties’ compliance to COVID-19 recommendations has revealed stable moral reasoning differences between progressives and conservatives (Chan, 2020; Ekici et al., 2021). Unlike people who scored higher on the Binding foundations, people who have significantly higher scores on the Individualizing foundations are more likely to exhibit prosocial health behaviors such as self-quarantining, mask wearing, and physically distancing (Chan, 2020). These individuals, in one study conducted with a Turkish sample, exhibited flexibility in their moral reasoning framework (changing in response to context), rating transgressions committed to avoid COVID-19 exposure as less wrong than moral transgressions done for a non-health threat reason (Ekici et al., 2021). Conversely, in that same study, people higher on the Binding foundations did not respond differently to moral transgressions done to avoid COVID-19 exposure (Ekici et al., 2021).

The Current Study

As just noted, recent research established a relationship between moral foundations and judgments on health motivated transgressions in Turkey (Ekici et al., 2021). However, it was unknown whether empathy and political ideology could explain the relationship between moral foundations and health behavior judgments. Cumulatively, there was strong evidence that higher levels of empathy predicted higher scores on prosocial behavior (Bailey et al., 2020;

Clark et al., 2017; Davis et al., 2019; Gülseven et al., 2020; Rodriguez et al., 2019). There was also evidence that prosocial health behaviors related to COVID-19 were increased by eliciting empathy (Pfattheicher et al., 2020; Sassenrath et al., 2016). Still, the usefulness of empathy for promoting prosocial health behaviors may not generalize to all people, given evidence that conservatives might be significantly lower on both cognitive and affective empathy when compared to progressives.

In the current study, the goal was to partially replicate and then extend three findings concerning the interplay of political ideology, empathy, and moral judgments. First, to understand the potential usefulness of eliciting cognitive empathy to drive behavior change during pandemics, I sought to replicate the finding by Clark and colleagues (2019), that progressives had higher cognitive empathy than conservatives. Second, for the same reason, it was necessary to evaluate statistically whether Iyer and colleague's (2012, p. 13) numerical finding that progressives had higher affective empathy was robust. Third, I sought to replicate in a U.S. sample the Ekici et al. (2021) findings that conservatives and progressives differed in how they applied moral judgments on transgressions committed to avoid a health-threat. Ekici et al. (2021) found that conservatives in Turkey applied moral judgments without regard to the context in which a moral transgression was committed, resulting in a consistent application of moral values. Conversely, progressives' moral values were applied differently in different contexts, resulting in a seemingly inconsistent application of moral values. Therefore, conservatives' moral frameworks were characterized as stable, and progressives' moral frameworks were characterized as changeable. In sum, the current study aimed to extend the replicated studies to evaluate the relationships between MFT (Individualizing and Binding foundations), U.S. political ideology (on a continuous left/right spectrum), empathy (affective and cognitive), and moral judgments.

All my hypotheses used the moral foundations (Individualizing and Binding) as the explanatory variables since the foundations were theorized to be innate core moral values

(which are independent differences between individuals or groups). For this study's main hypotheses, empathy was proposed as a mediator. Mediators partially explain the relationship between correlated variables. I proposed that empathy (mediator) may explain some of the relationship between moral foundations (explanatory variable) and political ideology (an outcome variable in this instance). Theoretically, increasing a person's empathy could lead to a change in political ideology (and therefore political affiliation and voting patterns). For example, increasing a person's empathy toward other groups (such as minorities) could lead to that person changing from right-leaning voting patterns to left-leaning voting patterns to affect social change. I also proposed that empathy and political ideology (together as mediators) may explain some of the relationship between moral foundations (explanatory variable) and moral judgments (outcome variable). As a mediator, political ideology may account for some variation in how moral judgments are applied since political affiliation influences the behavior of its members. Moral judgments were always outcome variables in this study since moral judgments are observed (recorded) and measured responses based on individual differences.

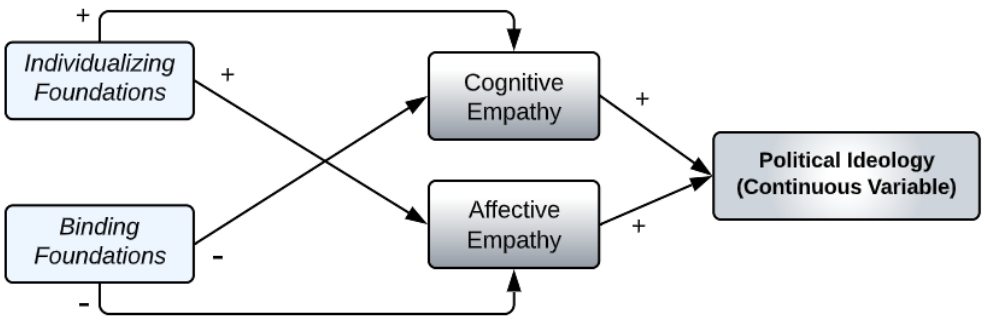
In the present study, participants completed nine surveys. Five of the surveys measured this study's main variables: explanatory, mediators, and outcome variables. The explanatory variables were the Individualizing and Binding foundations, which were measured with the MFQ (Graham et al., 2011) and Liberty foundation questionnaire (Iyer et al., 2012). The mediators were empathy and (in one hypothesis) political ideology. Empathy (cognitive and affective) was measured with the Interpersonal Reactivity Index (David, 1983). Political ideology was measured with the Pew Political Typology Quiz (Pew Research Center, 2021). In the exploratory analyses I used the political party information that the participant disclosed in the demographic information section of the survey. The last main variable was moral judgments. Moral judgments were the outcome variable and were measured with the Moral Violation Health Vignettes (Fulton et al., 2022) adapted from Ekici et al. (2021). The remaining surveys measured additional constructs that this study used as covariates to control for their effects:

Health Anxiety Measure (Ekici et al., 2021), Fear of COVID-19 (Ekici et al., 2021), COVID-19 Experience with Sickness and Death (select questions adapted from the Household Pulse Survey Phase 3.5, 2022; additional questions designed by this study's researchers). Demographic information was collected at the end. It included age, gender, ethnicity, education, religiosity, and household member information. Structural equation modeling was used to evaluate each hypothesis and to conduct exploratory analysis.

In the first two hypotheses (see Figure 1), I expected that a person's level of empathy (cognitive in H1 or affective in H2) partially explained the relationship between their moral foundations (Individualizing or Binding) and their political ideology (on a continuous line level left-right spectrum). Regarding cognitive empathy, since previous researchers (Clark et al., 2019) had found that progressives (ideologically left-leaning) had higher cognitive empathy, I expected that the Individualizing foundations' (explanatory) relationship to left-leaning (progressive) political ideology (outcome variable) was partially explained by (the mediator) high cognitive empathy (H1a). Conversely, I expected that people with higher Binding foundations (explanatory variable) would have more right-leaning (conservative) political ideology (outcome) as cognitive empathy (mediator) decreased (H1b). Regarding affective empathy, since previous researchers (Iyer et al., 2012) had found that people with higher Individualizing scores had numerically higher affective empathy scores, I expected that the Individualizing foundations' relationship to left-leaning political ideology was partially explained by high affective empathy (H2a). Conversely, it was expected that people with higher Binding foundations would have more right-leaning political ideology as affective empathy decreased (H2b). Hypotheses 1 and 2 were tested within the same structural equation model.

Figure 1

Hypothesis 1 & 2 Combined.

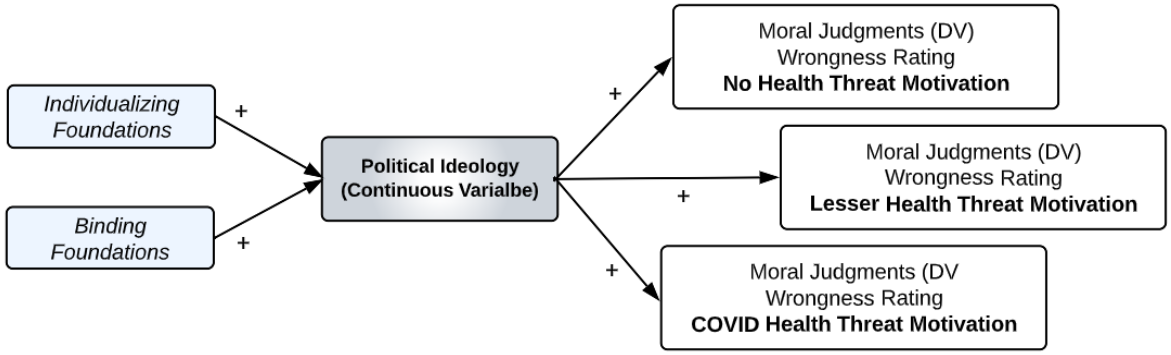


Note: Hypothesis 1a (Individualizing) and Hypothesis 1b (Binding), with Cognitive Empathy as Mediator. Hypothesis 2a (Individualizing) and Hypothesis 2b (Binding), with Affective Empathy as Mediator.

For the third hypothesis pair (see Figure 2), I expected that a person's political ideology partially explained the relationship between their moral foundations (Individualizing or Binding) and how they applied moral judgments (stably or adaptively in response to health-threat context). Since previous researchers (Ekici et al., 2021) found that progressives (ideologically left-leaning people) judged moral transgressions as less wrong as the health-threat increased, I expected to find that the Individualizing foundation's (explanatory variable) relationship with moral judgments (outcome variable) is partially explained by left-leaning political ideology (mediator), with this relationship changing in response to health-threat context (H3a). Conversely, I expected to find that the Binding foundations' (explanatory variable) relationship with moral judgments (outcome variable) is partially explained by right-leaning political ideology (as a mediator), with this relationship being consistent regardless of health-threat context (H3b).

Figure 2

Hypothesis 3



Note: In Hypothesis 3 Political Ideology mediates the relationship between the foundations (Individualizing in H3a and Binding in H3b) and moral judgments on transgressions committed for a selfish (but not health-protective reason), moral judgments on transgressions committed to avoid a possible lesser health threat exposure, and moral judgments on transgressions committed to avoid a possible COVID health threat exposure

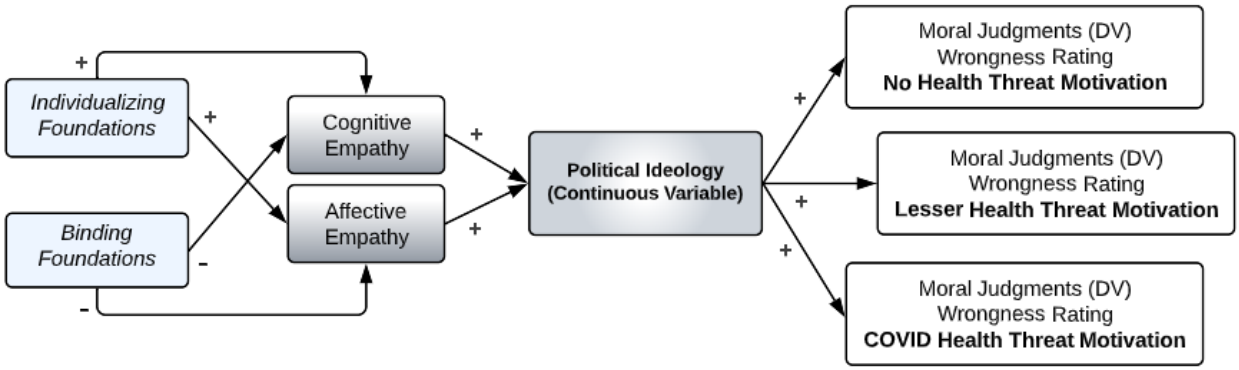
For the fourth hypothesis (see Figure 3), I expected that a person's cognitive empathy (mediator) and political ideology (mediator) partially explained the relationship between their moral foundations (Individualizing or Binding as the explanatory variables) and how they applied moral judgments (outcome variable). I expected that high cognitive empathy and left-leaning political ideology partially explained the relationship between the Individualizing foundations (associated with progressives) and Moral Judgments, with increasing acceptance of moral violations in response to increases in health threats (H4a). Conversely, I expected that low cognitive empathy and right-leaning political ideology partially explained the relationship between high Binding foundations (associated with conservatives) and consistent application of moral judgments, regardless of health-threat context (H4b).

For the fifth hypothesis (see Figure 3), I expected that a person's affective empathy and political ideology partially explained the relationship between their moral foundations (Individualizing or Binding) and how they applied moral judgments. I expected that high affective

empathy (mediator) and left-leaning political ideology (mediator) partially explained the relationship between the Individualizing foundations (explanatory variable), associated with progressives, and increasing acceptance of moral violations (outcome) in response to increases in health threats (H5a). Conversely, I expected that low affective empathy and right-leaning political ideology partially explained the relationship between Binding foundations (associated with conservatives) and their consistent application of moral judgments, regardless of health-threat context (H5b).

Figure 3

Hypothesis 4 & 5 Combined



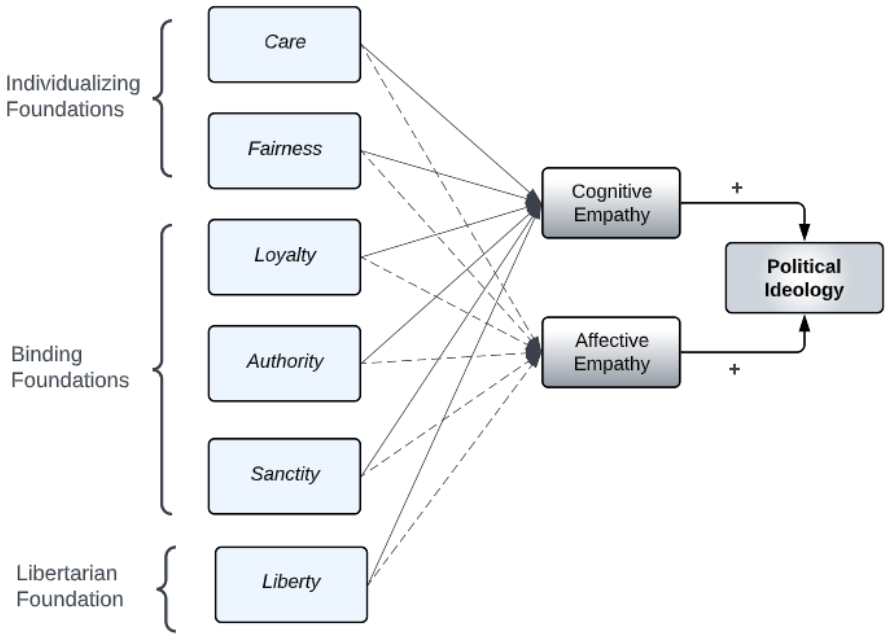
Note: Hypothesis 4a (Individualizing) and 4b (Binding) with Cognitive Empathy and Political Ideology as Mediators. Hypothesis 5a (Individualizing) and 5b (Binding) with Affective Empathy and Political Ideology as Mediators.

In exploratory analyses (see Figure 4), I examined whether the relationship between individual moral foundations (Care, Fairness, Loyalty, Authority, and Sanctity) and political ideology is better explained by cognitive or affective empathy. Studies using the MFQ have not provided strong evidence in support of MFT's five-factor model of morality. For example, a 27-country study using the MFQ found that the fit of MFT's model did not meet the commonly accepted standards (CFIs < 0.90) (Iurino & Saucier, 2020). Instead, studies suggest using the model that I employ for my hypotheses: a two-factor model, comprising "Care-Fairness" and

"Loyalty-Authority-Purity." However, individual foundations may have some relationship to the study's main variables and therefore warrant investigating.

Figure 4

Planned Pre-registered Exploratory Analysis



Note: Exploratory Analysis with Cognitive Empathy as Mediator combined with Exploratory Analysis 2 with Affective Empathy as Mediator. The dashed line is only intended to help with following the path visually.

As a part of my pre-registered exploratory analysis, I planned to re-test each of the hypotheses using the participant's self-reported strength of political group affiliation (e.g., "strong Democrat") instead of the political group assignment obtained through the Pew Political Typology Quiz (Pew Research Center, 2021).

METHOD

Participants

My target sample size was 400 adult participants fluent in written English. Participants had to be at least 18 years old, currently reside in the U.S. and have resided in the U.S. for at

least 10 years. The rationale for U.S. residency for 10 years was that study constructs concerned U.S. political affiliation and health responses in response to COVID in the U.S. The rationale for selecting this sample size (400 adult participants) was that the Ekici et al. (2021), whose design I partially followed, had 396 participants. Using that sample size, Ekici et al. (2021) successfully documented effects of moral reasoning on judgments about others' health-motivated behaviors. An additional reason for selecting this target sample size is that I planned to analyze the data using confirmatory factor analysis and structural equation modeling for all the main hypotheses, which require a large sample size, typically of that order.

There were 437 surveys completed across the Mturk and Prolific crowdsourcing platforms. Fifty-five of the completed surveys had at least one of the two attention checks failed. Of the retained surveys, two were removed due to having atypical responses that suggested departures from honest responding: one participant was removed because they had no affective empathy (M = 0.00), and the other participant was removed because they lacked moral foundations (Individuating M = 0.25 and Binding M = 0.00). The final sample consisted of 380 participants (N = 380): 11 were recruited from Mturk at the end of January in 2023 and 369 were recruited from Prolific at the end of March in 2023.

Of the 380 participants, there were 185 (48.7%) female, 180 (47.4%) male, 10 non-binary, and five trans male participants. The ethnicity breakdown was: Caucasian 63.4% (N = 241), Black/African American 13.2% (N = 50), Hispanic/Latinx 13.2% (N = 50), Asian 5.3% (N = 20), and 3 others. Participants ranged in age from 18 to 74 (M = 39, SD = 12.8). The highest completed education level was 35% bachelor's degrees (N = 134), followed by 26% "some college" (N = 98). The rest of the participant's education levels were: 17% high school (or GED) graduates (N = 65), 0.79% doctorate degree (N = 3), 0.79% less than a high school diploma (N = 3), and 0.53% professional degrees (such as Juris Doctor or Medical Doctor) (N = 2).

Procedure

Upon accessing the Qualtrics survey, participants were taken to a page that briefed them on the survey's broad interest and expectations. Participants were not told the study's real name, or the actual variables being tested. [This is because the first 11 participants from Mturk revealed strong self-selection bias after viewing a landing page that did have the study's real name and the variable names. Those 11 participants had little to no variation in the means of the variables (e.g., most participants had the maximum score for empathy).] Next, participants were directed to the informed consent form that they were required to accept before progressing. After providing informed consent, on the next page the participants were asked if they had resided in the U.S. for at least the last 10 years. Participants who reported they had not resided in the U.S. for at least the last 10 years were redirected to a thank you page and the study was terminated for them. Participants who reported that they had lived in the U.S. for at least 10 years were taken to a page that had an open-ended prompt and a captcha screener. The open-ended prompt asked participants to, "Describe your last shopping experience. Use 30 words or more." The prompt was checked manually, after the survey was completed. The survey automatically collected the worker's ID (which was embedded in the URL from Prolific) once the captcha screener was passed.

Upon successfully passing the captcha screening, the surveys were given to participants in the same order. This order was designed to minimize undue influence from a questionnaire onto the questionnaires that followed. The first survey was the Moral Violation Health Vignettes (Fulton et al., 2022, adapted from Ekici et al., 2021), which is the outcome variable and the most important to shield from being influenced by other questionnaires. The vignettes were delivered in random order. The vignettes were followed by two questionnaires intended to measure the moral foundations: the MFQ (Graham et al., 2011) and Liberty foundation items (Iyer et al., 2012). They were grouped together since the Liberty foundation items were designed to be inserted into the MFQ seamlessly. The Interpersonal Reactivity Index (Davis, 1983), used to

measure cognitive and affective empathy, was given next. The following four questionnaires were used to capture covariates. They were given in this order (after the empathy questionnaire): Health Anxiety Measure (Ekici et al., 2021), Fear of COVID-19 questionnaire (Ekici et al., 2021), COVID-19 Experience with Sickness and Death (select questions from the *Household Pulse Survey Phase 3.5*, 2022; additional questions designed by this study's researchers), and Discussion of Politics questions (Sledzieski et al., 2021; Levens et al., 2018). The Pew Political Typology Quiz (Pew Research Center, 2021) was used to determine participant's placement on a left-leaning / right-leaning spectrum by analyzing their attitudes and opinions on 16 current political issues. The Pew Political Typology Quiz is the last survey before demographics were gathered.

After all surveys were completed, demographic information was gathered. The demographic questions included items about the participant's age, gender identity, ethnicity, education, religious ideology, strength of political affiliation, and household co-habitants (type and number of, e.g., 2 seniors, 3 minors). A link was provided on the "thank you" page that took the Prolific participant back to Prolific to automatically register the survey's completion within their system.

Measures

Moral Violation Health Vignettes

The Moral Violation Health Vignettes (MVHV) created for this study were based on the Turkish vignettes created by Ekici et al. (2021). The vignettes measured the extent to which different levels of health threat affect moral judgments on transgressions intended to avoid the health threat. There were 36 items which were presented in random order. Participant's moral judgments were measured by the "wrongness" rating they gave to the transgression. The five original moral foundations and Liberty were each represented by six items. Those six items (within one moral foundation) were categorized into pairs, corresponding to three different levels of health threat (COVID health-threat, a lesser health threat than severe COVID, and no health

threat). In other words, for each moral foundation and each level of health threat there were two vignettes.

The Turkish vignettes were altered significantly for this study. Moral transgressions described in the Turkish items were updated to reflect a more recent scientific understanding of COVID. For instance, the Turkish vignettes had reflected a belief that COVID could be easily caught from contact with clothing. Instead, the set used in this study includes physical distancing. Some vignettes, such as the ones for the Loyalty foundation, were altered to isolate the foundation they were intended to measure. For example, the Turkish version of the instrument, the transgression for Loyalty was done to acquire adequate healthcare, which might also (in part) measure the Care foundation. There were some sets that needed to be altered in order to make the scenarios parallel across the foundation's health-threat levels. All of the no health threat vignettes were changed, too. The no health threat transgressions on the Turkish vignettes (Ekici et al., 2021) were written as neutral (no reason provided). However, the present study sought to make the no health threat transgressions more parallel with COVID and lesser sickness health-threat items by providing the motivation of the agent's actions. COVID motivated transgressions were done to avoid personal exposure to COVID (a selfishly motivated health behavior), and lesser sickness transgressions were done to avoid a personal exposure to a lesser health threat (a self-interest motivated health behavior). Therefore, this study's MVHV survey provided a self-interest (but not health related) motivation to explain the behavior described in the no health threat vignette items.

All MVHV questions (see Appendix A) were given one at a time, randomly, without the ability to go back to previous responses. Participants were instructed to judge each vignette on its own, without consideration for how they judged past vignettes. Each item was one sentence that described a moral transgression. Answers were provided on a Likert Scale from 0 to 4 (0 = not at all wrong; 4 = very wrong).

COVID health-threat response vignette items described a behavior done to avoid exposure to COVID, a high-level health-threat. Specifically, the moral transgression in the vignette was committed by another person to avoid their own personal COVID exposure. An example MVHV item, asking for a wrongness rating on a COVID health threat item was, “You see a high school senior sick with COVID-19 symptoms ignoring their father’s orders by taking the car without permission so they can buy a COVID-19 test.” The scores on all the COVID items (across the foundations) were summed to give one COVID MVHV mean score per participant for that level of health threat.

Lesser sickness health-threat response items described a transgression committed by another person to avoid a more common, lesser health-threat, compared to severe COVID (e.g., flu, allergies, cold). Scores on all the lesser common health threat items were summed to give one mean score per participant for this level of health threat. An example item, asking for a wrongness rating on a common (lesser) sickness moral transgression was, “You see a high school senior suffering from bad allergies ignoring their father’s orders by taking the car without permission so they can buy an anti-allergy nose spray.”

The vignettes items that did not have a health threat context described a transgression that was committed for a non-health threat reason. Scores on all the no health threat items were summed to give one mean score per participant for this level of health threat. An example item, asking for a wrongness rating on a no health threat moral transgression was, “You see a high school senior ignoring their father’s orders by taking the car without permission so they can buy a dessert.”

Moral Foundations Questionnaire

The Moral Foundations Questionnaire, or MFQ, (Graham et al., 2011) assessed the moral domains that guide moral reasoning (see Appendix B). The MFQ’s five original foundations (Care, Fairness, Loyalty, Authority, and Sanctity) were measured by 30 items. Of the 30 items, 15 ask responders to consider relevancy. Answers were provided on a Likert

Scale from 0 to 5 (0 = not at all relevant; 5 = extremely relevant). An example of a moral relevancy item is “Whether or not someone’s action showed love for their country.” The other 15 items asked for a level of agreement. Answers were provided on a Likert Scale from 0 to 5 (0 = strongly disagree; 5 = strongly agree). An example of a moral agreement item is “men and women each have different roles to play in society.”

Each foundation was measured by summing responses to six of the 30 items and taking the mean score: three relevant statement scores and three agreement statement scores. One relevancy item was modified by defining Chastity in parentheses: “Chastity is an important and valuable virtue. (Chastity is refraining from sexual intercourse, except between individuals who are married to each other.)” Feedback from a survey quality assessment group indicated that multiple people were unsure of the definition of chastity.

Liberty Items for MFQ

The survey included nine Liberty items developed by Iyer et al. (2012) to identify Libertarians. I administered these items, which were formatted in the same way as those in the Moral Foundations Questionnaire, concurrently with the MFQ (see Appendix C). There were two liberty relevance items. They were on a Likert Scale from 0 to 5 (0 = not at all relevant; 5 = extremely relevant). An example of a relevance item was, “Whether or not private property was respected.” There were seven liberty agreement items. They were on a Likert Scale from 0 to 5 (0 = strongly disagree; 5 = strongly agree). An example of an agreement item was, “The government interferes far too much in our everyday lives.” This foundation was measured by summing responses to the nine items and taking the mean score: two relevant statement scores and seven agreement statement scores.

Interpersonal Reactivity Index

The Interpersonal Reactivity Index (IRI) measured empathy (Davis, 1983). The full measure had 28 items, organized into four subscales of seven questions each. The current study used two of the subscales (see Appendix D). One subscale had seven items to measure

cognitive empathy (called perspective taking by the IRI), and the other subscale had seven items to measure affective empathy (called empathetic concern by the IRI). The fantasy and personal distress subscales were not used. They do not measure facets of empathy of concern for this study. The items were on a five-point Likert Scale ranging from “0 = Does not describe me well” to “4 = Describes me very well.” An example of a perspective taking (cognitive empathy) question was, “I sometimes find it difficult to see things from the “other person’s” point of view.” An example of an empathetic concern (affective empathy) item is, “I am often quite touched by things that I see happen.” Each empathy subscale was measured by summing the responses to the seven items and taking the mean score.

Health Anxiety Measure

I used the Health Anxiety Measure (Ekici et al., 2021) to control for the potentially confounding variable of having significant anxiety about health issues (see Appendix E). The Health Anxiety Measure was a shorter version of the Illness Attitude Scale (Ferguson & Daniel, 1995). It has 11 items rated on a Likert Scale from 1 to 5 (1 = no/never, 5 = most of the time). An example of an item is, “Are you worried that you may get a serious illness in the future?” The items were summed, and the mean used for analysis.

Fear of COVID-19

I used the Fear of COVID-19 questionnaire (Ekici et al., 2021) to control for the potentially confounding variable of fear of contracting COVID. Fear could impact the study’s validity. The Fear of COVID-19 questionnaire had four items rated on a Likert Scale from 0 to 4 (0 = no/never to 5 = most of the time). An example item was, “Are you worried about your own health because of the coronavirus epidemic?” The mean of the two items were used for analysis.

COVID-19 Experience with Sickness and Death

I used four selected questions from the U.S. Census Bureau’s Household Pulse Survey Phase 3.5 (2022), with five additional questions developed by this study’s researchers (Fulton et

al., 2022) to control for a person's experience with COVID sickness (see Appendix G). The survey, COVID-19 Experience with Sickness and Death, captures experiences including vaccination, personal sickness, sickness of a person close to the participant, and death of a person close to the participant due to COVID-19. Eight questions were answered with a yes or no, and one question had four choices (I had no symptoms, I had mild symptoms, I had moderate symptoms, I had severe symptoms). An example of an item is, "Has anyone close to you (such as a friend, family member, or others in your household) died from COVID-19? Yes or No". To calculate the mean score, yes was given a value of 1, no was given the value of 0. The one question with four choices gave a value of 0 to "no symptoms," 1 to "mild symptoms," 2 to "moderate symptoms", and 3 to "severe symptoms."

Discussion of Politics Questions

I used the Discussion of Politics questions (Sledzieski et al., 2021; Levens et al., 2018) to control for the potentially confounding variable connected to the influence of political conversation (see Appendix H). There are two items on a Likert scale from 0 to 4 (0 = never, 1 = rarely, 2 = sometimes, 3 = often, and 4 = very often). The first item asked, how often have you in the past six months "sought discussions of politics with people who hold similar views to yours." The second item asked, how often have you in the past six months "sought discussions of politics with people who hold different views to yours." The mean was taken for analysis purposes.

Pew Political Typology Quiz

The Pew Political Typology Quiz (Pew Research Center, 2021) used 18 items, with 2 potential follow up questions, to classify participants into one of nine categorical groups based on their political values and attitudes on issues (see Appendix I). In effect, the Pew assignment is a reflection of personal political ideology rather than group membership since it uses opinions on issues as a major part of the calculation. There were 16 social issues that participants responded to, including statements and questions about transgender persons, white privilege,

prison time, and business profits. The four Republican groups, in order of strongest to weakest conservative ideology, are: faith and flag conservatives, committed conservatives, populist right, and ambivalent right. The four Democrat groups, in order of strongest progressive ideology to weakest, are: progressive left, establishment liberals, democratic mainstays, and outsider left. The one central group is called stressed sideliners by the Pew. Everyone is placed into one of those nine categories. An example of a question is, “Please choose the statement that comes closer to your own views – even if neither is exactly right.” The two answer choices to this question are, “1. Religion should be kept separate from government policies” or “2. Government policies should support religious values and beliefs.”

For analysis, Pew’s categories were turned into a continuous scale. Democrats have four levels, with -4 representing the strongest category (progressive left) and -1 representing the weakest category (outsider left). Republicans have four levels, with 4 representing the strongest category (faith and flag conservatives) and 1 representing the weakest category (ambivalent right). The center group, stressed sideliners, was assigned the value of 0.

Placement into one of the nine categories is based on the calculation method provided by Pew. Each item had a specific value which represented the standard deviation from the full sample means. In addition, a part of the quiz score was determined by taking the difference of the thermometer ratings of the Republican and Democratic Parties, as well as considering the raw rating for each party. See Appendix J for further description of how the groups were calculated (Caleb Keller, Pew Research Center personal communication, October 11, 2021). I used RStudio code to perform all calculations. A small random sample (*N = 5)* of my participants’ responses were checked against Pew’s online survey result to ensure the code was calculating it correctly. My code’s group assignment matched Pew’s online survey results.

Self-Identified Political Affiliation - For Exploratory Analysis

For the pre-registered exploratory analyses, the Pew Political Typology assigned group was switched with the self-identified political affiliation. Self-identified political affiliation is a

measure of group affiliation more so than the Pew Political Typology Quiz's assigned group. Participants, in the demographic questions, were asked to pick their political affiliation from these choices: Strongest Democrat, Strong Democrat, Democrat, Lean Democrat, Center, Lean Republican, Strong Republican, Strongest Republican, Libertarian, Other, and Unsure. These categories allowed me to turn participant responses into a continuous scale as was done for Pew's assigned political group. However, to not exclude any participants, four Libertarians, 17 Others, and one Unsure were placed in the Center for analyses done using the self-identified party affiliation.

RESULTS

The broad goals of the analyses were three-fold: (1) as a part of pre-analysis, to establish that conservatives and progressives (measured by the Pew Political Typology Quiz by the Pew Research Center, 2021) exhibit patterns in their empathy (measured by the IRI by Davis, 1983) and ratings of moral foundations (measured by the MFQ by Graham et al., 2011, with Liberty Items by Iyer et al., 2012) that are consistent with prior literature, (2) as a part of Hypothesis 1 and 2, to evaluate whether the relationship between moral foundations and political ideology was mediated by empathy, and (3) as a part of Hypothesis 4 and 5, to evaluate whether the relationship between moral foundations and moral judgments (wrongness ratings on moral transgression vignettes by Fulton et al., 2022 as adapted from Ekici et al., 2021) was mediated by empathy and political ideology. Toward that end, I used linear regression for the pre-analyses and structural equation modeling to evaluate the relationships proposed in my hypotheses.

Table 1 summarizes the descriptives for the main variables of interest and the covariates. Of special note are the three outcome measures: the wrongness ratings for the three types of vignettes. As a group (N = 380), the participants rated transgressions as less wrong as the health threat severity increased.

Table 1

Variable and Covariable Descriptive Summaries (N = 380)

Variable Name	Mean	Standard Deviation	Range Observed (Range out of)
Individualizing foundations	3.79	0.69	1.25 to 5 (0 to 5)
Binding foundations	2.41	0.98	0 to 4.83 (0 to 5)
Cognitive Empathy	2.96	0.67	0.86 to 4 (0 to 4)
Affective Empathy	3.03	0.78	0.43 to 4 (0 to 4)
MVHV No Sickness (Outcome)	3.53	0.57	1.67 to 4.92 (1 to 5)
MVHV Lesser Sickness (Outcome)	2.94	0.61	1.25 to 4.75 (1 to 5)
MVHV COVID (Outcome)	2.79	0.64	1.25 to 4.92 (1 to 5)
Fear of COVID (Covariable)	2.50	1.06	1 to 5 (1 to 5)
Health Anxiety (Covariable)	2.49	0.77	1 to 4.82 (1 to 5)
Political Conversation (Covariable)	2.77	0.85	1 to 5 (1 to 5)
COVID Experience with Sickness and Death (Covariable)	0.53	0.36	0 to 1.38 (0 to 1.38)

Note: the scale is in parentheses

A majority of the main variables of interest were significantly correlated (see Table 2). Affective empathy was significantly correlated with the highest number of other variables.

Table 2

Correlations with Significant P Values Indicated

	Pew group	Self Politics	Aff Empathy	Cog Empathy	MVHV None	MVHV Sick	MVHV COV	MFQ Individ	MFQ Binding	MFQ Care	MFQ Fairness	MFQ Loyalty	MFQ Sanctity	MFQ Authority	MFQ Liberty	Fear of Covid	COV Exp	Health Anxiety	Pol Convo
Pew group	1	0.78***	-0.21***	-0.12*	0.09	0.27***	0.28***	-0.37***	0.42***	-0.26***	-0.4***	0.37***	0.33***	0.41***	0.22***	-0.28***	-0.2***	-0.09	-0.01
Self Politics	0.78***	1	-0.18***	-0.1	0.14**	0.29***	0.34***	-0.31***	0.45***	-0.19***	-0.37***	0.35***	0.39***	0.44***	0.24***	-0.28***	-0.18***	-0.07	-0.02
Aff Empathy	-0.21***	-0.18***	1	0.52***	0.4***	0.17**	0.12*	0.59***	0.14**	0.6***	0.46***	0.11*	0.17***	0.07	0.06	0.2***	0.11*	0.11*	0.12*
Cog Empathy	-0.12*	-0.1	0.52***	1	0.23***	0.12*	0.12*	0.39***	0.13**	0.38***	0.31***	0.12*	0.11*	0.12*	0.14**	0.05	0.05	-0.04	0.2***
MVHV None	0.09	0.14**	0.4***	0.23***	1	0.61***	0.54***	0.33***	0.42***	0.35***	0.23***	0.31***	0.38***	0.39***	0.12*	0.06	0.05	0.06	0.08
MVHV Sick	0.27***	0.29***	0.17**	0.12*	0.61***	1	0.88***	0.08	0.4***	0.13*	0.01	0.33***	0.36***	0.37***	0.15**	-0.24***	-0.11*	0	0.08
MVHV COV	0.28***	0.34***	0.12*	0.12*	0.54***	0.88***	1	0.02	0.44***	0.09	-0.06	0.36***	0.4***	0.4***	0.17***	-0.26***	-0.1	-0.01	0.09
MFQ Individ	-0.37***	-0.31***	0.59***	0.39***	0.33***	0.08	0.02	1	0.14**	0.91***	0.87***	0.14**	0.13**	0.09	0.19***	0.25***	0.08	0.13*	0.11*
MFQ Binding	0.42***	0.45***	0.14**	0.13**	0.42***	0.4***	0.44***	0.14**	1	0.24***	-0.01	0.84***	0.89***	0.9***	0.31***	-0.03	-0.05	0.05	0.08
MFQ Care	-0.26***	-0.19***	0.6***	0.38***	0.35***	0.13*	0.09	0.91***	0.24***	1	0.58***	0.22***	0.22***	0.19***	0.18***	0.22***	0.09	0.12*	0.08
MFQ Fairness	-0.4***	-0.37***	0.46***	0.31***	0.23***	0.01	-0.06	0.87***	-0.01	0.58***	1	0.01	0	-0.04	0.16**	0.23***	0.06	0.1*	0.11*
MFQ Loyalty	0.37***	0.35***	0.11*	0.12*	0.31***	0.33***	0.36***	0.14**	0.84***	0.22***	0.01	1	0.59***	0.71***	0.29***	-0.03	-0.03	0.02	0.15**
MFQ Sanctity	0.33***	0.39***	0.17***	0.11*	0.38***	0.36***	0.4***	0.13**	0.89***	0.22***	0	0.59***	1	0.7***	0.24***	-0.03	-0.05	0.06	0.03
MFQ Authority	0.41***	0.44***	0.07	0.12*	0.39***	0.37***	0.4***	0.09	0.9***	0.19***	-0.04	0.71***	0.7***	1	0.31***	-0.02	-0.05	0.06	0.05
MFQ Liberty	0.22***	0.24***	0.06	0.14**	0.12*	0.15**	0.17***	0.19***	0.31***	0.18***	0.16**	0.29***	0.24***	0.31***	1	-0.15**	-0.08	0.01	0.06
Fear of Covid	-0.28***	-0.28***	0.2***	0.05	0.06	-0.24***	-0.26***	0.25***	-0.03	0.22***	0.23***	-0.03	-0.03	-0.02	-0.15**	1	0.26***	0.5***	0.05
COV Exp	-0.2***	-0.18***	0.11*	0.05	0.05	-0.11*	-0.1	0.08	-0.05	0.09	0.06	-0.03	-0.05	-0.05	-0.08	0.26***	1	0.17***	0.14**
Health Anxiety	-0.09	-0.07	0.11*	-0.04	0.06	0	-0.01	0.13*	0.05	0.12*	0.1*	0.02	0.06	0.06	0.01	0.5***	0.17***	1	0.02
Pol Convo	-0.01	-0.02	0.12*	0.2***	0.08	0.08	0.09	0.11*	0.08	0.08	0.11*	0.15**	0.03	0.05	0.06	0.05	0.14**	0.02	1

*Note: *** indicates p < 0.001, ** indicates p < 0.01, and * indicates p < 0.05. Non significant values are in dark gray. Because the Pew assigned political group and the self affiliated political group are on a continuous scale with progressives valued -4 to -1 and conservatives valued 4 to 1, negative values indicate a stronger progressive effect when those variables were a part of the correlation.*

Data exclusion

As mentioned under the Participants section, from the original dataset of 437 participants with a complete survey, 55 were removed due to failing one or more attention checks. Of these 382 participants, two additional participants were excluded due to atypical responses, even though they passed the open-response prompt and both attention questions. My final dataset was 380 complete surveys.

Coding of the Political Identification as Continuous Variables

The Pew Political Typology Quiz (Pew Research Center, 2021) placed participants into one of nine political categories. There were four conservative groups, four progressive groups, and one central group. For my main analysis, each of the nine political categories was assigned a numerical value. The values ranged from -4 (strongest progressive group) to 4 (strongest conservative group), with 0 at the center. The Pew Research Center's progressive left was the strongest level of progressive (assigned the value of -4), followed by establishment liberals (assigned the value of -3), then democratic mainstays (assigned the value of -2), and the weakest left leaning group is the outsider left (assigned the value of -1).The Pew Research Center's weakest right leaning group was the ambivalent right (assigned the value of 1), the next level is the populist right (assigned the value of 2), followed by committed conservatives (assigned the value of 3), and the faith and flag conservatives are the strongest level of republican (and were assigned the value of 4). As stated earlier, the central group, as identified by the Pew Typology Quiz as "stressed sideliners", was assigned the value of 0. See Table 3 for the frequencies of each group.

For exploratory analysis, I used the participant's self-identified political affiliation, which was a question listed along with other demographic information questions at the end of the survey. Participants were asked to indicate their political affiliation by selecting one of the following categories, which are broadly aligned with the ones from Pew: Strongest Democrat, Strong Democrat, Democrat, Lean Democrat, Center, Lean Republican, Strong Republican,

Strongest Republican, Libertarian, Other, and Unsure. To facilitate analysis, these categories were transformed into a continuous scale in a similar way to how Pew's assigned political groups were handled. The strongest left group was assigned -4, with ascending values (-3, -2) until the last and weakest left group assigned -1. The strongest right group was assigned 4; (with descending values) (3, 2) until the last and weakest right group was assigned 1. Participants that identified their political affiliation as something other than one of the levels of Democrat or Republican (i.e., Center, Libertarian, Other, and Unsure) were assigned 0. No one was removed from analysis. See Table 3 for the frequency of each level of political affiliation self-identified by the participants.

Table 3

Participant Frequencies of the Nine Political Groups.

Source	Most Left -4	-3	-2	-1	Center 0	1	2	3	Most Right 4
Pew Group Assignment	10.8% (41)	13.7% (52)	8.7% (33)	15% (57)	12.9% (49)	15.8% (60)	7.6% (29)	10.8% (41)	4.7% (18)
Self-Affiliated	5.5% (21)	11.3% (43)	17.1% (65)	11.3% (43)	9.2% (35)	16.3% (62)	13.6% (50)	9.5% (36)	0.8% (3)

Note. The numbers from -4 to 4 were assigned according to political ideology strength: from the strongest left to the strongest right. Pew's assignment (progressive left, establishment liberals, democratic mainstays, and outsider left, stressed sideliners, ambivalent right, populist right, committed conservatives, and faith and flag conservatives) was used for the main analysis, and the self-affiliation (Strongest Democrat, Strong Democrat, Democrat, Lean Democrat, Center, Lean Republican, Strong Republican, Strongest Republican) was used in exploratory SEM models. For analysis, self-affiliation responses of Libertarian, Other, and Unsure were grouped together as Center. The number of participants (out of N = 380) for each political strength category is stated in parentheses.

For pre-analyses, the different levels of Democrat and Republican were collapsed, creating a single category for each. Pew's progressive left, establishment liberals, democratic mainstays, and outsider left were combined to create one "Democrat" group. Self-Identified political affiliations for strongest democrat, strong democrat, democrat, and lean democrat were combined to create one self-identified political affiliation group of "Democrat." This same process was used to collapse the Republican groups. This recoding was necessary to test whether the underlying assumptions on which my hypotheses were based–i.e., that progressives and conservatives have distinct empathy and moral foundations patterns–held true for my sample. By using collapsed variables, my pre-analyses testing matched the method used by previous researchers.

Pre-Analyses: Establishing Empathy & Moral Foundation Patterns

Prior to the main analyses, I conducted pre-analysis to establish if progressives and conservative's empathy and moral foundations followed the expected patterns, based on previous research. First, I examined whether I could replicate the prior finding that progressives have more affective (Iyer et al., 2012) and cognitive (Clark et al., 2012) empathy. Then, I examined the long-standing assumption that the foundations could reliably indicate a political party.

First, I examined whether the Pew collapsed groups had significant differences in affective empathy. To check affective empathy differences between Democrats, Republicans, and people placed in the center I used linear regression with affective empathy as the outcome measure. I evaluated the effect of the 3-part Pew Grouping using Type III Wald test through the `anova` function of the car package. That effect was significant $F(2, 377) = 7.51$, $p < .001$. I then performed post-hoc pairwise contrasts using the `emmeans` function of the `emmeans` package to evaluate affective empathy differences of the three groups: Republicans differed significantly from Democrats ($B = .33$, SE = .09, $t = 3.86$, $p < .001$), but not from those at Center ($B = .25$, SE = .13, $t = 1.93$, $p = .13$). Democrats did not differ significantly from those at Center ($B = -.08$, SE

= .12, *t* = -0.66, *p* = .79), either. When using participants' self-identified political groups as the explanatory variable, instead of those based on Pew, the effect was still significant *F*(2, 377) = 3.87, *p* = .02. Post-hoc pairwise contrasts showed the same relationships (Democrat vs. Republican: *B* = .24, SE = .09, *t* = 2.78, *p* = .02; Center vs. Republican: *B* = .11, SE = .12, *t* = .93, *p* = .62; Center vs. Democrat: *B* = -.13, SE = .12, *t* = -1.08, *p* = .53). These findings suggest that Democrats have significantly higher affective empathy over Republicans, as was expected from previous findings (Iyer et al., 2012).

The second pre-analysis was for cognitive empathy. To check cognitive empathy differences between Democrats, Republicans, and people placed in the center, I used linear regression with cognitive empathy as the outcome measure. I evaluated the effect of the 3-part Pew Grouping using Type III Wald test through the `anova` function of the car package. I found no significant differences *F*(2, 377) = 2.78, *p* = .063. I still performed post-hoc pairwise contrasts using the `emmeans` function of the `emmeans` package to evaluate cognitive empathy differences of the three groups: Republicans did not differ significantly from Democrats (*B* = .16, SE = .07, *t* = 2.16, *p* = .08), or those at Center (*B* = .18, SE = .11, *t* = 1.67, *p* = .22). Democrats did not differ significantly from those at Center (*B* = .02, SE = .11, *t* = .23, *p* = .97), either. These effects were the same when using participants' self-identified political group as the predictor *F*(2, 377) = 1.38, *p* = .025, instead of those based on Pew; *F*(2, 377) = 1.38, *p* = .025 (Democrat vs. Republican: *B* = .12, SE = .07, *t* = 1.64, *p* =.23; Center vs. Republican: *B* = .09, SE = .10, *t* = .89, *p* = .64; Center vs. Democrat: *B* = -.03, SE = .10, *t* = -.29, *p* = .96).

To summarize, I did not find evidence for the assumption that progressives had higher cognitive empathy than conservatives, but I did find evidence that they had higher affective empathy.

Next, I examined assumptions concerning the relationship between moral foundations and political ideology. For the Individualizing foundations, I examined whether a Pew assignment to the "Democrat" group (as a singular collapsed variable) was associated with

higher Individualizing foundations mean than an assignment of “Republican”. A second exploratory check for Individualizing foundations used the participant’s self-identified party, instead of the Pew’s assigned group, as the explanatory variable. For the Binding foundations, I examined whether a Pew assignment of one of the categories of the “Republican” group was associated with higher Binding foundations mean than an assignment of “Democrat”. Again, a second exploratory check for Binding foundations used the participant’s self-identified party as the explanatory variable.

When considering the Individualizing foundations, as expected, the Democrat Pew groups had a mean Individualizing score of 4.01 (*SD* = .55), the Center group a mean of 3.90 (*SD* = .74), and the Republican Pew groups a mean of 3.50 (*SD* =.70). In a linear regression with Individualizing foundation as the outcome measure, I evaluated the effect of the 3-part Pew Grouping using Type III Wald test through the `anova` function of the car package. That effect was significant; $F(2, 377) = 26.15$, $p < .001$. I then performed post-hoc pairwise contrasts using the `emmeans` function of the `emmeans` package to evaluate differences of the three groups: Republicans differed significantly from both Democrats ($B = .50$, SE = .07, $t = 7.14$, $p < .001$) and those at Center ($B = .40$, SE = .11, $t = 3.75$, $p < .001$). Democrats did not differ significantly from those at Center ($B = -.11$, SE = .10, $t = -1.06$, $p = .53$). These effects persisted when using participants’ self-identified political group as the explanatory variable, instead of those based on Pew (Democrat vs. Republican: $B = .40$, SE = .07, $t = 5.39$, $p < .001$; Center vs. Republican: $B = .25$, SE = .10, t = 2.50, $p = .03$; Center vs. Democrat: $B = -.14$, SE = .10, $t = -1.39$, $p = .35$).

When considering the Binding foundations, as expected, Republicans (*M* = 2.79, *SD* = 0.91) had higher Binding scores than Democrats (*M* = 1.97, *SD* = 0.87), but interestingly those at the Center had numerically the highest Binding scores (*M* = 2.90, *SD* = 0.91). The overall effect of Pew Group on Binding scores was significant, $F(2, 377) = 43.52$, $p < .001$, and post-hoc pairwise contrasts revealed that Democrats differed from Republicans ($B = -0.825$, SE = 0.1, $t = -8.35$, $p < .001$) and from those at Center ($B = 0.937$, SE =0.14, $t = 6.52$, $p < .001$), and

those at Center did not differ from Republicans (*B* =0.11, SE =0.14, *t* = 0.76, *p* = 0.7275). When using the participants' self-identified political affiliation as an explanatory variable, the pattern of results slightly differed, in that it conformed more with the predicted pattern of Republicans having the highest Binding scores (*M* = 2.92, *SD* = 0.85), followed by those at Center (*M* = 2.19, *SD* =0.99), followed by Democrats (*M* = 2.03, *SD* =0.90). For this variable, Democrats differed significantly from Republicans (*B* = -0.90, SE = 0.10, t = -8.98, *p* < 0.001), Republicans from those at Center (*B* = -0.722, SE = 0.14, t = -5.185, *p* < 0.001), and those at Center did not differ significantly from Democrats (*B* =0.18, SE = 0.14, *t* = 1.28, *p* = 0.4101).

To summarize, this pre-analysis established that, consistent with a robust body of past literature, Republicans and Democrats differed in their Individualizing and Binding foundations scores. Democrats were associated with higher Individualizing and lower Binding scores than Republicans. This was the case for both the classification based on the Pew Political Typology Quiz and on participants' self-identified political group affiliation. The only caveat concerned those participants placed in the center. Those who self-identified as something other than Democrat or Republican were classified as "center" and had numerically intermediate scores on Individualizing and Binding foundations compared to the other two political groups and they did not statistically differ from Democrats. However, when the classification was based on the Pew Political Typology quiz, those classified as being at center had numerically higher Binding scores than Republicans and they were not statistically different from them.

One reason for the difference in the foundation scores for the Pew center group compared to the self-affiliation center group is that they have significantly different membership. It is important to note that not all the participants in the self-affiliated center group declared membership in the center: four Libertarians, 17 Others, and one Unsure were put into the center for analysis purposes (in order to not exclude anyone). Only 8 people were identified as being Center by Pew and by self-declaration. Instead, 26 Pew Democrats and 23 Pew Republicans self-identify as centers. For these individuals, their opinions on issues place them within a

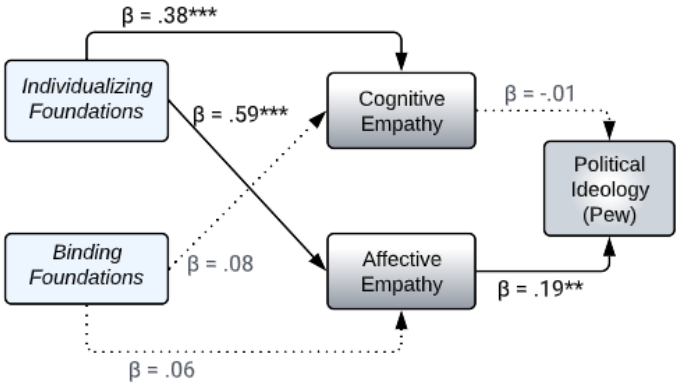
party's purview, although they do not identify as a part of those groups. This is explored further in the Discussion section.

Hypothesis 1 & 2: Empathy, Moral Foundations, and Political Ideology

In Hypothesis 1 and Hypothesis 2, I examined whether empathy mediated the relationship between the Individualizing (H1a & H2a) and Binding (H1b & H2b) moral foundations (explanatory variables) and political ideology (as a continuous outcome variable). All the variable relationships for H1 and H2 were evaluated within one SEM model, using the Pew assigned political group as "political ideology". The model (see Figure 5) was not a good fit: $\chi^2(9) = 459.70$, $p < .001$, RMSEA = .43, CFI = .54, TLI = .0, SRMR = .15. For my pre-registered exploratory analysis, I ran the same model, but replaced the Pew assigned political group with the participant's self-identified political affiliation. The fit was nearly the same: χ^2 (9) = 448.82, p < .001, RMSEA = .42, CFI = .54, TLI = 0, SRMR = .15.

Figure 5

H1/H2 Hypothesized model Results - Empathy Mediates Effects



*Note: *** indicates p < .001, ** indicates p < .01. Dotted lines indicate non-significant p values. Model did not have a good fit: $\chi^2(9) = 459.70$, $p < .001$, RMSEA = .43, CFI = .54, TLI = .0, SRMR = .15*

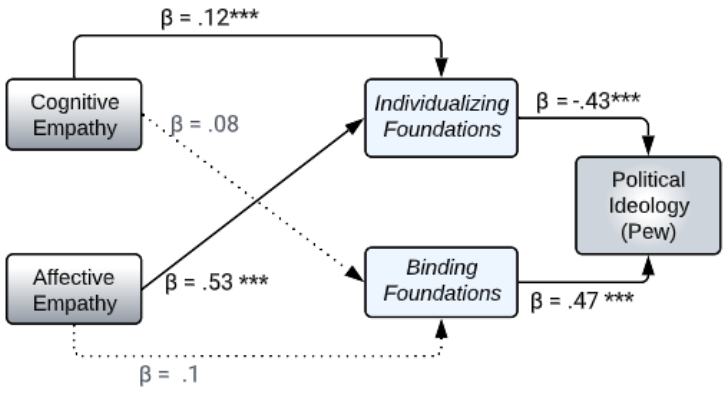
Based on the reasoning that empathy can be a source of individual differences, I ran a model with the foundations (Individualizing and Binding) as the mediators and empathy (cognitive and affective) as the explanatory variable. This model (see Figure 6) was a good fit:

χ^2 (9) = 349.31, p < .001, RMSEA = 0.00, CFI 1.0, TLI 1.0, SRMR =.02. The only effects that were not statistically significant were the effect of cognitive and affective empathy on the Binding foundations.

For this best fitting SEM model for H1 and H2 (Figure 6), as affective empathy increased, the strength of progressivism increased, as measured by the Individualizing foundations (β =.53, p < .001). As Individualizing foundations increase, the political ideology based on Pew leans more to the left (β = -.43, p < .001). Similarly, as cognitive empathy increases, Individualizing foundations increase (β = .116, p < .02), and political Pew membership leans more to the left. Based on the beta coefficients, the relationship between empathy and Individualizing foundations is stronger for affective empathy. Although the explanatory variable and mediator variables in the model have changed positions from my original H1a and H2a hypotheses, in this model there is support for the hypothesized interplay of these variables: as one increases the other increases. However, H1b and H2b were not supported in this model, in that instead of a negative relationship, the Binding foundations and empathy had no significant relationship.

Figure 6

H1/H2 Alternative Results - Foundations Mediate Effects



*Note: *** indicates p < .001. All variables had significant relationships, except for empathy and the Binding foundations. The variables in H1 and H2 produced a good fit model when the*

foundations were the mediators and empathy was the explanatory variable for the Pew political assigned group: χ^2 (9) = 349.31, p < .001, RMSEA = 0.00, CFI 1.0, TLI 1.0, SRMR =.02.

Hypothesis 3: Political Ideology, Moral Foundations, and Moral Judgments

For Hypothesis 3, I examined whether the relationship between foundations and moral judgments could be explained by political ideology (as the mediator). Hypothesis 3a concerned Individualizing foundations and H3b the Binding foundations as the explanatory variables. The hypotheses were analyzed within a single SEM model. Since previous researchers (Ekici et al., 2021) found that progressives judged moral transgressions as less wrong as the health-threat increased, I expected (H3a) to find that the Individualizing foundations' changing relationship with moral judgments (across the different contexts) would be partially explained by (left-leaning) political ideology (with Pew political group as the mediator). I also expected (H3b) to find that the Binding foundations would have a consistent relationship with moral judgments (regardless of health-threat context) that would be partially explained by (right-leaning) political ideology (as the mediator).

To simultaneously test H3a and H3b, I used structural equation modeling with the Individualizing and Binding foundations as the explanatory variable, with political ideology from the Pew Typology quiz as the mediator, and moral judgments on the Moral Violation Health Vignettes as the outcome variable. The model fit indices suggested a poor fit: χ^2 (14) = 1086.65, p < .001, RMSEA = .24, CFI = .88, SRMR = .15. See Figure 7.

The model was run again, with the person's self-identified political affiliation in place of Pew's assigned political group; this was a pre-registered exploratory analysis. The change did not greatly alter the model's fit. This exploratory model was still not a good fit: χ^2 (14) = 1075.59, p < .001, RMSEA = .23, CFI = .89, TLI = .73, SRMR = .15. I turned to the modification indices[1]

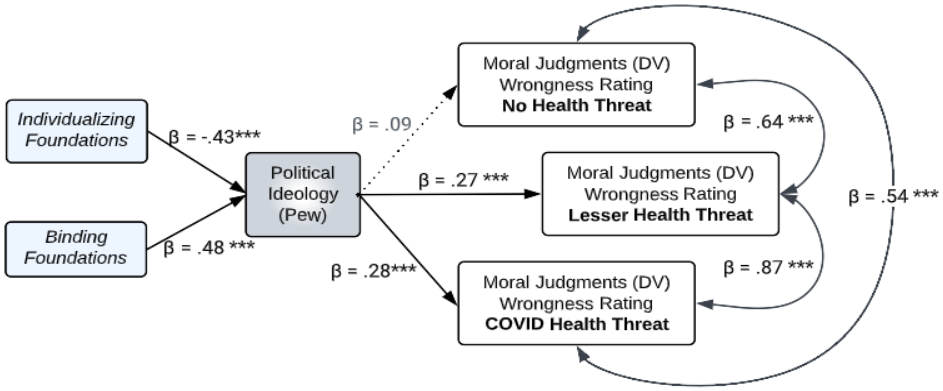
[1] Modification indices are statistical values used in the context of SEM to identify potential areas of improvement in a model's fit. Specifically, modification indices quantify the expected improvement in the model's chi-square goodness-of-fit statistic that would result from adding a particular parameter to the model.

for direction. The modification indices on these models suggested that the no health threat vignette and the Individualizing foundations could be combined. This indicated that for people with high Individualizing foundations, their moral judgment on the no-health threat vignettes were based in significant part on the foundations (and less so on political groups). A model that included direct relationships between the foundations (Individualizing and Binding) and the no health threat vignettes had a CFI = .94, but the rest of the fit indices suggested the model was a poor fit: χ^2 (14) = 1086.65, p < .001, RMSEA = .20, CFI = .94, TLI = .79, SRMR = .14.

In the end, I found that although hypothesis 3 was not a good fit model there was support for the hypothesized interplay of these variables. The hypothesis 3 model was a part of the good fit model, as illustrated in Figure 9.

Figure 7

Hypothesis 3 Results - Pew Political Ideology Mediates Effects



*Note: *** indicates p < .001. Hypothesis 3 was not a good fit model: χ^2 (14) = 1086.65, p < .001, RMSEA = .24, CFI = .88, TLI = .73, SRMR = .15. However, this model was a part of the model that was a good fit.*

Hypothesis 4 & 5: Empathy, Political Ideology, Moral Foundations, and Judgments

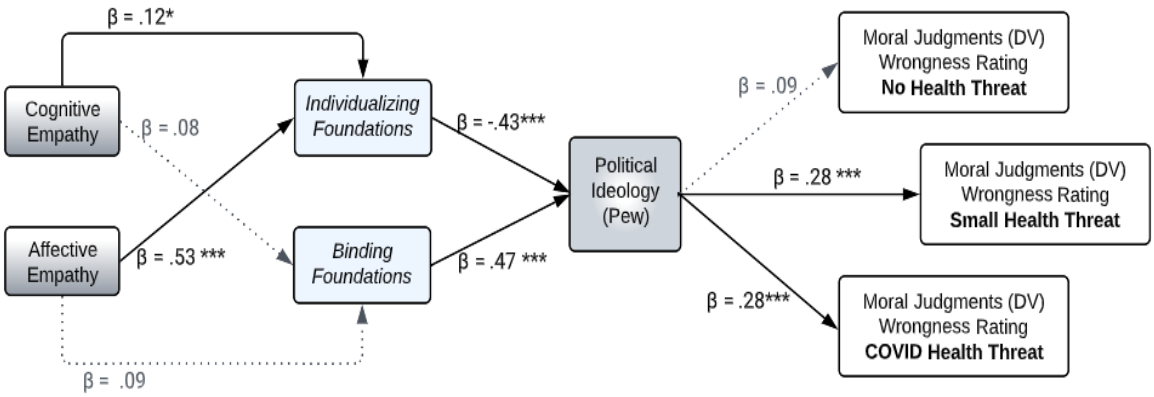
Hypotheses 4 and 5 examined whether the relationship between moral foundations and moral judgments could be explained by empathy (H4: cognitive, H5: affective) and political ideology. In Hypotheses 4a and 5a the explanatory variable was Individualizing foundations; in hypotheses 4b and 5b it was the Binding foundations. I expected that a person's empathy

(cognitive and affective) and political ideology (on a continuous left-right spectrum) would partially explain the relationship between their core moral foundations (Individualizing or Binding) and how they make moral judgments. For those with higher Individualizing foundations, I expected the wrongness ratings to depend on health-threat context (H4a & H5a); for those with higher Binding foundations, I expected wrongness ratings to be more consistent, regardless of health-threat context (H4b & H5b).

To evaluate Hypothesis 4 and Hypothesis 5, I used one structural equation model with empathy mediating the relationship between the foundations and political ideology (on a continuous scale), and political ideology mediating the relationship between empathy and moral judgments on the vignettes (as the outcome variable). The model was not a good fit: χ^2 (27) = 1407.80, $p < .001$, RMSEA = .25, CFI = .74, TLI = .54, SRMR = .19. For exploratory analysis, the Pew political group was replaced with the participant's self-identified political party affiliation. The model did not change significantly: χ^2 (27) = 1397.62, $p < .001$, RMSEA = .25, CFI = .75, TLI = .55, and SRMR = .19. Because switching empathy to an explanatory variable and the foundations to a mediator worked for H1/H2, I applied the same switch to this model it (using Pew group as a mediator). The model was not a good fit: χ^2 (27) = 1297.41, $p < .001$, RMSEA = .16, CFI = .88, TLI = .79, and SRMR = .15. See Figure 8.

Figure 8

H4/H5 Alternative Results: Foundations and Political Ideology Mediate Effects



*Note: *** indicates p < .001, ** indicates p <.01, and * indicates p <.05. This model was not a good fit model. The model was not a good fit: χ2 (27) = 1297.41, p < .001, RMSEA = .16, CFI = .88, TLI = .79, and SRMR = .15.*

Additional Pre-Registered Analysis: Foundations and Covariates

The components of the MFQ that contributed to the creation of the Individualizing foundations (Care and Fairness) and Binding foundations (Authority, Loyalty, and Sanctity) were included in the pre-registered exploratory analysis (refer to Figure 4). The results were not particularly noteworthy; the model was not a good fit: χ^2 (30) = 193.53, p < .001, RMSEA = .09, CFI = .84, and TLI .71. Specifically, only two of the six foundations showed a relationship with either affective or cognitive empathy. Care was related to affective (β= .52, SE = .07, p < .001) and cognitive empathy (β = .30, SE = .08, p < .001). Loyalty showed a significant relationship with a small effect on affective empathy (β = .19, SE = .08, p < .05).

Next, I added the covariates to the H4/H5 hypothesized model, using empathy as the explanatory and the foundations as mediators since that was the best fit model for H1 and H2. However, doing so did not result in a good model fit: χ^2 (25) = 147.50, p < .001, RMSEA = .11, CFI = .90, TLI .81, SRMR = .11. Next, I ran the exploratory H4/H5 model with covariates applied. It used the self-identified political affiliation instead of Pew, had empathy as the explanatory, and the foundations as mediators. It was not a good fit; χ^2 (26) = 146.32, p < .001, RMSEA = .11, CFI = .91, TLI .82, SRMR = .11.

Non-preregistered Exploratory Modeling

To find a better model fit, I conducted additional testing beyond the scope of the original registration. Each of the models that have been tested so far have included either the Pew assigned group or the person's self-disclosed political affiliation as a variable, in accordance with the preregistered confirmatory and exploratory analyses. At this point, I added both the Pew group and the self-affiliated group to the same model to analyze the modification indices

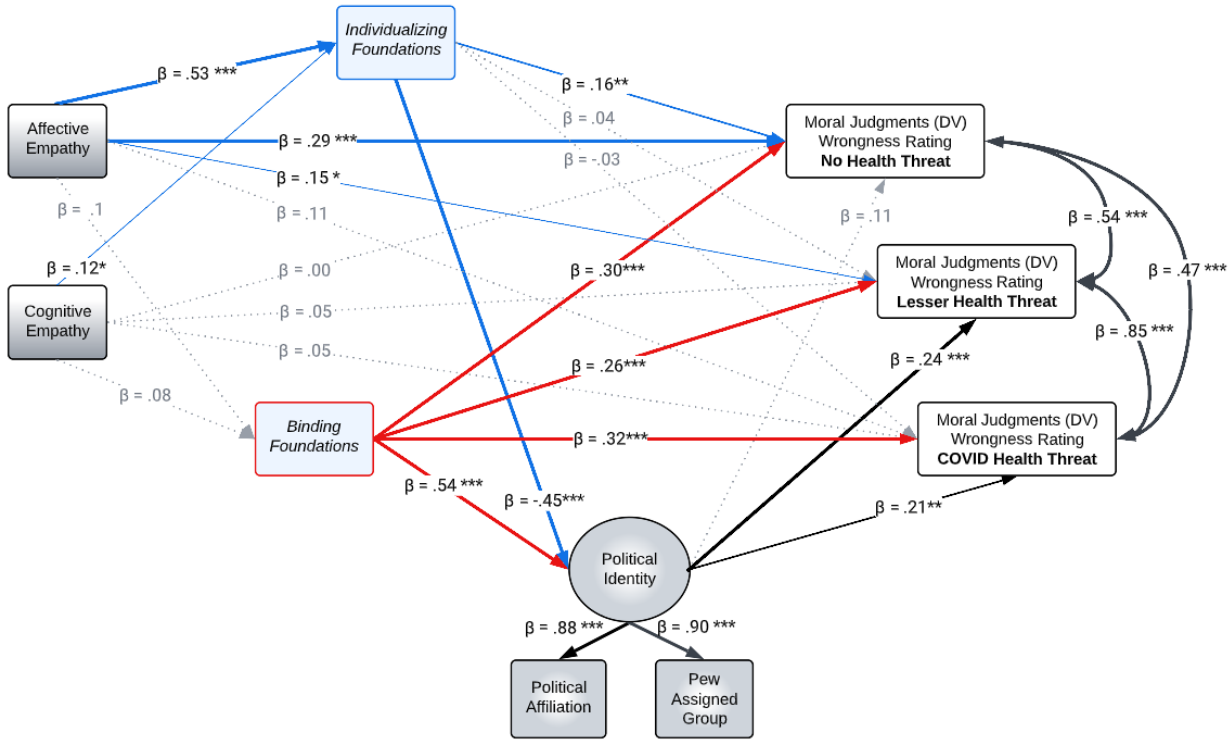
for all variables at once. The modification indices implied that the model's fit could be significantly improved by "combining" the Pew assigned group with the person's self-identified group affiliation (*MI* = 171.65). Using the Mplus code "by" I created a new latent variable to represent a person's "Political Identity" with Pew assigned group and self-affiliated group as indicators. The modification indices also suggested that the no health threat vignettes had a relationship with the Binding (*MI* = 50.87) and Individualizing (*MI* = 48.02) foundations, therefore those relationships were included in the model. I also added direct (not mediated) relationships between the foundations and the other vignette judgment outcomes (lesser sickness health threat and COVID health threat). Those vignettes might also be explained, in part, directly by the foundations without Political Identity as a mediator. To recap, the first non-preregistered exploratory model changes at this point: the model allows for direct relationships (not mediated) from all the variables (except empathy) to the judgments (outcome variable), in addition to the foundations mediating empathy for Political Identity (latent variable) and Political Identity mediating the foundations for the judgments. The decision to make the foundations a mediator and empathy the explanatory variable was because the best fitting model for Hypothesis 1 and 2 supported this relationship. The first non-pre-registered exploratory model was a good fit: χ^2 (35) = 1695.13, $p < .001$, RMSEA = .075, CFI = .98, TLI .96, SRMR = .038. However, the beta coefficients in the model did not explain the no health threat vignettes for progressives very well

I created yet another model, with a direct relationship between empathy and moral judgments, given that empathy had a large effect on the Individualizing foundations and the foundations had direct and mediated relationships with moral judgments. This final model was still composed of only the original variables in my H4/H5. However, this model allows for direct relationships (not mediated) from all the variables to the judgments, in addition to the foundations mediating the relationship between empathy and Political Identity (latent variable) and Political Identity mediating the relationship between the foundations and the moral judgments. This model was a good fit: χ^2 (35) = 1695.13, $p < .001$, RMSEA = .05, CFI = .995,

TLI .98, SRMR = .016. See Figure 9 for this study's final model and Appendix K for the Mplus code.

Figure 9

H4/H5 best fit model



*Note: *** p < .001, ** p <.01, and * p <.05. This model was a good fit: χ2 (35) = 1695.13, p < .001, RMSEA = .05, CFI = .995, TLI .98, SRMR = .016. Blue lines represent progressive moral reasoning and red lines represent conservative moral reasoning. The thickness of the lines reflects p value significance. Gray dotted lines do not have significant p values. The model allowed for direct relationships from all variables to the judgments. Additionally, empathy was mediated by the foundations for Political Identity and Political Identity mediated the foundations for the judgments. Note that the values from Political Identity to Judgments were positive. Because progressives were coded with negative values, this indicated that conservatives had a larger effect on the Judgments than progressives.*

Consistent with the best fitting model for Hypothesis 1 and 2 (Figure 6), the effect of cognitive and affective empathy on Political Identity was mediated by the Individualizing foundations but not the Binding foundations. Affective empathy had a larger effect than cognitive empathy on the Individualizing foundations and had a direct effect on the no health threat judgment. Affective empathy had less of an effect on the lesser health threat judgment and no relationship with the COVID threat judgment. The Binding foundations also had a direct effect on all types of moral judgment vignettes; that relationship was not mediated by Political Identity. Consistent with the previous findings (Figure 6; 7), this model showed that there was no relationship between Political Identity and the judgment on the no health threat vignettes. The Binding foundations had a significant relationship with all the moral judgment vignettes and with Political Identity. In contrast, the Individualizing foundations only had a significant relationship with the no health threat vignettes and Political Identity.

Although this model was significantly more complex than hypothesized, it provided evidence that broadly supported my hypotheses and previous findings by Ekici et al. (2021). The Individualizing foundations were not used the same across contexts to make moral judgments, but the Binding foundations were consistently used to make judgments with or without health context. Additionally, empathy was able to explain some of the moral judgment outcomes for progressives. In other words, progressives' moral frameworks could be characterized as changeable and conservatives' moral frameworks as stable across contexts. Some of the change, for progressives, is explained by empathy, depending on the context.

DISCUSSION

A National Public Radio study examined nearly 3,000 U.S. counties in May 2022 and found that people who lived in counties that voted for Trump (by at least 60% of the county's voters) in the 2020 election had 2.26 times higher death rate compared to counties that voted for Biden by the same margin (Wood & Brumfiel, 2022). Considering the possibility that political ideology could impact mortality rates during a pandemic, it is crucial to understand how group

characteristics influence health-related judgments during periods of elevated health risks. Although COVID was clearly a health-related issue best managed by following the latest scientific findings, it became a highly polarizing political issue. Guidelines were rejected by a significant portion of conservatives. Various reasons for conservatives refusing to follow CDC recommendations were postulated, including misinformation (Trevors & Duffy, 2020) and political party solidarity (Boykin et al., 2021). The present study turned to the interplay of moral reasoning, political ideology, and empathy to try to understand conservative and progressive health-related judgments. In this study, the goal was to examine the relationships between the moral foundations (Individualizing and Binding), political ideology, empathy (cognitive and affective), and moral reasoning in the context of judging transgressions committed to avoid different levels of a perceived health-threat. To establish the theoretical foundations for this research, I drew from the Moral Foundations Theory (MFT), a framework that gives predictable patterns between moral foundations and political ideology: with higher scores on Individualizing foundations indicating progressive ideology and higher scores on Binding foundations indicating conservative ideology (Graham et al., 2009; Sutton et al., 2020; Turner-Zwinkels et al., 2021).

In pre-analyses, I was able to replicate previous findings (Iyer et al., 2012) that Democrats had higher affective empathy than Republicans. However, I did not find evidence that Democrats and Republicans had significantly different cognitive empathy scores (as was found by Clark et al., 2019). The discrepancy between my findings and Clark et al. (2019) may be because I used the Interpersonal Reactivity Index (IRI, by Davis, 1983) to operationalize empathy, whereas Clark et al. (2019) used the Reading the Eyes in the Mind test (Baron-Cohen et al., 2001). The IRI measures cognitive empathy by asking the participant to indicate how often they take another's perspective to "see things from the other person's point of view" (Davis, 1983). The Reading the Mind in the Eyes test asks participants to identify the feelings of another person based on expressions made by only the eyes, which is arguably more related to affective rather than cognitive empathy. Affective empathy requires recognizing another's

emotion, then reflexively feeling that emotion. The Reading the Mind in the Eyes test directly measures the first part of the affective empathy process. In light of these considerations about measurement, the Clark et al. study's findings are consistent with mine: progressives have higher affective empathy than conservatives. Knowing how a person feels based on their eyes does not indicate an ability (or inclination) to take their point of view to infer their beliefs or experiences (the definition of cognitive empathy: deliberative perspective taking). Future studies following my practice of employing the widely used IRI to measure cognitive empathy can further establish whether the null effect I documented (concerning the relationship between cognitive empathy and conservative political ideology) is robust. In the second part of pre-analysis, I confirmed that those with higher Individualizing foundations were more likely to be progressive and persons with higher Binding foundations were more likely to be conservative. This was true when using the Pew assigned group (based on responses to political issues) or the self-disclosed political affiliation question from the demographics part of the survey.

With the base assumption that the foundations predict political ideology met, my first hypotheses (H1 and H2) aimed to establish if empathy partially explains the relationship between the moral foundations (Individualizing and Binding) and political ideology (as a continuous variable that also considers the strength of a person's ideology). Although the hypothesized model evaluating these relationships did not fit the observed data well, these variables were related. An alternative model fit the observed data well, in that the Individualizing foundations could partially explain the relationship between both kinds of empathy and political ideology. The Binding foundations did not have any relationship with either kind of empathy. The implications of this is laid out when I discuss how my study can be used to inform public health messaging.

For Hypothesis 3, my aim was to examine if political ideology could partially explain the relationship between moral foundations and moral judgments concerning other people's transgressions committed to avoid a potential health threat. To this end, I used one sentence

vignettes which varied in terms of why a moral transgression was committed: to avoid COVID exposure, to avoid a lesser health threat exposure (lesser than severe COVID), or for a selfish (but non-health threat) reason. This was the only hypothesis that did not include empathy as a variable. I did not find a good fit model. To explain moral judgments on health behaviors, political ideology and the foundations were inadequate. However, these variables were related (as hypothesized) and did fit within the best model found during exploratory testing, which is discussed next.

In Hypotheses 4 and 5, I hypothesized that empathy and political ideology would partially explain the relationship between the foundations and the judgments on other's transgressions. My model of proposed relationships to explain the observed data was not a good fit, but when I arranged the relationships between the variables differently, these variables were related and produced a good fit model (Figure 9). For conservatives, the best model to explain moral reasoning involved the Binding foundations having direct explanatory power for all the moral judgments. This suggests that conservatives consistently rely directly on their moral foundations across contexts. In the model, Political Identity (Pew assigned group and self-affiliated group combined) was only important for explaining the relationships between the foundations and the judgments with health-threat context. The Individualizing foundations had a direct relationship to judgments only if they did not involve health threat context. Affective empathy was an important part of the best fitting model, as I will discuss next, and then return to the implications of the other relationships reported here.

In this best fitting model (hall all good model indices), empathy, especially affective empathy, was an important part of progressive moral reasoning. For the Individualizing foundations, affective empathy had a larger effect over that of cognitive empathy. Affective empathy also had a direct effect on the no health threat moral judgments and, to a lesser extent, the lesser health threat moral judgments. This suggests that affective empathy was an important contributing factor during moral reasoning tasks for progressives for the two contexts that did

not involve COVID-19. However, once the transgression had COVID context empathy did not have a direct effect. This suggests that COVID was more of a political issue and less of a moral one for progressives: COVID-19 related moral judgments had no direct relationship to empathy, and that relationship was completely mediated by Political Identity for those with higher Individualizing foundations. It may be important to note, again, that I collected my data at the beginning of 2023. COVID-19 was coming to an end as an international concern, and it was officially declared over on May 5, 2023, by the World Health Organization (Smith-Schoenwalder, U.S. News & World Report).

The good fitting model showed no relationship between the Binding foundations and either type of empathy, suggesting that empathy is not a part of conservatives' moral decision making. This is not to say that conservatives do not have empathy. I suggest that for "right versus wrong" issues general empathy for unrelated others is not a tool that is employed to reach a decision. As noted, in the pre-analyses I found no evidence that conservatives had significantly lower cognitive empathy than progressives. Additionally, in exploratory analysis, I found that the Loyalty foundation did have a small, but significant, relationship with affective empathy. Therefore, conservatives not using empathy during moral decision making might be a group-defining choice. This could make sense given that conservatives describe progressives as "bleeding hearts." The term "bleeding hearts" is a derogatory phrase used to suggest that progressives are overly sentimental or excessively sympathetic towards those who are perceived to be vulnerable or disadvantaged. If not having "excessive" empathy is a cornerstone of conservative identity (and reinforces group cohesion), then people with higher Binding foundations choosing to not use empathy might be expected.

The data showed that Political Identity did not have a relationship with the no health threat judgments for conservatives or progressives, which suggested that Political Identity was not a part of all decision making. Instead, both groups used their foundations directly in that context. There are some moral decisions that are not political yet are still different between the

two groups. Political Identity did partially explain the health-threat moral judgments for both parties. An implication of this result is that, for conservatives and progressives, health is a political issue. However, conservatives continue to use their foundations directly for judgments with a health context, which suggests that health is not only a political issue for them, but also a moral one since they apply their moral foundations to it. In this model, the only way to explain progressive moral reasoning on the COVID threat vignettes is through Political Identity.

Various reasons for conservatives refusing to follow CDC COVID-19 recommendations in 2020 and 2021 (during high health threat) were postulated by previous research, as discussed earlier in this paper. Although I collected data in early 2023, I wanted my research on moral reasoning, empathy, politics, and judgments on other's health behaviors to give insight into why conservatives had rejected scientific guidelines earlier in the pandemic. My data indicated that conservatives (who have high Binding foundations) used their foundations directly (not mediated) to make judgments in all contexts (with and without health threat). Conservatives also used their foundations mediated by Political Identity as a part of their moral reasoning once health-context (a political issue) was added. This could mean that even if political leaders change their stance from not supporting a scientific guideline to supporting it, the decision to not follow guidelines may still have been supported directly by the Binding foundations. The leaders were not the single point of support for the decision. This evidence suggested that the underlying reason for conservatives' decision to not follow recommended health guidelines was their inclination to follow their moral foundations, which prize group cohesion and are spread across the foundations. The name "Binding" is apt because these foundations represent a set of moral values that are based on valuing relationships (binding the group together) over many other concerns. This same line of reasoning might explain why behavior did not change once numerous misconceptions were widely addressed. Correcting misinformation does not change all the core values that might be influencing the moral reasoning behind the behavior.

Another goal of the study was to inform public health messaging. My findings indicate that, since cognitive empathy is not used directly during moral reasoning by either political party, public health messaging that encourages perspective taking will not be effective. Activating affective empathy may be useful, though. Affective empathy can serve as a source of motivation to encourage prosocial health behaviors, such as handwashing (Sassenrath et al., 2016), mask wearing, and physical distancing (Pfattheicher et al., 2020) in future health crisis. Progressives are high on affective empathy and, during pre-registered exploratory analyses I found a small but statistically significant relationship between affective empathy and Loyalty (a Binding foundation). There is evidence that, for conservatives, eliciting empathy may be more effective in promoting prosocial behavior if the messaging is framed around related (ingroup) others. For example, high Binding foundations scores predicted higher charitable giving to in-group causes (Nilsson et al., 2020). Because there is convincing evidence that affective empathy can be biased toward one's own group (Bruneau et al., 2017), activating affective empathy by appealing to values associated with the Loyalty foundation may increase the likelihood of influencing conservatives' behavior during pandemics. Activating affective empathy may work just as well (if not better) for progressive counties; this study found that affective empathy was an important contributor to progressive moral reasoning. As a final note on public health messaging, careful attention should be paid to the wording to ensure it cannot be interpreted as a "right versus wrong" scenario. Conservatives do not use empathy when making moral decisions, as my study shows.

One intriguing finding in the pre-analysis suggested that future research might benefit from focusing on the unique moral reasoning of individuals who do not identify as a part of the Democrat or Republican party, as well as people that the Pew placed in the center. While people who were not self-affiliated with the Democrat or Republican party (N = 35) had intermediate scores on Individualizing and Binding foundations and did not differ significantly from Democrats, those classified as in the center by Pew (N =49) had numerically higher

Binding scores than Republicans without significant differences. Of the 49 participants who were placed in the center by Pew, only eight self-identified as Center. The “center’s” membership and score variability highlight the need for further investigation into the complex interplay between personal beliefs, group membership, and moral foundations. Incorporating people into studies who do not identify as and who cannot be classified as being progressive or conservative could help illuminate the factors that shape moral reasoning across the political spectrum. Using a spectrum was a part of this study’s strengths, given these intriguing findings. Future research might benefit significantly by moving away from the binary Republican-Democrat model entirely.

One important contribution of this study to the body of work using the Moral Foundations Theory (MFT) is a proposed general framework for constructing a more nuanced identity for participants that may better explain differences in moral reasoning. The extensive research on political group differences utilizing the MFT have heavily relied on the foundations as a proxy for a binary model of political group affiliation. However, group membership is more complex than the likelihood of belonging or not belonging to one of the two major political parties. A more comprehensive understanding of a person’s moral reasoning can be obtained by considering their perceived strength of group membership and their actual stances on the issues that are relevant to the group, as I did with this study by incorporating the Pew Political Typology survey and asking participants their strength of political party affiliation. By utilizing this approach to create a complementary and arguably more valid measure of political identity, a better understanding of how people make moral judgments concerning issues was attained. These findings could also offer insight into how individuals come to form judgments that are not informed entirely by their moral foundations, seeing as the present study found that political identity contributed to moral judgments for health behaviors.

In conclusion, this study shed light on the complex interplay between empathy, moral foundations, and political identity for different moral reasoning tasks with and without health context. The findings on group characteristic differences between progressives and

conservatives are valuable for informing future public health messaging during heightened health-threat. The results indicate that health threats, including those associated with pandemics, have political implications in the United States. Therefore, public health messaging should consider targeting specific audiences strategically, such as by evoking affective empathy for related others. Furthermore, the results highlight the need to go beyond binary group affiliation to understand behavior fully. The more nuanced political identity variable developed for this study is a valuable tool that can better explain behavior in different contexts and should be used in future research. By investigating moral reasoning through a more complex sense of identity, future research can contribute to a more comprehensive understanding of human behavior and pave the way for more effective interventions to promote ethical decision-making.

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Appendix A: Moral Violation Health Judgment Vignettes

Instructions: Read each sentence. Evaluate how wrong you feel the person's behavior is from "0 = not at all wrong" to "4 = very wrong". Judge each scenario on its own, without considering the items you've already judged. The scenario is not related to health if not specified.

Care-1 Vignettes

- You see someone shouting at a tourist who is coughing and removing them from their shop for fear of catching the new COVID-19 variant.
- You see someone shouting at a tourist who is sneezing and removing them from their shop for fear of contracting the seasonal flu.
- You see someone shouting at a tourist and removing them from their shop to quickly close their shop and go home.

Care-2 Vignette

- You see someone on the bus yelling at a passenger who is coughing because they are afraid of the newest most contagious variant of COVID-19.
- You see someone on the tram yelling at a passenger who is sneezing because they are afraid of contracting the seasonal flu.
- You see someone on the subway car yelling at a passenger who accidently bumped into another passenger while talking on the phone.

Fairness-1 Vignette

- You see someone in the line for a COVID-19 PCR test who asks their friend working there to help them skip the line and thus not risk COVID-19 infection from other people waiting in line.
- You see someone in the doctor's office waiting for their annual physical exam who asks their friend working there to help them skip ahead of the line and thus not risk infection from the other sick people in the waiting room.

- You see someone at the post office waiting to mail a package who asks their friend working there to help them skip the line so that they can finish their daily errands quicker.

Fairness-2 Vignette

- You see someone who buys all of the over the counter antiviral medication from the one pharmacy in their small town to protect themself from a new deadly COVID-19 resurgence in their community.
- You see someone who buys all of the over the counter antiviral medication from the one pharmacy in their small town to protect themselves from a flu outbreak.
- You see someone shopping who is buying all of the inventory of a popular holiday toy to resell them online at a higher price.

Loyalty-1 Vignette

- You see a family member who has abandoned their family over differing views about the threat of COVID-19, leaving their loved ones stunned at how they were cast aside.
- You see a family member who has abandoned their family over differing views about the threat of foot-and-mouth disease (a common childhood disease), leaving their loved ones stunned at how they were cast aside.
- You see a family member who has abandoned their family over differing views of child rearing, leaving loved ones stunned at how they were cast aside.

Loyalty-2 Vignette

- You see someone who chooses not to attend their sibling's wedding because no precautions are being taken to prevent COVID-19 spread, despite the recent COVID-19 resurgence in the community.
- You see someone who chooses not to attend their sibling's wedding because no precautions are being taken to prevent the spread of the flu even, despite the recent flu outbreak in the community.

- You see someone who chooses not to attend their sibling's wedding because of an existing vacation schedule conflict.

Authority-1 Vignette

- You see a person pulled over by police who will not keep their window rolled down because they are afraid of getting COVID-19 since the police officer is coughing but not wearing a mask.
- You see a person pulled over by police who will not keep their window rolled down because they are afraid of getting a cold since the police officer is sneezing without covering their nose and mouth.
- You see a person pulled over by police who will not keep their window rolled down because it is raining and they do not want the inside of their car to get wet.

Authority-2 Vignette

- You see a high school senior sick with COVID-19 symptoms ignoring their father's orders by taking the car without permission so they can buy a COVID-19 test.
- You see a high school senior suffering from bad allergies ignoring their father's orders by taking the car without permission so they can buy an anti-allergy nose spray.
- You see a high school senior ignoring their father's orders by taking the car without permission so they can buy a dessert.

Sanctity-1 Vignette

- You see someone burning a religious holy book which they recently bought from a bookshop where three employees recently died from a highly contagious COVID-19 variant.
- You see someone burning a religious holy book because they are afraid of mold particles on the pages making them sick.
- You see someone burning a religious holy book because they don't believe in that religion and they don't want anyone else to read the book.

Sanctity-2 Vignette

- You see someone on the way to church telling their family they won't participate in the communion part of the service because they are afraid of COVID-19 transmission from sharing the blessed wine and bread with other members of the congregation.
- You see someone on the way to church telling their family they won't participate in the communion part of the service because they are afraid of catching the seasonal flu from sharing the blessed wine and bread with other members of the congregation.
- You see someone on the way to church telling their family they won't participate in the communion part of the service because they do not like the taste of the blessed wine and bread.

Liberty-1 Vignette

- You see a person who forbids their spouse from going into the pharmacy and forces them to use the pharmacy drive-thru so that they do not risk catching COVID-19 and bringing it home.
- You see a person who forbids their spouse from going into grocery stores and forces them to order everything online in order to not risk catching the seasonal flu and bringing it home.
- You see a person who forbids their spouse from going into the fast-food place and forces them to use the drive-thru so that they can get their order more quickly and get home earlier.

Liberty-2 Vignette

- You see someone who forces their family member to keep a distance from others when at the gym so they do not catch COVID-19 and bring it home.
- You see someone who forces their family member to keep a distance from others when at the gym so that they don't catch the seasonal flu and bring it home.

- You see someone who forces their family member to keep a distance from others when at the gym so that they don’t get to know anyone else there.

Appendix B: Moral Foundations Questionnaire

Part 1. Moral Relevance

Instructions: When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please rate each statement from 0 = not at all relevant (This consideration has NOTHING to do with my judgments of right and wrong) to 5 = extremely relevant (This is one of the MOST IMPORTANT factors when I judge right and wrong). If you do not understand AT ALL what the statement means, mark “0 not at all relevant”.

[0] = not at all relevant (This consideration has nothing to do with my judgments of right and wrong)

[1] = not very relevant

[2] = slightly relevant

[3] = somewhat relevant

[4] = very relevant

[5] = extremely relevant (This is one of the most important factors when I judge right and wrong)

_____1. Whether or not someone suffered emotionally

_____2. Whether or not some people were treated differently than others

_____3. Whether or not someone’s action showed love for their country

_____4. Whether or not someone showed a lack of respect for authority

_____5. Whether or not someone violated standards of purity and decency

_____6. Whether or not someone cared for someone weak or vulnerable

_____7. Whether or not someone acted unfairly

_____8. Whether or not someone did something to betray their group

_____9. Whether or not someone conformed to the traditions of society

_____10. Whether or not someone did something disgusting

_____11. Whether or not someone was cruel

_____12. Whether or not someone was denied their rights

_____13. Whether or not someone showed a lack of loyalty

_____14. Whether or not an action caused chaos or disorder

_____15. Whether or not someone acted in a way that God would approve of

Part 2. Moral Judgments

Instructions: Please read the following sentences and indicate your agreement or disagreement from “0 Strongly Disagree” to “5 Strongly Agree.” If you do not understand AT ALL what the statement means, mark “0 not at all relevant”.

[0] Strongly Disagree

[1] Moderately Disagree

[2] Slightly Disagree

[3] Slightly Agree

[4] Moderately Agree

[5] Strongly Agree

_____1. Compassion for those who are suffering is the most crucial virtue.

_____2. When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.

_____3. I am proud of my country’s history.

_____4. Respect for authority is something all children need to learn.

_____5. People should not do things that are disgusting, even if no one is harmed.

_____6. One of the worst things a person could do is hurt a defenseless animal.

_____7. Justice is the most important requirement for a society.

_____8. People should be loyal to their family members, even when they have done something wrong.

_____9. Men and women each have different roles to play in society.

_____10. I would call some acts wrong on the grounds that they are unnatural.

_____11. It can never be right to kill a human being.

_____12. I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.

_____13. It is more important to be a team player than to express oneself.

_____14. If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.

_____15. Chastity is an important and valuable virtue. (Chastity is refraining from sexual intercourse, except between individuals who are married to each other.)

Appendix C: Liberty Items for MFQ

Instructions: When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please rate each statement from 0 = not at all relevant (This consideration has NOTHING to do with my judgments of right and wrong) to 5 = extremely relevant (This is one of the MOST IMPORTANT factors when I judge right and wrong). If you do not understand AT ALL what the statement means, mark “0 not at all relevant”.

Relevance Items

1. Whether or not private property was respected
2. Whether or not everyone was free to do as they wanted.

Instructions: Please read the following sentences and indicate your agreement or disagreement from “0 Strongly Disagree” to “5 Strongly Agree.” If you do not understand AT ALL what the statement means, mark “0 not at all relevant”.

Judgment Items

3. People who are successful in business have a right to enjoy their wealth as they see fit
4. Society works best when it lets individuals take responsibility for their own lives without telling them what to do.
5. The government interferes far too much in our everyday lives.
6. The government should do more to advance the common good, even if that means limiting the freedom and choices of individuals. (Reverse scored)
7. Property owners should be allowed to develop their land or build their homes in any way they choose, as long as they don’t endanger their neighbors.
8. I think everyone should be free to do as they choose, so long as they don’t infringe upon the equal freedom of others.
9. People should be free to decide what group norms or traditions they themselves want to follow.

Appendix D: Interpersonal Reactivity Index

The following statements ask about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate number from 0 - Does not describe me well to 4 - Describes me very well.

1. I often have tender, concerned feelings for people less fortunate than me.
2. I sometimes find it difficult to see things from the “other person’s” point of view. (reverse scored)
3. Sometimes I don’t feel very sorry for other people when they are having problems. (reverse scored)
4. I try to look at everybody’s side of a disagreement before I make a decision.
5. When I see someone being taken advantage of, I feel kind of protective towards them.
6. I sometimes try to understand my friends better by imagining how things look from their perspective.
7. Other people’s misfortunes do not usually disturb me a great deal. (reverse scored)
8. If I’m sure I’m right about something, I don’t waste much time listening to other people’s arguments. (reverse scored)
9. When I see someone being treated unfairly, I sometimes don’t feel very much pity for them. (reverse scored)
10. I am often quite touched by things that I see happen.
11. I believe that there are two sides to every question and try to look at them both.
12. I would describe myself as a pretty soft-hearted person.
13. When I’m upset at someone, I usually try to “put myself in their” for a while.
14. Before criticizing somebody, I try to imagine how I would feel if I were in their place.

Appendix E: Health Anxiety Measure

Instructions: Please rate each of the following statements using the scale provided. Choose the number that represents your answer ON AVERAGE from “0 - no/never” to “4 - most of the time” that best describes your own opinion of your behavior.

(1 = no/never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = most of the time)

1. Are you worried that you may get a serious illness in the future?
2. If you have a pain, do you worry that it may be caused by serious illness?
3. If a pain lasts a week or more, do you believe that you have a serious illness?
4. Are you afraid that you may have cancer?
5. Do you worry about your health?
6. When you feel a sensation in your body, do you worry about it?
7. When you read or hear about an illness, do you get symptoms similar to those of the illness?
8. Do you examine your body to find whether there is something wrong?
9. When you notice a sensation in your body, do you find it difficult to think of something else?
10. If a disease is brought to your attention (through the radio, television, newspapers or someone you know), do you worry about getting it yourself?
11. When you hear about an illness, do you think you may have the same illness?

Appendix F: Fear of COVID-19

Instructions: Please rate each of the following statements using the scale provided. Choose the number that represents your answer ON AVERAGE from “0 - no/none” to “4 - most of the time” that best describes your own opinion of your behavior.

(0 = no/never, 1 = rarely, 2 = sometimes, 3 = frequently, 4 = most of the time)

1- Are you worried about your own health because of the coronavirus epidemic?

2- Does the thought of contracting the coronavirus scare you?

3- Are you worried that you might catch the coronavirus and die?

4- Are you worried about the health of your loved ones because of the coronavirus epidemic?

Appendix G: COVID-19 Experience with Sickness and Death

Instructions: Answer the following questions regarding your experiences with COVID.

1. Have you had any COVID-19 Vaccinations?

   Yes or No

   1a. (if yes to vaccine) Have you received at least one COVID-19 vaccine booster?

   Yes or No

2. Have you ever tested positive for COVID-19 (using a rapid point-of-care test, self-test, or laboratory test) or been told by a doctor or other health care provider that you have or had COVID-19?

   Yes or No

   2a. (if yes to testing positive) How would you describe your coronavirus symptoms when they were at their worst?

   - I tested positive for COVID, but had no symptoms
   - I had mild symptoms
   - I had moderate symptoms
   - I had severe symptoms

   2b. (if yes to testing positive) Did you have any symptoms lasting 3 months or longer that you did NOT have prior to having coronavirus or COVID-19? Long term symptoms may include: tiredness or fatigue, difficulty thinking, concentrating, forgetfulness, or memory problems (sometimes referred to as “brain fog”), difficulty breathing or shortness of breath, joint or muscle pain, fast-beating or pounding heart (also known as heart palpitations), chest pain, dizziness on standing, menstrual changes, changes to taste/smell, or inability to exercise.

   Yes or No

3. Has a close family member or anyone living with you tested positive for COVID-19 (using a rapid point-of-care test, self-test, or laboratory test) or been told by a doctor or other health care provider that you have or had COVID-19?

   Yes or No

   3a. (if yes to testing positive) Has anyone close to you (such as a friend, family member or anyone living with you) experienced severe symptoms of COVID-19?

   Yes or No

   3b (if yes to severe symptoms) Has anyone close to you (such as a friend, family member, or others in your household) died from COVID-19 or complications caused by COVID-19?

   Yes or No

Appendix H: Discussion of Politics

Instructions: Please rate each of the following statements using the scale provided. Choose the number that represents your answer ON AVERAGE from “0 Never” to “4 Very Often” that best describes how often you have discussions about politics.

Sought discussions of politics with people who hold similar views to yours

Sought discussions of politics with people who hold different views from yours

Appendix I: Pew Political Typology Online Quiz

Answer each question. You may find some of these questions are difficult to answer. That's OK. In those cases, pick the answer that comes closest to your view, even if it isn't exactly right.

GOVSIZE1: If you had to choose, would you rather have…

1. A smaller government, providing fewer services
2. A bigger government, providing more services

   GOVSIZE3 [ASK IF GOVSIZE1=2]: When you say you favor a bigger government providing more services, do you think it would be better to …

   1. Modestly expand on current government services
   2. Greatly expand on current government services

USEXCEPT: Which of these statements best describes your opinion about the United States?

1. The U.S. stands above all other countries in the world
2. The U.S. is one of the greatest countries in the world, along with some others
3. There are other countries that are better than the U.S.

OPENIDEN: Please choose the statement that comes closer to your views – even if neither is exactly right.

1. America's openness to people from all over the world is essential to who we are as a nation
2. If America is too open to people from all over the world, we risk losing our identity as a nation

POLICY3MOD: In general, would you say experts who study a subject for many years are …

1. Usually BETTER at making good policy decisions about that subject than other people
2. Usually WORSE at making good policy decisions about that subject than other people
3. NEITHER BETTER NOR WORSE at making good policy decisions about that subject than other people

WHADVANT: In general, how much do White people benefit from advantages in society that Black people do not have?

1. A great deal
2. A fair amount
3. Not too much
4. Not at all

SUPERPWR: In the future, do you think ...

1. U.S. policies should try to keep it so America is the only military superpower
2. It would be acceptable if another country became as militarily powerful as the U.S.

CRIM_SENT2: Overall, would you say people who are convicted of crimes in this country serve …

1. Too much time in prison
2. Too little time in prison
3. About the right amount of time in prison

CANMTCHPOL: Which comes closer to your view of candidates for political office, even if neither is exactly right? I usually feel like …

1. There is at least one candidate who shares most of my views
2. None of the candidates represent my views well

PROG_RNEED: How much more, if anything, needs to be done to ensure equal rights for all Americans regardless of their racial or ethnic backgrounds?

1. A lot
2. A little
3. Nothing at all

PROG_RNEED2b [ASK IF PROG_RNEED=1]: Which comes closer to your view about what needs to be done to ensure equal rights for all Americans regardless of their racial or ethnic backgrounds – even if neither is exactly right?

1. Most U.S. laws and major institutions need to be completely rebuilt because they are fundamentally biased against some racial and ethnic groups
2. While there are many inequities in U.S. laws and institutions, necessary changes can be made by working within the current systems

SOCIETYTRANS: Do you think the following is generally good or bad for our society? Greater social acceptance of people who are transgender (people who identify as a gender that is different from the sex they were assigned at birth)

1. Very good for society
2. Somewhat good for society
3. Neither good nor bad for society
4. Somewhat bad for society
5. Very bad for society

PROBOFFa: How much of a problem, if any, would you say each of the following are in the country today? People being too easily offended by things others say

1. Major problem
2. Minor problem
3. Not a problem

PROBOFFb: How much of a problem, if any, would you say each of the following are in the country today? People saying things that are very offensive to others

1. Major problem
2. Minor problem
3. Not a problem

BUSPROFIT: Please choose the statement that comes closer to your views – even if neither is exactly right.

1. Business corporations make too much profit
2. Most corporations make a fair and reasonable amount of profit

RELIG_GOV: Please choose the statement that comes closer to your own views – even if neither is exactly right.

1. Religion should be kept separate from government policies
2. Government policies should support religious values and beliefs

RACESURV52MOD: How much, if at all, would it bother you to regularly hear people speak a language other than English in public places in your community?

1. A lot
2. Some
3. Not much
4. Not at all

GLBLZE: Thinking about increased trade of goods and services between the U.S. and other nations in recent decades … Some say the U.S. has gained from increased trade because it has helped lower prices and increased the competitiveness of some U.S. businesses. Others say the U.S. has lost out from increased trade because it has cost jobs in manufacturing and other industries and lowered wages for some U.S. workers. All in all, would you say that the U.S. has …

1. Gained more than it has lost from increased trade
2. Lost more than it has gained from increased trade

THERMO: We'd like to get your feelings toward a number of groups in the U.S. on a "feeling thermometer." A rating of zero degrees means you feel as cold and negative as possible. A rating of 100 degrees means you feel as warm and positive as possible. You would rate the group at 50 degrees if you don't feel particularly positive or negative toward the group.

THERMOa: How do you feel toward Republicans?

Enter the number between 0 and 100 that reflects your feelings

THERMOb: How do you feel toward Democrats?

Enter the number between 0 and 100 that reflects your feeling

Recruitment

The initial plan was to conduct the entire data collection on Mturk. In Mturk, the survey was made available to anyone who successfully completed 1000 or more tasks with a Human Intelligence Task (HIT) approval rate of 97%. The high completed task requirement and approval rate was intended to direct the survey to participants who were more tenured workers. In theory, this should have meant that the data would be of higher quality. The task description in Mturk had the survey's participant criteria, which were repeated on the consent form. Initially, I recruited a small number of participants in order to ensure quality data. The Mturk batch resulted in 26 surveys completed (all questions answered), with 11 of them usable (passed all quality checks). More than half of the surveys failed the open-ended text prompt, in addition to the attention checks. From the quality of the text responses to the open-ended prompt, I concluded that many of the Mturk participants were using bots to complete the survey.

Since on Mturk the quality of the responses was not reliable, I moved data collection to Prolific. The Prolific survey was made available to participants who successfully completed 100 or more tasks with an approval rate of 97%. Prescreen filters allowed the survey to be delivered equally to male and female participants (the only options in prescreening) whose profiles indicated that they had resided in the U.S. for the last 10 years or longer and who were fluent in English. The first batch from Prolific did not have any responses to the open-ended questions that indicated a bot was used, which was reassuring. Further, all the first batch of participants from Prolific passed the attention checks. In total, I ran four batches to balance political party and ethnicity representation[2]. All but one of the 411 completed surveys passed the open-ended text prompt quality check; however, 42 were not usable because they failed at least one attention check.

[2] Four different batches were run in total in Prolific to ensure a balanced representation of ethnicities and political affiliation. Demographics were checked on each batch to inform the pre-screen criteria needed for the next batch. Some batches restricted recruitment to minorities or Republicans.

Participants from Mturk and Prolific were paid $6.00 if their survey had all questions answered and passed quality checks. There was no compensation for these four circumstances: they left the survey before finishing it, the open-ended question was not answered appropriately, both attention checks were failed. From start to finish, the average completion time was under 30 minutes. Analysis was restricted to surveys that were complete, passed the open-ended prompt, and passed both attention checks.

Appendix J: Pew Group Calculation Instructions

From personal correspondence with Caleb Keller of the Pew Research Center.

Caleb Keller, November, 11, 2022:

> To assign quiz respondents to a political typology group, we first recoded each of the quiz items so that lower scores on each item represent responses associated with the more liberal position and higher scores represent responses associated with the more conservative position (this was mainly for interpretability). Two quiz questions with direct follow-ups were collapsed into single scales for coding purposes (GOVSIZE1 and GOVSIZE3; PROG_RNEED and PROG_RNEED2b). Additionally, the quiz calculation uses the difference between thermometer ratings of Republicans and Democrats as well as the raw rating of each.
>
> After this recoding, we had a total of 19 variables for use in assigning quiz respondents to typology groups. Next, we standardized the scores for each item based on the full samples in the original surveys. The attached Excel file labeled quiz_codebook lists the z-scores associated with each possible response for each of the 19 variables.
>
> The z-scores listed in quiz_codebook are then used to calculate a “sum of squared distances” for each respondent relative to the prototypical member of each of the nine typology groups. First, it calculates the square of the distance from the prototypical group member for each group on each of the 19 variables, then it sums the square distances within each of the 9 typology groups. A quiz respondent is assigned to the group that produces the lowest value for this sum of squared distances.
>
> For the quiz, this is done in a web application, but the attached Excel file labeled quiz_calculator will perform the same calculation for a single quiz respondent, showing you how the calculation works. Enter the z-scores associated with a respondent’s quiz results in the column labeled “Respondent scores”, then identify the lowest total score in the “sum of distances” row. In the example we’ve entered in the spreadsheet, this hypothetical respondent would be assigned to the Progressive Left typology group. Working backwards with the quiz_codebook file, you can see the set of answers to the quiz items that lead to this assignment; or, you can enter new values to determine the group assignment for a new respondent. If you are fielding a survey and want to calculate every respondent’s assignment, we would suggest doing this through code.

The values on the spreadsheet ranged from two decimal places (for the question values) to seventeen decimal places for some of the sum of squared differences. I used rstudio code to perform all calculations.

Appendix K: Mplus Code for Best Fit Model

This is the code used for the best fit model from this research. Political Identity (Politics) is a latent variable that uses the person's self-disclosed political affiliation (Pol_Affil) and Pew assigned group (PEWgrp) as indicators. The Individualizing (individ) and Binding (binding) foundations, along with affective (aff) and cognitive (cog) empathy are included in the model to explain moral judgments on the vignettes (MVHVNone, MVHVSick, MVHVCOV).

```
Variable:
        Names are
        PEWgrp  Individ  Binding  MVHVNone  MVHVSick MVHVCOV  Aff  Cog  Pol_Affil
;
USEVARIABLES ARE
        Individ  Binding  Pol_Affil  MVHVNone MVHVSick  MVHVCOV  Aff Cog  PEWgrp
;
Missing are ALL(99);
ANALYSIS:
        Type = General;
MODEL:
        Politics by Pol_Affil PEWgrp ;
        individ binding on Aff Cog ;
        Politics on individ binding;
        MVHVNone on Politics individ binding Aff Cog;
        MVHVSick on Politics individ binding Aff Cog;
        MVHVCOV on Politics individ binding Aff Cog;
```