Empirical Research Paper

Values in Context: The (Dis)connections Between Moral Foundations and Moral Conviction

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Abstract

Moral foundations theory (MFT) argues that liberals and conservatives form different moral positions because liberals emphasize the values of harm and fairness, whereas conservatives emphasize the values of group loyalty, authority, and purity. In five studies (total $N = 3,327$), we investigated whether political orientation moderated the relationship between the perceived relevance of each moral foundation and moral conviction (i.e., the extent to which one perceives their attitude as based on morality) across four issues. Political differences in this relationship emerged but were inconsistent across issues and did not always align with the predictions of MFT or several other theoretical explanations. Our findings together with previous research indicate that MFT may do a better job predicting attitude position than it does predicting whether people perceive that their attitudes are moral convictions, and that some foundations may reflect conventional rather than moral values (e.g., authority).

In early 2020, a novel coronavirus known as COVID-19 began spreading worldwide, quickly becoming a global pandemic. As the United States witnessed a surge in cases and fatalities, health officials recommended preventive measures to curb its spread. Initially cautious about potential shortages in health care settings, the Centers for Disease Control and Prevention (CDC) refrained from advocating general mask use. However, by April 2020, the CDC revised its stance, advising the public to wear face masks in places where physical distancing was challenging, like grocery stores. Political divides formed among elites and the public about whether and when people should wear masks. Then-President Donald Trump and other Republicans consistently downplayed the importance of masking while Democrats largely endorsed their use (e.g., Caputo, 2021). Tensions escalated in the summer of 2020 when numerous states mandated wearing masks in indoor public spaces.

As the response to COVID-19 evolved, polarization over mask-wearing and other preventive measures transformed the issue into a moral one among many advocates and critics. Increased COVID-19 cases were associated with heightened moral condemnation of those who violated or even questioned the efficacy of behaviors that mitigated the spread of COVID-19 Graso et al., 2021), and moralized rhetoric about

these practices also increased (Malik et al., 2021). One commentator, for example, argued that wearing a face mask "is a moral decision and the right thing to do to protect our communities" (Ahmed-Zaid, 2020). On the other side of the issue, a different commentator argued: "Your response when you see children wearing masks as they play should be no different from your response to seeing someone beat a kid in Walmart . . . it's child abuse, and you are morally obligated to attempt to prevent it" ("Tucker Carlson," 2021).

What leads people to develop a moral conviction about issues like face masks? In this research, we tested whether issue-specific endorsement of different moral foundations predicted moral conviction—the meta-perception that one's attitude is rooted in personal morality—and whether this relationship varied as a function of perceiver political orientation and the issue or context (e.g., face mask mandates,

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removal of Confederate monuments, concealed carry of firearms, and legalized abortion). Drawing on moral foundations theory (MFT), the dyadic theory of morality, and social domain theory, we tested hypotheses about the interplay between moral values or foundations and moral conviction. Before detailing our studies, we provide an overview of existing knowledge on moral conviction and the diverse predictions derived from these theoretical frameworks.

Moral Conviction

Moral conviction entails perceiving one's attitude as firmly rooted in unwavering beliefs about moral right and wrong (e.g., Skitka et al., 2005). Although some scholars assume that specific issues globally evoke moral reactions (e.g., moral dilemmas or controversial social issues, such as the legality of abortion), there is considerable variation in the degree to which people's attitudes reflect their personal moral convictions (Ryan, 2014). Moreover, the degree to which people experience an attitude as a moral conviction has important social and political consequences. When people have stronger moral convictions about a given issue or candidate, for example, they are more likely to become politically engaged (i.e., vote, donate to a cause, or engage in activism, e.g., Skitka & Bauman, 2008). They also resist the usual pressures to obey authorities and the law or to conform to majorities and are more unwilling to compromise when their moral convictions are at stake. They are also more willing to accept lying, cheating, and even violence if it helps achieve their morally convicted ends (see Skitka et al., 2021, for a review). These findings suggest a double-edged sword: moral convictions can empower people to resist malevolent authority and foster social change, but they can also motivate violent protests and acts of terrorism.

Although we know a great deal about the consequences of morally convicted attitudes, we know almost nothing about why many policy debates seem to be contests between people with strong moral convictions on different sides of the same issue. Although people on both sides of an issue like face masks might be morally convicted, the values that underlie their moral convictions might differ. For example, proponents of mandatory face masks during COVID-19 pandemic might emphasize the potential harm resulting from non-compliance, whereas opponents might prioritize concerns about the constraints a mandate would place on their liberty. Next, we review MFT, an attempt to explain ideological disparities in perceiver morality, followed by an examination of two theoretical alternatives: the dyadic and social domain theories of morality.

Moral Foundations Theory

A common explanation for moralized conflict and culture war issues is that people prioritize different values, which leads them to different moral positions. MFT exemplifies this perspective, arguing that at least six values, or foundations—care/harm, fairness/cheating, ingroup loyalty/betrayal, authority/subversion, sanctity/degradation, and liberty/oppression—form the foundations of perceived morality (Haidt, 2012).[1] MFT theorizes that people have affect-laden intuitions when they observe patterns associated with these foundations in their social worlds. According to MFT, these foundations are innate but susceptible to cultural and social influences. For example, liberals in the United States emphasize individualizing foundations (i.e., care/harm and fairness/cheating) more than conservatives,[2] whereas conservatives prioritize binding foundations (ingroup loyalty/betrayal, authority/subversion, and sanctity/degradation) over liberals (Graham et al., 2009; Haidt, 2012). Consequently, disparities arise; conservatives often view actions like burning the American flag as more immoral due to the perceived disrespect to the country, aligning with the value of ingroup loyalty. Liberals generally see less moral significance in flag burning, because they place less moral value on ingroup loyalty and thus, do not perceive flag burning as a violation of their core moral commitment to care and fairness.

The liberty foundation initially emerged as an explanation of libertarian morality (Iyer et al., 2012). However, both liberals and conservatives make moral judgments using the liberty foundation, albeit in different domains. Specifically, liberals tend to care more about lifestyle liberty (e.g., freedom to marry a person of the same sex), whereas conservatives care more about economic liberty (e.g., freedom from paying excessive taxes; Iyer et al., 2012).

Although initially introduced to explain moral differences, people's endorsements of moral foundations are frequently used to predict their judgments and attitudes about ostensibly moral issues (e.g., Koleva et al., 2012). However, it is essential to distinguish between one's *stance* on a seemingly moral issue and the *depth of their moral conviction* in holding that stance. Consequently, it is imperative to evaluate not only whether moral foundations predict stances on issues but also whether they predict the strength of individuals' perception of these issues as moral convictions.

The *moral foundations hypothesis* predicts that for liberals, endorsing harm and fairness foundations should more strongly predict moral conviction across issues than it does for conservatives. Conversely, endorsing the loyalty, authority, and purity foundations should predict moral conviction more for conservatives than liberals. Moreover, higher perceived relevance of the liberty foundation should predict stronger moral conviction for liberals regarding social/lifestyle issues and for conservatives concerning economic matters.[3] Political orientation should not independently predict moral conviction. Liberals and conservatives often have different policy positions, but each camp can nonetheless see their position as similarly morally convicted.

Various other theoretical perspectives offer competing hypotheses about whether and how different values will

relate to moral conviction about different issues. These theories, however, make no specific predictions about ideological differences in the foundations of people's moral concerns. We review two of these perspectives (dyadic theory and domain theory) and their predictions about the relationship between moral foundations and moral convictions below.

Dyadic Theory

Dyadic theory argues that all moral concerns boil down to avoiding harm (Schein & Gray, 2018). People perceive immorality when they perceive a situation resembling someone (a moral agent) intentionally harming someone else (a moral patient). Dyadic theory also argues that perceiving different things as harmful explains the diversity of values across cultures (Gray & Keeney, 2015; Schein & Gray, 2015). For instance, conservatives in the United States value patriotism more than liberals, ostensibly because they believe that not loving one's country will lead to harm, whereas liberals do not.

Because dyadic theory posits that harm is at the core of what makes something morally relevant, perceiving the harm foundation as relevant should be the only predictor (the strong form of the hypothesis) or the strongest predictor (the weak form of the hypothesis) of moral conviction, regardless of political orientation (the *harm hypothesis*). What leads conservatives and liberals to perceive greater harm could vary. Moreover, when controlling for harm, there should be either no relationship between other foundations and moral conviction, or significantly weaker relationships.[4]

Social Domain Theory

Social domain theory, unlike MFT, makes a strong distinction between conventionality (akin to MFT's binding foundations) and the moral domain (MFT's individuating foundations). In this framework, violations in the conventional domain might be labeled "wrong," but only because they breach norms or coordination rules, and not because they violate a moral absolute. For example, wearing pajamas to work may be deemed "wrong," but only because it breaks a normative (not a moral) rule. In contrast, moral rules are perceived to have objective prescriptive force that transcend specific authorities or institutions. They are considered universal: governing appropriate behavior across contexts and history. Consistent with this distinction, violations of moral rules involve harm, violated rights, or injustice and are generally more serious than violations of conventional norms (e.g., Nucci & Turiel, 1978; Turiel, 1983).

Decades of research following this tradition finds that people's reactions to prototypical moral and conventional violations differ in predicted ways, including seriousness, authority independence, and universality. Moreover, people—including very young children—reliably distinguish between the moral and conventional domains (see Smetana, 2013 for a review).

The *moral domain hypothesis* therefore predicts that people's moral convictions should associate most strongly with the harm and fairness moral foundations[5] and will be negatively or unrelated to the binding foundations of authority, loyalty, and purity (which, according to this view, are conventional and not moral concerns).

Studies 1 to 4

We conducted four studies (three preregistered)[6] to test how issue-specific endorsement of moral foundations predicted moral conviction, and whether this endorsement predicted moral conviction differently for liberals and conservatives. Instead of assessing the relevance of moral foundation to general morality, we tailored the moral foundations questionnaire (MFQ) to specific issues. We therefore kept moral foundation endorsement and moral conviction at the same level of analysis. We used several politicized issues that could plausibly be perceived as morally relevant and varied in whether liberals or conservatives supported a given policy change. For example, in Study 1, we asked participants about policies that made wearing face masks mandatory in public places. At the time of data collection for Study 1 (August 2020), the COVID-19 pandemic had been in full force for several months in the United States with no vaccine likely until the next year, so wearing face masks was seen as morally necessary for many. However, August 2020 was also very close to the U.S. presidential election, and wearing face masks had become heavily politicized, with then-president Donald Trump and other Republicans minimizing their efficacy and framing mask mandates as infringements on individual freedom.

Study 2 was conducted in July 2021 with the removal of Confederate monuments as the target issue. During this period, pushes for racial justice like the Black Lives Matter movement, along with racially motivated killings of African Americans like the Charleston church shooting, catalyzed national discussions about racial justice. One of these issues was whether monuments honoring Confederate leaders, who had fought in the U.S. Civil War to preserve slavery, should remain in public spaces. Liberals advocated for their removal, denouncing them as racist symbols, whereas conservatives opposed removal, asserting their representation of Southern heritage.

Study 3 was conducted in November 2021 and centered on whether U.S. citizens with permits should be allowed to carry concealed firearms in public. The rise in mass shootings (and particularly school shootings) in the early 21st-century United States, coupled with growing political polarization, drove politicization of this and other gun-related issues. Specifically, conservatives largely supported the freedom to carry concealed firearms in public, whereas liberals opposed it, arguing that dangerous weapons should not be carried in public.

Study 4 was conducted in December 2021 with legalized access to abortion as the target issue. The issue of whether

Table 1. Participant Demographics of Each Study, Including Total N, Political Orientation, Platform, Age, and Percentage of Female Participants.

Demographic	Study 1: Face mask mandates	Study 2: Removal of confederate monuments	Study 3: Concealed carry	Study 4: Legalized abortion
Total *N*	599	716	709	735
Self-reported political orientation	−0.05 (1.96)	−0.05 (2.05)	−0.17 (2.04)	0.02 (2.03)
Platform	Prolific	Prolific	Cloud Research (MTurk)	Cloud Research (MTurk)
M Age (years)	34.54 (13.3)	34.30 (11.7)	41.68 (12.2)	41.35 (12.8)
Age range (years)	18–77	18–82	21–78	20–78
% Females	48.90	45.30	45.70	52.70
Race	75% White, 11% Asian, 8% Latino/a, 6% Black, 2% Other, 1% Native American, 1% Middle Eastern[a]	75% White, 16% Black, 6% Asian, 5% Latino/a, 2% Native American, 2% Other, 1% Middle Eastern	81% White, 8% Asian, 8% Black, 6% Latino/a, 1% Native American, 4% Other	81% White, 10% Black, 5% Latino/a, 4% Asian, 2% Native American, 1% Middle Eastern

Note. Political orientation ranged from −3 (*very liberal*) to +3 (*very conservative*). Values in parentheses indicate standard deviations.
[a]Due to rounding the percentage of each racial group, adding up the percentages results in a total of more than 100% in some cases.

women should be able to terminate their pregnancies has long been hotly contested in the United States, with liberals favoring legalized abortion access as a women's right and conservatives opposing abortion as infanticide. At the time of data collection, it was also anticipated that a new conservative majority on the Supreme Court could overturn the legal protection of abortion, which had been in place since 1973. Indeed, *Roe v. Wade* was overturned the following June.

Additional considerations for the selection of each issue are detailed in supplemental materials (see S1). All measures and exclusions are reported in these studies.

Method

We used the same materials and procedures in Studies 1 to 4, with minor differences noted. The only substantial difference between each study was the attitude object.[7]

Participants

Participants in Studies 1 and 2 were recruited from Prolific, and those in Studies 3 and 4 were recruited from Amazon Mechanical Turk via Cloud Research. The number of participants for each study was selected based on an *a priori* power analysis to detect a small effect size for a two-way interaction ($f^2 = .02$; Cohen, 1988).[8] In each study, we restricted participation to U.S. residents and prescreened for roughly equal numbers of liberals and conservatives.[9] Original sample sizes for each study were $N = 628$ (Study 1), $N = 765$ (Study 2), $N = 826$ (Study 3), and $N = 821$ (Study 4).[10] Participants were removed from the dataset if they were

missing data for any of the key variables (moral foundations, moral conviction, political orientation, support/opposition), failed an attention check item, or gave nonsensical responses to free response items, such as a random string of letters and numbers.[11,12] Details about participant demographics (after exclusions) are presented in Table 1.

Participants also answered specific questions about their local context regarding the target issues. In Study 1, for instance, 40% of participants reported that it was currently "mandatory to wear face masks in public in [their] community, including when going for a walk outside," whereas 48% reported that this was not the case in their community. Ninety-two percent of participants reported that it was "mandatory to wear face masks when going inside a store in [their] community." Full descriptive results for each study are in S3.

Procedure

Participants were briefly introduced to the issue in each study (see S2), then reported their attitude position and extremity on the issue, their moral conviction about it, the extent to which their attitude about the issue is related to concerns corresponding to each moral foundation, and demographic information including political orientation.[13]

Measures

Political Orientation. Participants' political orientation was measured by first asking, "Generally speaking, do you usually think of yourself as a liberal, conservative, moderate, or something else?" with the response options *liberal*, *conservative*, *moderate*, *uncertain/don't know*, and *other*.

Participants who selected liberal or conservative were branched to an item "To what degree do you consider yourself a liberal/conservative?" with the response options *slightly liberal/conservative*, *moderately liberal/conservative*, and *strongly liberal/conservative.* Participants that selected moderate, uncertain/don't know, or other were branched to the item "If you had to choose, would you consider yourself a liberal or a conservative?" with the response options *liberal*, *neither*, and *conservative*. These items were combined to form a single bi-polar scale of liberal versus conservative with "if you had to choose" responses coded as the same point as slightly liberal/conservative responses and higher numbers indicating more conservative.

Moral Conviction. Participants' moral conviction about each issue was measured with three items with the stem "To what extent is your stance on [issue] . . ." followed by "connected to your beliefs about fundamental right and wrong?" "a reflection of your core moral beliefs and convictions?" and "based on a moral principle?" with the response options *not at all*, *slightly*, *moderately*, *much*, and *very much*. These items were averaged together to form a reliable scale (α = .86-.93 across issues).

Issue-Specific Moral Foundations. To measure the perceived relevance of the six moral foundations to each issue, we used 12 items modified from the MFQ (Graham et al., 2011). Specifically, we asked participants "When you decide whether [wearing face masks in public should be mandatory or optional; Study 1]; [confederate monuments should be removed from public spaces; Study 2]; [people with permits should be allowed to carry concealed firearms in public; Study 3]; and [abortion should be legal or illegal; Study 4], to what extent are the following considerations relevant to your thinking?" followed by items representing each moral foundation (Harm: e.g., "Whether someone will be harmed or benefited," a = .44-.73;[14] Fairness: e.g., "How fair or unfair it is for some people," a = .66-.73; Loyalty: e.g., "Whether it is loyal or disloyal to groups you identify with," a = .59-.74; Authority: e.g., "Whether it would convey respect or disrespect for authority figures," a = .76-.79; Purity: e.g., "Whether it would uphold or violate standards of purity," a = .64-.81; Liberty: e.g., "Whether it would enhance or constrain people's freedom," a = .82-.90) on a six-point scale from *not at all relevant* to *extremely relevant*. Each subscale's items were averaged.

Results

We first tested the relationships between each foundation and moral conviction, and whether these relationships differed as a function of participants' political orientation across the four studies. We then present some additional analyses of Studies 1 to 4 as robustness checks and integrate them with the conclusions of our previous analyses.

We conducted a hierarchical regression model for each study to test whether six moral foundations predicted moral conviction about each issue and whether different foundations predicted moral conviction for those on the political right versus left. The six issue-specific moral foundation measures (mean-centered) and political orientation (midpoint-centered) were entered in the first block, and the two-way interactions between each foundation and political orientation were entered in the second block to predict moral conviction[15] (see Tables 2 and 3; Figure 1).

Moral Foundations Hypothesis. The results of Studies 1 to 4 yielded inconsistent support for the *moral foundations hypothesis*. The perceived relevance of harm predicted stronger moral conviction across the political aisle for mask mandates (Study 1) and abortion (Study 4), and only for liberals regarding the removal of Confederate monuments (Study 2) and concealed carry (Study 3), results that are mostly consistent with MFT. Other support for MFT, however, was weaker. For example, perceiving fairness as more relevant only predicted moral conviction about the removal of Confederate monuments and abortion. Despite the predicted liberal gravitation toward liberty on social/lifestyle issues, higher perceived relevance of liberty predicted stronger moral conviction for conservatives in Studies 2 to 3 (confederate monuments and concealed carry) but negatively predicted moral conviction for liberals in Study 1 (mask mandates) and for both liberals and conservatives in Study 4 (abortion). MFT predicted that the relevance of authority should positively predict moral conviction and more so for conservatives and liberals. In contrast to this prediction, stronger perceptions of authority's relevance predicted *weaker*—not stronger—moral convictions across all four studies for both liberals and conservatives.

Contrary to MFT, political differences in the degree to which the binding foundations predicted moral conviction were essentially nonexistent. The only exception was purity in the context of abortion (Study 4), which predicted stronger moral conviction for conservatives (but not liberals). This is not to say that the binding foundations did not predict moral conviction. For example, purity predicted stronger moral convictions about face masks, confederate monuments, and concealed carry (Studies 1, 2, and 3), but this finding was equally true of liberals and conservatives, rather than only the latter.

In summary, except for the idea that moral convictions are based on a plurality of values and that those values can differ between liberals and conservatives, the predictions of MFT were not robustly supported across the different issues examined here.

Harm Hypothesis. Results were also largely inconsistent with both the strong (i.e., the idea that harm would be the only robust predictor of moral conviction) and weak version (i.e., the idea that harm would be the strongest predictor of moral conviction across studies) of the *harm hypothesis*. Although

Table 2. Unstandardized Regression Coefficients Predicting Moral Conviction About Face Mask Mandates, Removal of Confederate Monuments, Concealed Carry, and Legalized Abortion With Issue-Specific Moral Foundation Endorsements (Mean-Centered) and Political Orientation (Mid-Point-Centered) Interactions.

Block	Predictor	Study 1: Face mask mandates			Study 2: Removal of confederate monuments			Study 3: Concealed carry			Study 4: Legalized abortion		
		B	p	sr^2	B	p	sr^2	B	p	sr^2	B	p	sr^2
1	Harm	0.18 (0.05)	<.001	.02	0.21 (0.05)	<.001	.02	0.20 (0.06)	<.001	.02	0.25 (0.05)	<.001	.03
	Fairness	0.03 (0.04)	.52	.00	0.15 (0.05)	.006	.01	0.06 (0.05)	.17	.00	0.12 (0.04)	.004	.01
	Ingroup loyalty	0.20 (0.05)	<.001	.02	0.02 (0.05)	.64	.00	0.15 (0.06)	.01	.01	−0.06 (0.05)	.23	.00
	Authority	−0.12 (0.05)	.01	.01	−0.14 (0.04)	.001	.01	−0.11 (0.05)	.02	.01	−0.10 (0.04)	.03	.01
	Purity	0.19 (0.04)	<.001	.02	0.13 (0.05)	.008	.01	0.20 (0.05)	<.001	.02	0.23 (0.03)	<.001	.06
	Liberty	−0.14 (0.04)	<.001	.02	0.05 (0.04)	.24	.00	0.07 (0.04)	.10	.00	−0.14 (0.04)	<.001	.02
	Political orientation (PO)	−0.07 (0.02)	.001	.02	−0.10 (0.02)	<.001	.03	0.05 (0.02)	.03	.01	0.01 (0.02)	.69	.00
	R^2	.17	<.001	—	.24	<.001	—	.15	<.001	—	.17	<.001	—
2	Harm × PO	−0.04 (0.02)	.10	.00	−0.10 (0.03)	<.001	.01	−0.09 (0.03)	.002	.01	−0.04 (0.02)	.09	.00
	Fairness × PO	−0.02 (0.02)	.24	.00	0.02 (0.03)	.48	.00	0.00 (0.02)	.87	.00	−0.02 (0.02)	.21	.00
	Ingroup loyalty × PO	0.01 (0.02)	.76	.00	0.03 (0.02)	.16	.00	0.02 (0.03)	.41	.00	−0.02 (0.02)	.52	.00
	Authority × PO	−0.03 (0.02)	.17	.00	0.02 (0.02)	.31	.00	−0.03 (0.02)	.24	.00	−0.01 (0.02)	.71	.00
	Purity × PO	0.02 (0.02)	.42	.00	0.01 (0.02)	.75	.00	−0.04 (0.02)	.09	.00	0.07 (0.02)	<.001	.02
	Liberty × PO	0.07 (0.02)	.001	.01	0.07 (0.02)	.01	.01	0.09 (0.02)	<.001	.03	−0.03 (0.02)	.15	.00
	ΔR^2	.03	<.001	—	.03	<.001	—	.05	<.001	—	.05	<.001	—

Note. β denotes standardized regression coefficients and the parentheses include standard errors. sr^2 represents the semi-partial correlation squared. Moral conviction ranged from 1 (*not at all*) to 5 (*very much*); Political orientation ranged from −3 (*strongly liberal*) to +3 (*strongly conservative*).

higher perceptions of harm did predict stronger moral conviction across all four studies for liberals, harm was unrelated to moral convictions for conservatives in Studies 2 and 3 (confederate monuments and concealed carry). Harm was also not consistently the strongest predictor of moral conviction. Moreover, concerns other than harm also predicted moral conviction for both liberals and conservatives across issues, even after harm perceptions were controlled. In sum, the strong form of the *harm hypothesis* received no support, and the weak form only received qualified support (harm was not consistently the strongest predictor and sometimes predicted moral conviction only for liberals).

Moral Domain Hypothesis. Finally, the *moral domain hypothesis* predicted that moral conviction would be more strongly predicted by the perceived relevance of harm and fairness and would either be negatively or unrelated to the perceived relevance of authority, loyalty, or purity. The

moral domain hypothesis received mixed support. Consistent with predictions, stronger perceptions of the relevance of harm predicted stronger moral conviction across all four studies. However, inconsistent with predictions, this pattern emerged in some cases only for liberals and not for conservatives. Stronger perceptions of the relevance of fairness predicted stronger moral conviction for both liberals and conservatives in Studies 2 and 4 (confederate monuments and abortion) but were otherwise unrelated to moral conviction. Contrary to the moral domain hypothesis, stronger perceived relevance of the loyalty and purity foundations was positively associated with strength of moral conviction in some studies, with the strongest pattern of associations with purity. The strongest support for social domain theory emerged with the perceived relevance of authority. Perceiving authority as more relevant predicted *weaker* moral conviction across all four studies and issues and regardless of political orientation.

Table 3. Simple Slopes Predicting Moral Conviction About Face Mask Mandates, Removal of Confederate Monuments, Concealed Carry, and Legalized Abortion With Issue-Specific Moral Foundation Endorsements (Mean-Centered) for Liberals and Conservatives. (Significant Interactions Only).

Predictor	Political orientation	Study 1: Face mask mandates		Study 2: Removal of confederate monuments		Study 3: Concealed carry		Study 4: Legalized abortion	
		B	p	B	p	B	p	B	p
Harm	Liberal	—	—	0.35 (0.07)	<.001	0.39 (0.08)	<.001	—	—
	Conservative	—	—	−0.05 (0.08)	.54	0.04 (0.08)	.61	—	—
Fairness	Liberal	—	—	—	—	—	—	—	—
	Conservative	—	—	—	—	—	—	—	—
Ingroup loyalty	Liberal	—	—	—	—	—	—	—	—
	Conservative	—	—	—	—	—	—	—	—
Authority	Liberal	—	—	—	—	—	—	—	—
	Conservative	—	—	—	—	—	—	—	—
Purity	Liberal	—	—	—	—	—	—	0.05 (0.05)	.33
	Conservative	—	—	—	—	—	—	0.33 (0.04)	<.001
Liberty	Liberal	−0.31 (0.06)	<.001	−0.04 (0.05)	.47	−0.09 (0.05)	.08	—	—
	Conservative	−0.05 (0.05)	.31	0.16 (0.06)	.008	0.28 (0.06)	<.001	—	—

Note. B denotes unstandardized coefficients and the parentheses include standard errors. Moral conviction ranged from 1 (*not at all*) to 5 (*very much*); Political orientation labels indicate 1 *SD* below the neutral (0) point for liberals, and 1 *SD* above the neutral (0) point for conservatives.
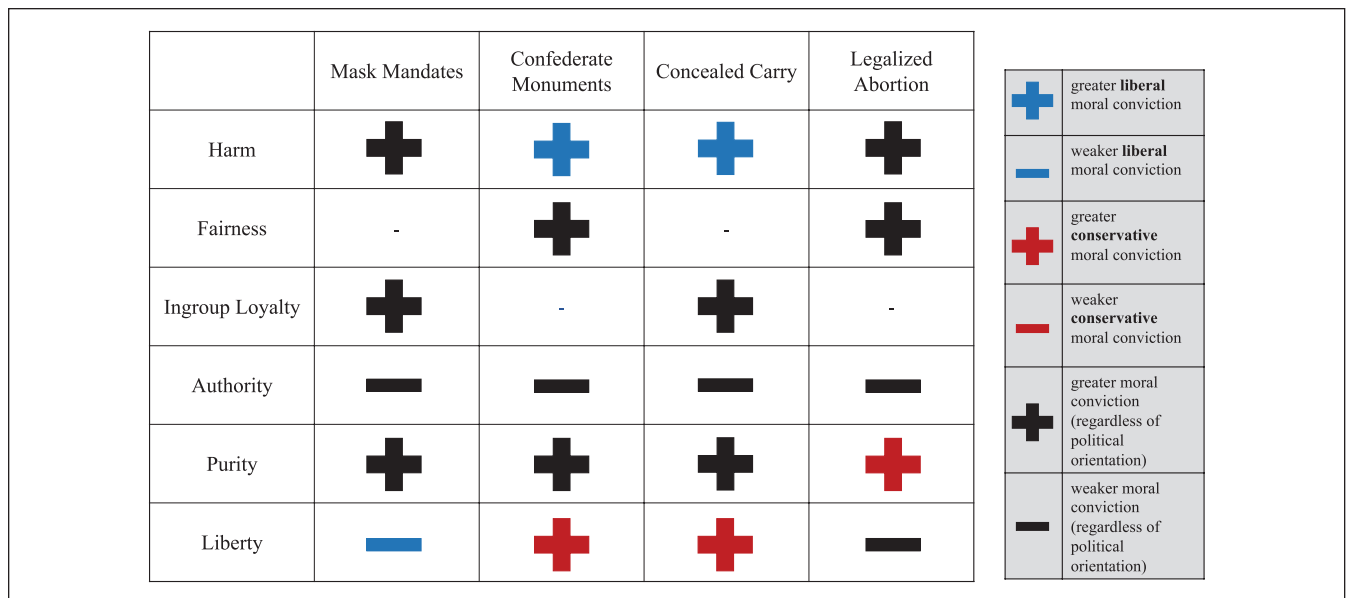

Figure 1. Visual Summary of the Associations Between Each Moral Foundation and Moral Conviction for Each Issue From Studies 1 to 4.

Other Findings

We also observed results that were not anticipated by any of the moral theories used to guide hypothesis testing. In addition to observing a negative relationship between the perceived relevance of authority and moral conviction, we observed other negative relationships between moral foundations and moral conviction. Greater perceived relevance of

liberty was associated with weaker moral conviction related to abortion (Study 4) and mask mandates (Study 1), but only for liberals.

In sum, the results of our primary analyses yielded a patchwork of evidence for and against our hypotheses. Political differences in the relationship between moral foundations and moral conviction emerged but not in the pattern predicted by MFT, inconsistent with the *moral foundations hypothesis*. Moral conviction was related to harm for liberals but not always for conservatives, and other foundations besides harm predicted moral conviction with similar or larger effect sizes, even when controlling for perceptions of harm—results at odds with the strong and weak form of the *harm hypothesis*. Finally, the authority foundation predicted weaker moral conviction across issues, a finding that is consistent with the *moral domain hypothesis* but inconsistent with the *moral foundations hypothesis*.

Robustness Checks

To examine the robustness of our results, we also tested hypotheses using a smaller number of dimensions than the six foundations used in our primary analyses. Because of intercorrelations between the individualizing foundations (harm and fairness), on one hand, and the binding foundations (authority, loyalty, and purity), on the other, studies using moral foundations sometimes use these two dimensions rather than the original five posited by MFT (excluding liberty, which is inconsistently included in tests of MFT, e.g., Harper & Rhodes, 2021). For this reason, we averaged harm and fairness items to create an individualizing foundations score, averaged the group loyalty, authority, and purity items to form a binding foundations score, and kept the liberty items together as a separate liberty score. We used these three scores as predictors to replace the individual moral foundation scores.

These analyses yielded results that were more favorable to the *moral foundations hypothesis* than our primary analyses, but still not entirely consistent with MFT. For instance, greater perceived relevance of the individualizing foundations predicted stronger moral conviction in all cases, and mostly for liberals, results largely consistent with MFT. Greater perceived relevance of the binding foundations predicted stronger moral conviction about removing confederate monuments (Study 2) and abortion (Study 4) for conservatives only, also consistent with MFT. However, perceived relevance of the binding foundations also predicted stronger moral conviction for liberals in the case of mask mandates (Study 1) and concealed carry (Study 3), inconsistent with MFT. Similar to the six-factor analyses, perceived relevance of liberty never positively (and sometimes negatively) predicted liberal moral conviction. Rather, perceiving liberty as more relevant predicted stronger moral conviction for conservatives in Studies 2 to 3, results inconsistent with the *moral foundations hypothesis* (see Tables 4 and 5; Figure 2).

Importantly, the three-factor approach obscures the independent effects of individual foundations like harm, group loyalty, and authority on moral conviction. Because the *harm* and *moral domain* hypotheses depend in part on these independent foundation effects, the three-factor analyses cannot extend the testing of these two hypotheses (though, it should be noted that the three-factor analyses entirely mask the negative effect of authority on moral conviction). However, the three-factor analyses better support the claims of MFT that morality is more often related to the individualizing foundations for liberals and the binding foundations for conservatives—a weaker but still important claim.[16]

In another robustness check, we tested dyadic theory by examining the effects of other values when controlling for the harm foundation. If other values are just different types of harm, as argued by dyadic theory, then the effects of other values should be null when controlling for the harm foundation. One could argue, however, that the items in the harm foundation do not adequately represent the harms participants think of when considering the other values as relevant to the target attitude. We therefore asked participants in Studies 1 to 4 to write down two anticipated consequences of attitude-inconsistent outcomes and rate how harmful (or beneficial) they perceived those consequences to be (e.g., if a participant was against legalized abortion, we asked them to write down what they think would happen if abortion were legalized and how harmful or beneficial those consequences would be). Participants also reported two anticipated consequences of attitude-consistent outcomes and rated how beneficial (or harmful) they would be. When controlling for the harm foundation, perceived harm of anticipated attitude-inconsistent consequences, and perceived benefit of attitude-consistent consequences, the other foundations still uniquely predicted moral conviction. The pattern of results remained largely, but not entirely the same. For instance, the negative main effect of authority became non-significant in Studies 2 to 4 when controlling for perceived harms and benefits. However, the direction and significance of effects matched those of the primary analyses in 19 out of 24 cases. Overall, these results confirm that values other than harm predict moral conviction (see S6).

Studies 1 to 4 Results Summary

Regardless of the analytical approach, no single theoretical perspective perfectly explained our results. Moral conviction across issues depended on multiple foundations, as predicted by MFT (and at odds with the *harm hypothesis*). Moreover, what predicted liberals' and conservatives' moral convictions about issues often varied, consistent with MFT's emphasis on ideological differences in moral foundations. However, there were few consistent political differences across issues. Perceiving harm as more relevant predicted moral conviction for liberals more often than conservatives, mostly consistent with the *moral foundations hypothesis*.

Table 4. Hierarchical Regression Model With Standardized Regression Coefficients Predicting Moral Conviction About Face Mask Mandates, Removal of Confederate Monuments, Concealed Carry, and Legalized Abortion With Issue-Specific, Three-Factor Moral Foundation Endorsement (Mean-Centered) and Political Orientation (Neutral-Point-Centered) Interactions.

Block	Predictor	Study 1: Face mask mandates			Study 2: Removal of confederate monuments			Study 3: Concealed carry			Study 4: Legalized abortion		
		B	p	sr²	B	p	sr²	B	p	sr²	B	p	sr²
1	Individualizing	0.16 (0.04)	<.001	.02	0.42 (0.05)	<.001	.07	0.21 (0.05)	<.001	.02	0.38 (0.05)	<.001	.07
	Binding	0.25 (0.05)	<.001	.04	−0.03 (0.05)	.49	.00	0.21 (0.05)	<.001	.02	0.08 (0.04)	.034	.01
	Liberty	−0.19 (0.04)	<.001	.04	0.04 (0.04)	.27	.00	0.07 (0.04)	.09	.00	−0.20 (0.04)	<.001	.04
	Political orientation (PO)	−0.08 (0.02)	<.001	.02	−0.12 (0.02)	<.001	.04	0.06 (0.02)	.014	.01	0.05 (0.02)	.018	.01
	R^2	.13	<.001	—	.23	<.001	—	.12	<.001	—	.10	<.001	—
2	Individualizing × PO	−0.04 (0.02)	.05	.01	−0.09 (0.02)	<.001	.02	−0.06 (0.02)	.015	.01	−0.06 (0.02)	.012	.01
	Binding × PO	0.00 (0.03)	.91	.00	0.08 (0.02)	.001	.01	−0.04 (0.02)	.07	.00	0.05 (0.02)	.004	.01
	Liberty × PO	0.06 (0.02)	.001	.02	0.04 (0.02)	.027	.01	0.11 (0.02)	<.001	.05	−0.05 (0.02)	.002	.01
	ΔR^2	.03	<.001	—	.03	<.001	—	.05	<.001	—	.05	<.001	—

Note. B denotes unstandardized regression coefficients and the parentheses include standard errors. sr² represents the semi-partial correlation squared. Moral conviction ranged from 1 (*not at all*) to 5 (*very much*); Individualizing moral foundation scores are the average of participant ratings of perceived relevance of harm and fairness foundations; Binding moral foundation scores are the average of participant ratings of perceived relevance of group loyalty, authority, and purity foundations.

Table 5. Simple Slopes Predicting Moral Conviction About Face Mask Mandates, Removal of Confederate Monuments, Concealed Carry, and Legalized Abortion With Issue-Specific, Three-Factor Moral Foundation Endorsements (Mean-Centered) Liberals Versus. Conservatives. (Significant Interactions Only).

Predictor	Political orientation	Study 1: Face mask mandates		Study 2: Removal of confederate monuments		Study 3: Concealed carry		Study 4: Legalized abortion	
		B	p	B	p	B	p	B	p
Individualizing	Liberal	—	—	0.56 (0.07)	<.001	0.30 (0.07)	<.001	0.47 (0.07)	<.001
	Conservative	—	—	0.18 (0.08)	.020	0.07 (0.07)	.30	0.23 (0.06)	<.001
Binding	Liberal	—	—	−0.14 (0.06)	.021	—	—	0.02 (0.05)	.69
	Conservative	—	—	0.19 (0.08)	.019	—	—	0.23 (0.06)	<.001
Liberty	Liberal	−0.35 (0.06)	<.001	−0.04 (0.05)	.44	−0.13 (0.05)	.007	−0.03 (0.06)	.59
	Conservative	−0.10 (0.04)	.021	0.14 (0.06)	.022	0.33 (0.06)	<.001	−0.25 (0.04)	<.001

Note. B denotes unstandardized coefficients and the parentheses include standard errors. Moral conviction ranged from 1 (*not at all*) to 5 (*very much*); Political orientation labels indicate 1 *SD* below the neutral (0) point for liberals and 1 *SD* above the neutral (0) point for conservatives; Individualizing moral foundation scores are the average of participant ratings of perceived relevance of harm and fairness foundations; Binding moral foundation scores are the average of participant ratings of perceived relevance of group loyalty, authority, and purity foundations.

However, perceiving the binding foundations as more relevant often predicted liberal moral conviction just as much as conservative moral conviction, inconsistent with MFT but consistent with some prior literature (Frimer et al., 2017). Analyses collapsing the foundations to three factors generated results that are more, but not entirely, consistent with
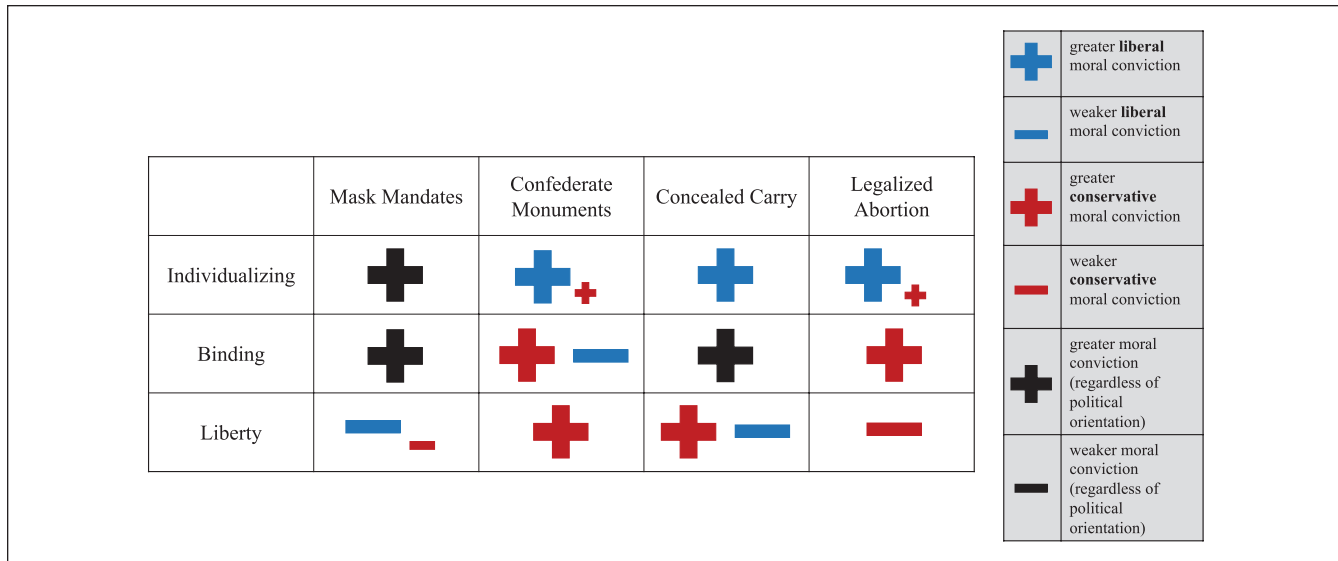
Figure 2. Visual Summary of the Associations Between the Individualizing, Binding, and Liberty Foundations and Moral Conviction for Each Issue From Studies 1 to 4.

MFT. Although harm predicted moral convictions across issues (consistent with the harm hypothesis), this was only true for liberals in some cases, and other foundations also predicted moral conviction, even when controlling for perceived relevance of the harm foundation, perceived harm of attitude-inconsistent consequences, and perceived benefit of attitude-consistent consequences (findings at odds with the *harm hypothesis*). Finally, perceiving group loyalty and purity as relevant often predicted stronger moral conviction, inconsistent with the *moral domain hypothesis*. However, perceiving authority as more relevant predicted weaker moral conviction across issues, consistent with the *moral domain hypothesis* and inconsistent with MFT.

Study 5

Studies 1 to 4 provided a novel test of MFT by examining how moral conviction relates to the perceived relevance of moral foundations to specific issues. By adapting the MFQ to be issue-specific, we kept moral foundation endorsements and moral conviction at the same level of analysis, allowing for a closer comparison. It is possible, however, that the values people report when asked about a specific issue do not line up with the foundations that lead them to their moral judgment. The social intuitionist model argues that moral judgments form via quick, affect-laden, intuitions. Reasoning about abstract values occurs only after the decision is already made, essentially serving as a post hoc rationalization (Haidt, 2001). Thus, the values people use to defend their specific moral judgments and attitudes may not reflect the foundations on which they are based, but rather what they believe to be their most persuasive argument. If the social intuitionist model is correct, we have reason to be suspicious of the

foundations people report as being most relevant to a specific issue. The original MFQ may avoid this limitation by asking about the values relevant not to a specific issue, but rather one's moral judgments in general, which people are (presumably) more capable of reporting accurately.

To examine the relationship between moral foundations and moral conviction more holistically, we ran an additional, preregistered[17] study predicting moral conviction on all issues used in Studies 1 to 4, but this time using the original, issue-general MFQ.

Method

Participants. Six hundred six participants were recruited from Prolific to complete an online survey in June 2023. The number of participants was selected based on the sample sizes of Studies 1 to 4. We restricted participation to U.S. residents and prescreened for roughly equal numbers of liberals and conservatives. Participants were removed from the dataset if they were missing data for any of the key variables (26 participants; moral foundations, moral conviction, political orientation, support/opposition), failed an attention check item (11), or gave nonsensical responses to free response items (1).[18] After exclusions, the sample size was 568. Participants were 49.8% female, 84 % White, 6% Black, 3% Asian American, 3% Latino, 3% mixed race, and 1% Native American. Participants' average age was 44 years old with a range of 19 to 85. Fifty percent of participants described themselves as liberal and 48% as conservative.

Procedure. Participants completed the 30-item Moral Foundations Questionnaire 1 (MFQ-1), with the added liberty items to generate scores of general moral foundation endorsements.

Table 6 . Unstandardized Regression Coefficients Predicting Moral Conviction About Face Mask Mandates, Removal of Confederate Monuments, Concealed Carry, and Legalized Abortion With General Moral Foundation Endorsements (Mean-Centered) and Political Orientation (Mid-Point-Centered) Interactions.

Block	Predictor	Face mask mandates			Removal of confederate monuments			Concealed carry			Legalized abortion		
		B	p	sr^2	B	p	sr^2	B	p	sr^2	B	p	sr^2
1	Harm	0.03 (0.08)	.68	.00	0.18 (0.08)	.036	.01	0.05 (0.09)	0.54	.00	0.13 (0.07)	.07	.01
	Fairness	0.21 (0.07)	.003	.01	0.13 (0.07)	.08	.01	0.12 (0.08)	.11	.00	0.18 (0.06)	.004	.01
	Ingroup Loyalty	0.00 (0.07)	.97	.00	0.03 (0.07)	.72	.00	0.18 (0.08)	.017	.01	−0.13 (0.06)	.034	.01
	Authority	0.12 (0.08)	.13	.00	0.08 (0.08)	.30	.00	0.06 (0.08)	.50	.00	−0.07 (0.07)	.30	.00
	Purity	0.01 (0.06)	.84	.00	−0.03 (0.06)	.61	.00	−0.10 (0.06)	.10	.00	0.08 (0.05)	.12	.00
	Liberty	0.27 (0.09)	.002	.02	0.26 (0.09)	.004	.01	0.33 (0.09)	<.001	.02	0.23 (0.08)	.003	.01
	Political orientation (PO)	−0.07 (0.03)	.001	.02	−0.08 (0.02)	.004	.02	0.03 (0.03)	.36	.00	0.02 (0.03)	.43	.00
	R^2	.10	<.001	—	.10	<.001	—	.07	<.001	—	.08	<.001	—
2	Harm × PO	−0.12 (0.03)	<.001	.02	−0.11 (0.03)	.001	.02	−0.17 (0.03)	<.001	.04	−0.09 (0.03)	.002	.01
	Fairness × PO	0.01 (0.03)	.70	.00	−0.05 (0.03)	.12	.00	0.01 (0.03)	.86	.00	−0.04 (0.03)	.11	.00
	Ingroup loyalty × PO	0.04 (0.03)	.20	.00	0.07 (0.03)	.025	.01	0.01 (0.03)	.77	.00	−0.05 (0.02)	.06	.01
	Authority × PO	0.05 (0.03)	.10	.00	0.05 (0.03)	.17	.00	0.04 (0.03)	.28	.00	0.05 (0.03)	.08	.00
	Purity × PO	0.00 (0.02)	.95	.00	0.02 (0.02)	.37	.00	0.04 (0.02)	.09	.00	0.12 (0.02)	<.001	.05
	Liberty × PO	0.08 (0.04)	.034	.01	0.12 (0.04)	.002	.01	0.16 (0.04)	<.001	.03	0.06 (0.03)	.041	.01
	ΔR^2	.04	.001	—	.06	<.001	—	.07	<.001	—	.11	<.001	—

Note. β denotes standardized regression coefficients and the parentheses include standard errors. sr^2 represents the semi-partial correlation squared. Moral conviction ranged from 1 (*not at all*) to 5 (*very much*); Political orientation ranged from −3 (*strongly liberal*) to +3 (*strongly conservative*).

Participants were also briefly introduced to each of the four target issues used in Studies 1 to 4 (see S2) and reported their support/opposition and moral conviction about each one. The order of issues presented was randomized. Whether participants saw the MFQ items or the issue items first was also counterbalanced. Participants also reported demographic information, including political orientation.

Measures. Measures were generally the same as those used in Studies 1 to 4 except for the MFQ and items for mask mandates.[19] Because data were collected in June 2023 after mask mandates had been lifted almost everywhere in the United States, the introductions and items framed the issue of mask mandates in the past tense. For instance, one moral conviction item for mask mandates read, "To what extent was your stance on policies that made wearing face masks mandatory when out in public places, such as grocery stores or parks a reflection of your core moral beliefs and convictions?"

Participants' general moral foundation endorsements were measured using the MFQ-1. Specifically, participants reported (a) Relevance: the extent to which a variety of qualities derived from the five original moral foundations (care, fairness, loyalty, authority, and purity) are generally relevant to their moral judgments and (b) Judgments: their moral judgments about transgressions of each of the five foundations. Integrated within the MFQ-1 were the relevance and judgment items relating to the liberty foundation, which was added later in the development of MFT and has been used in conjunction with the MFQ (Amin et al., 2017; Iyer et al., 2012). The order of seeing the relevance and judgment sections was counterbalanced, and the item order within each section was randomized. Items measuring each foundation were averaged to create participant scores on each moral foundation. Reliabilities for each foundation were low (Harm: $a = .67$, Fairness: $a = .63$, Loyalty: $a = .53$, Authority: $a = .63$, Purity: $a = .76$, Liberty: $a = .53$), consistent with many

Table 7. Simple Slopes Predicting Moral Conviction About Face Mask Mandates, Removal of Confederate Monuments, Concealed Carry, and Legalized Abortion With General Moral Foundation Endorsements (Mean-Centered) for Liberals and Conservatives. (Significant Interactions Only).

Predictor	Political orientation	Face mask mandates		Removal of confederate monuments		Concealed carry		Legalized abortion	
		B	p	B	p	B	p	B	p
Harm	Liberal	0.27 (0.11)	.011	0.35 (0.12)	.002	0.41 (0.12)	.001	0.24 (0.09)	.010
	Conservative	−0.29 (0.11)	.015	−0.16 (0.12)	.16	−0.39 (0.12)	.001	−0.17 (0.10)	.07
Fairness	Liberal	—	—	—	—	—	—	—	—
	Conservative	—	—	—	—	—	—	—	—
Ingroup loyalty	Liberal	—	—	−0.07 (0.09)	.47	—	—	—	—
	Conservative	—	—	0.26 (0.11)	.024	—	—	—	—
Authority	Liberal	—	—	—	—	—	—	—	—
	Conservative	—	—	—	—	—	—	—	—
Purity	Liberal	—	—	—	—	—	—	−0.15 (0.06)	.016
	Conservative	—	—	—	—	—	—	0.41 (0.07)	<.001
Liberty	Liberal	0.06 (0.12)	.64	−0.06 (0.13)	.65	−0.09 (0.13)	.47	0.04 (0.10)	.73
	Conservative	0.42 (0.12)	<.001	0.49 (0.12)	<.001	0.66 (0.12)	<.001	0.33 (0.10)	.001

Note. B denotes unstandardized coefficients and the parentheses include standard errors. Moral conviction ranged from 1 (*not at all*) to 5 (*very much*); Political orientation labels indicate 1 *SD* below the neutral (0) point for liberals and 1 *SD* above the neutral (0) point for conservatives.

previous findings regarding the MFQ-1 (Tamul et al., 2020). Nevertheless, using the MFQ allows for clear comparisons with other research in this area.

Results

Moral Foundations Hypothesis. The *moral foundations hypothesis* received mixed support from Study 5. General endorsement of more than one foundation predicted moral conviction for most people across most issues. Political differences in the foundations that predicted moral conviction also emerged and were more consistent across issues than in Studies 1 to 4. Moreover, endorsement of the harm foundation predicted stronger moral conviction only for liberals across all four issues, mostly consistent with MFT. Conservative moral conviction was also predicted more consistently than in Studies 1 to 4, but it was predicted by the liberty foundation, contrary to the idea that liberty would more strongly predict liberal (vs. conservative) moral conviction about our social/lifestyle targets (see Tables 6 and 7; Figure 3).

Other predictions of MFT received mixed or little support. For example, perceiving fairness as generally more relevant predicted moral conviction for face mask mandates and abortion but did not predict moral conviction for

confederate monuments or concealed carry. Contrary to MFT but like Studies 1 to 4, political differences in the degree to which the binding foundations predicted moral conviction were essentially nonexistent. The only exceptions were loyalty in the context of confederate monuments and purity in the context of abortion, which predicted stronger moral convictions for conservatives (but weaker moral conviction for liberals). More troubling for MFT, main effects of the binding foundations were also virtually nonexistent (only loyalty in the context of concealed carry predicted moral conviction). Like Studies 1 to 4, endorsement of the authority foundation did not predict stronger moral conviction for either liberals or conservatives, but unlike Studies 1 to 4, authority was not negatively associated with moral conviction.

In summary, besides the idea that different foundations would predict moral conviction for liberals versus conservatives (with harm predicting moral conviction more strongly for liberals than conservatives), MFT received weak to mixed support in Study 5, much like in Studies 1 to 4.

Harm Hypothesis. The *harm hypothesis* also received little support in Study 5. Although greater endorsement of the harm foundation did predict stronger moral conviction

	Mask Mandates	Confederate Monuments	Concealed Carry	Legalized Abortion
Harm	blue + / red −	blue +	blue + / red −	blue +
Fairness	black +	-	-	black +
Ingroup Loyalty	-	red +	black +	-
Authority	-	-	-	-
Purity	-	-	-	red + / blue −
Liberty	red +	red +	red +	red +

Legend:
- blue + : greater **liberal** moral conviction
- blue − : weaker **liberal** moral conviction
- red + : greater **conservative** moral conviction
- red − : weaker **conservative** moral conviction
- black + : greater moral conviction (regardless of political orientation)
- black − : weaker moral conviction (regardless of political orientation)

Figure 3. Visual Summary of the Associations Between General Moral Foundation Endorsements and Moral Conviction for Each Issue From Study 5.

across all four issues for liberals, harm was either unrelated or negatively related to moral convictions for mask mandates and concealed carry for conservatives. Harm was also not consistently the strongest predictor of moral conviction. Moreover, although fewer foundations besides harm predicted moral conviction than in Studies 1 to 4, concerns other than harm still predicted moral conviction for both liberals and conservatives, even after harm perceptions were controlled. In sum, the strong form of the *harm hypothesis* received no support, and the weak form only received qualified support (the predicted pattern only emerged for liberals and not conservatives).

Moral Domain Hypothesis. The *moral domain hypothesis* received mixed support, but potentially more than in Studies 1 to 4. Consistent with predictions, stronger endorsement of the harm foundation predicted stronger moral convictions across all four studies. However, inconsistent with predictions, this pattern emerged only for liberals and not for conservatives. Stronger endorsement of the fairness foundation predicted stronger moral convictions about mask mandates and abortion for both liberals and conservatives but were otherwise unrelated to moral conviction. Consistent with domain theory, binding foundation endorsements were only related to moral conviction in a few cases (loyalty endorsements were related to stronger moral conviction about Confederate monuments for conservatives and concealed carry for both liberals and conservatives; purity endorsements predicted stronger moral conviction about abortion for conservatives but weaker moral conviction for liberals). In particular, the authority foundation was unrelated to moral conviction regardless of issue or political orientation (though the relationship between

authority and moral conviction was not negative, unlike Studies 1 to 4).

Other Findings

As in Studies 1 to 4, we observed several negative relationships between moral foundations and moral conviction. For instance, greater endorsement of the harm foundation was negatively related to moral conviction about mask mandates and concealed carry for conservatives, and greater endorsement of the purity foundation was negatively associated with moral conviction about abortion for liberals.

Study 5 revealed some differences when using an issue-general versus an issue-specific measure of moral foundations. For instance, political differences in the foundations that predicted moral conviction were more consistent across issues when measured at the general level. There were also fewer relationships between binding foundations and moral conviction when moral foundations were not connected to specific issues. Finally, perceiving authority as relevant to morality in general did not predict moral conviction about any issue, whereas perceiving authority as relevant to specific issues consistently predicted weaker moral conviction.

Robustness Checks

Similar to Studies 1 to 4, we conducted additional analyses collapsing the moral foundation scores into individualizing, binding, and liberty foundations. Also like Studies 1 to 4, the three-factor analyses were more (but not entirely) consistent with MFT than the six-factor analyses. Stronger

Table 8. Hierarchical Regression Model With Standardized Regression Coefficients Predicting Moral Conviction About Face Mask Mandates, Removal of Confederate Monuments, Concealed Carry, and Legalized Abortion With Issue-General, Three-Factor Moral Foundation Endorsement (Mean-Centered) and Political Orientation (Neutral-Point-Centered) Interactions.

Block	Predictor	Face mask mandates			Removal of confederate monuments			Concealed carry			Legalized abortion		
		B	p	sr^2	B	p	sr^2	B	p	sr^2	B	p	sr^2
1	Individualizing	0.18 (0.06)	.001	.02	0.21 (0.06)	<.001	.02	0.13 (0.06)	.035	.01	0.22 (0.05)	<.001	.03
	Binding	0.08 (0.06)	.20	.00	0.06 (0.07)	.38	.00	0.06 (0.07)	.38	.00	−0.08 (0.06)	.18	.00
	Liberty	0.27 (0.09)	.002	.02	0.27 (0.09)	.003	.01	0.35 (0.09)	<.001	.02	0.21 (0.08)	.005	.01
	Political orientation (PO)	−0.10 (0.03)	.001	.02	−0.11 (0.03)	.001	.02	0.02 (0.03)	.48	.00	0.03 (0.03)	.31	.00
	R^2	.09	<.001	—	.10	<.001	—	.06	<.001	—	.06	<.001	—
2	Individualizing × PO	−0.06 (0.02)	.05	.01	−0.10 (0.02)	<.001	.03	−0.10 (0.02)	<.001	.03	−0.09 (0.02)	<.001	.03
	Binding × PO	0.05 (0.02)	.06	.01	0.09 (0.02)	<.001	.02	0.05 (0.03)	.05	.01	0.12 (0.02)	<.001	.05
	Liberty × PO	0.08 (0.04)	.001	.01	0.12 (0.04)	.001	.02	0.16 (0.04)	<.001	.03	0.05 (0.03)	.08	.00
	ΔR^2	.02	.004	—	.06	<.001	—	.05	<.001	—	.08	<.001	—

Note. B denotes unstandardized regression coefficients and the parentheses include standard errors. sr^2 represents the semi-partial correlation squared. Moral conviction ranged from 1 (*not at all*) to 5 (*very much*); Individualizing moral foundation scores are the average of participant endorsement of harm and fairness foundations; Binding moral foundation scores are the average of participant endorsement of group loyalty, authority, and purity foundations.

endorsement of the individualizing foundations in general predicted stronger moral conviction for liberals in all cases and for conservatives in only one case, mostly consistent with MFT. Stronger endorsement of the binding foundations in general predicted stronger moral conviction for conservatives in two cases and never for liberals, partially consistent with MFT. However, endorsement of the liberty foundation was still a more consistent predictor of conservative moral conviction than the binding foundations, predicting stronger conservative (but not liberal) moral conviction in Studies 1 to 3, results at odds with MFT (see Tables 8 and 9; Figure 4).[20]

Study 5 Summary

In sum, the results of Study 5 resembled those of Studies 1 to 4, yielding a patchwork of support for hypotheses derived from different theories. Like Studies 1 to 4, moral conviction across issues depended on more than one foundation (inconsistent with the harm hypothesis) and political differences emerged in which moral foundations predicted moral conviction, consistent with MFT. Although partisan differences in this relationship were more consistent across issues than in Studies 1 to 4, they were still not consistently the ones predicted by MFT. Endorsing the harm foundation consistently predicted stronger moral conviction across issues but only for liberals (inconsistent with the *harm hypothesis* but mostly consistent with the *moral foundations hypothesis*). The consistent predictor of conservative

moral conviction, however, was the liberty foundation, not the loyalty, authority, or purity foundations. The latter finding is inconsistent with the *moral foundations hypothesis*, but consistent with the *social domain hypothesis*. Finally, the authority foundation did not predict moral conviction about any issues, also consistent with the *moral domain hypothesis* but inconsistent with the *moral foundations* hypothesis.

Discussion

How well do moral foundations predict people's moral convictions about specific issues? To answer this question, we investigated both general and issue-specific endorsements of moral foundations as predictors of moral conviction. Studies 1 to 4 used a tailored, issue-specific MFQ, to test the relationship between different moral foundations and moral convictions on the issues of face mask mandates, removal of Confederate monuments, concealed carry laws, and legal access to abortion. In contrast, Study 5 used the original MFQ to compare general moral foundations endorsement with moral convictions about the same issues. Our studies tested hypotheses in different issue domains to enhance stimulus generalizability and included policies predominantly supported by liberals (e.g., confederate monument removal) and those favored by conservatives (e.g., concealed carry). We also included abortion as an issue, hypothesizing a potential shift in value priorities between liberals and conservatives, where the conservative "pro-life stance seemed rooted

Table 9. Simple Slopes Predicting Moral Conviction About Face Mask Mandates, Removal of Confederate Monuments, Concealed Carry, and Legalized Abortion With Issue-General, Three-Factor Moral Foundation Endorsements (Mean-Centered) Liberals Versus Conservatives. (Significant Interactions Only).

Predictor	Political orientation	Face mask mandates		Removal of confederate monuments		Concealed carry		Legalized abortion	
		B	p	B	p	B	P	B	p
Individualizing	Liberal	—	—	0.40 (0.08)	<.001	0.34 (0.09)	<.001	0.35 (0.07)	<.001
	Conservative	—	—	−0.08 (0.08)	.30	−0.13 (0.08)	.12	−0.08 (0.07)	.27
Binding	Liberal	—	—	−0.08 (0.06)	.34	—	—	−0.27 (0.07)	<.001
	Conservative	—	—	0.37 (0.10)	<.001	—	—	0.30 (0.08)	<.001
Liberty	Liberal	0.05 (0.12)	.67	−0.06 (0.13)	.66	−0.05 (0.13)	.68	—	—
	Conservative	0.44 (0.12)	<.001	0.51 (0.12)	<.001	0.68 (0.13)	<.001	—	—

Note. B denotes unstandardized coefficients and the parentheses include standard errors. Moral conviction ranged from 1 (*not at all*) to 5 (*very much*); Political orientation labels indicate 1 *SD* below the neutral (0) point for liberals and 1 *SD* above the neutral (0) point for conservatives. Individualizing moral foundation scores are the average of participant endorsement of harm and fairness foundations; Binding moral foundation scores are the average of participant endorsement of group loyalty, authority, and purity foundations.
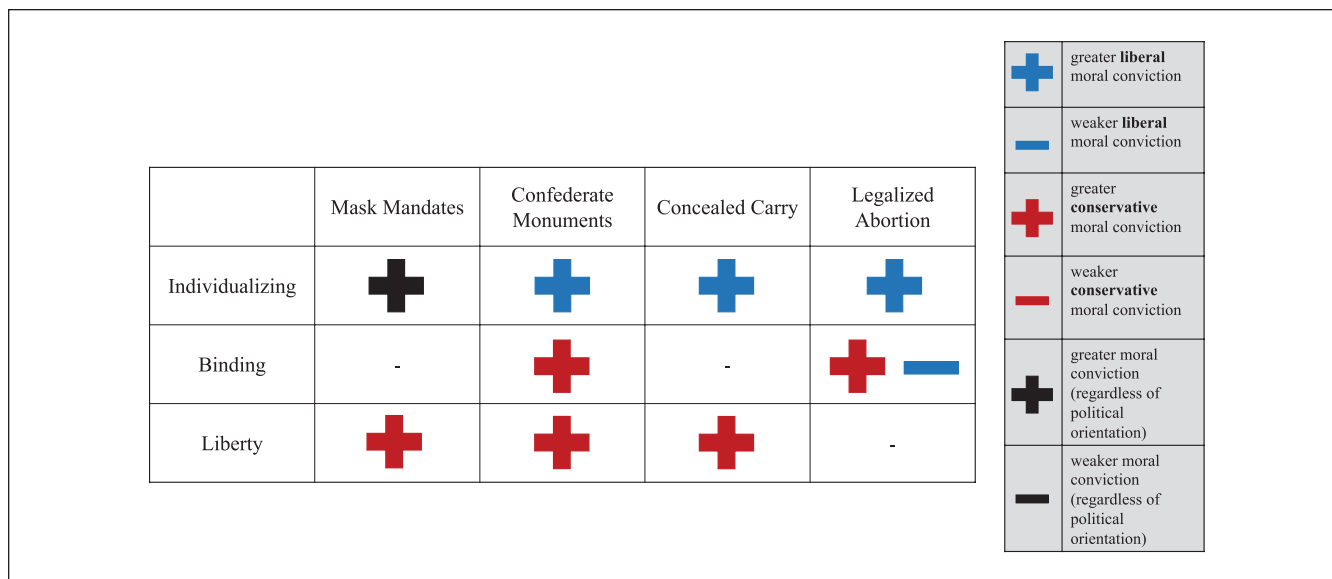

Figure 4. Visual Summary of the Associations Between the Individualizing, Binding, and Liberty Foundations and Moral Conviction for Each Issue From Study 5.

in harm avoidance and the liberal 'pro-choice'" perspective appeared centered on preserving liberty.

We found strong support for a fundamental assumption of MFT, specifically the idea that morality is more pluralistic than monolithic. With the exception of authority, all moral foundations predicted stronger moral convictions across some issues. Notably, higher perceived relevance of authority consistently predicted weaker moral convictions for specific issues. Conversely, perceiving authority as generally

more relevant did not predict moral conviction on any target issue.

We observed ideological differences in how moral foundations predicted liberal and conservative moral convictions, however, these patterns often diverged from MFT predictions. Although liberals' moral convictions linked more strongly with harm than conservatives', most other predicted ideological differences lacked consistent support. The binding foundations sometimes related to moral conviction, but

rarely more so for conservatives, and the relationship was weaker using the general than the issue-specific MFQ.[21] Collapsing the foundations into individualizing, binding, and liberty factors in Studies 1 to 5 generated results more, but still not entirely consistent with MFT—binding foundations predicted conservative (and not liberal) moral conviction about half the time. Perceiving liberty as more relevant was the strongest and most consistent predictor of conservative moral conviction, especially when assessed generally. These results suggest that while binding foundations might elucidate conservative moral convictions on some political matters, liberty concerns exert a more significant influence on the "moral" aspect of conservative attitudes.

Dyadic theory's emphasis on harm was supported, especially for liberals. Other moral foundations, however, also predicted people's moral convictions—results that were not eliminated by controlling for endorsement of the harm foundation or more concrete perceptions of harm—inconsistent with both the strong and weak form of the harm hypothesis. Finally, the results strongly supported social domain theory's emphasis on authority independence. Other predictions of domain theory were often supported in Study 5 with the general MFQ, but it otherwise received only qualified or no support.

Our design differed from past MFQ research in two main ways. First, unlike past studies that focused on predicting attitude position, we assessed moral conviction as the outcome variable. Attitudinal position captures support or opposition to an issue. In contrast, moral conviction captures the degree to which someone perceives their stance as rooted in their moral beliefs. In other words, we measured the "moral" part of attitudes rather than attitude position. Political differences in this relationship emerged but were inconsistent across issues and did not always align with the predictions of MFT or several other theoretical explanations.

That we found support for different moral foundations when predicting moral conviction than in previous MFT work predicting attitudinal positions (e.g., Koleva et al., 2012) suggests that MFT does a better job predicting attitude position or stance than it does predicting whether people perceive that their attitudes are moral convictions. It also suggests that certain foundations may be less morally relevant than others. For instance, the authority foundation either did not predict moral convictions (in the case of issue-general moral foundations) or predicted weaker moral convictions (in the case of issue-specific moral foundations), indicating that authority may be less of a moral value and more of a conventional one, consistent with social domain theory.

Second, we measured moral foundation endorsements both at the abstract level (Study 5), and at the issue-specific level (Studies 1 to 4). The abstract approach assumes consistent relevance of moral foundations within persons and across issues. For instance, Koleva et al. (2012) claimed that "dispositional tendencies, particularly a person's moral intuitions (foundations), underlie, motivate, and unite ideological positions across a variety of issues and offer insights into the multiple 'moral threads' connecting disparate political positions" (p.

184). This claim and the assumption it is based on are open to empirical scrutiny. If dispositions to perceive certain moral foundations as relevant explain the coherence in different moral attitudes for liberals and conservatives, then perceiving these moral foundations as relevant to the attitudes themselves (i.e., measuring them at the issue-specific level) should consistently predict moral conviction. We found that they do not.

More specifically, when measured at the abstract level, the harm foundation reliably predicted moral conviction for liberals, and the liberty foundation predicted moral conviction for conservatives across issues. However, patterns were much less consistent or coherent when measured at the issue-specific level. For example, conservatives who endorsed liberty as more relevant in the abstract reported stronger moral convictions about abortion. However, when the relevance of liberty was measured specifically about abortion, conservatives reported weaker (not stronger) moral convictions about the issue. In other words, endorsing values as generally relevant to moral attitudes does not mean that people perceive those values as relevant across many issues in practice (see Frimer et al., 2017; Voelkel & Brandt, 2019, for similar conclusions). These findings suggest that the assumption that moral foundation endorsement is a stable individual difference variable that relates in systematic ways to people's attitudes and moral convictions need to be reexamined, given that the relationship between general and issue-specific moral foundations and moral conviction varies considerably from issue to issue and in ways not anticipated by MFT.

Conclusion

Understanding what leads people to see some attitude positions as moral convictions is an important quest. Moral convictions are associated with a host of consequences, including increased political engagement, charitable giving, distrust of procedural solutions to conflict, and willingness to accept any means to achieve a morally preferred end. Exploring what predicts moral conviction has the promise of providing insight into these phenomena and offers the opportunity to test the promise and limitations of current theories of morality. Although no single theory received strong support in our investigation, each yielded insights worth further exploration in future research.

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Supplemental Material

Supplemental material is available online with this article.

Notes

1. The original version of MFT excluded the liberty/oppression foundation (Graham et al., 2009). However, theorists have acknowledged that liberty/oppression is likely a sixth moral foundation (e.g., Haidt, 2012).

2. We preregistered the possibility that the individualizing foundations would predict moral conviction equally for liberals and conservatives. This prediction was mistakenly made based on the idea that conservative endorsement of individualizing foundations is roughly equal to conservative endorsement of binding foundations. However, conservative endorsement of individualizing foundations is still less than *liberal* endorsement of individualizing foundations (Graham et al., 2009). The correct prediction from MFT is that perceived relevance of the individualizing foundations should predict stronger moral conviction for liberals than conservatives.

3. Despite theoretical reasons to predict a positive relationship between liberty endorsement and moral conviction about our predominantly social/lifestyle, target issues for liberals (vs. conservatives), we preregistered predictions that liberty endorsement would relate to moral conviction more for conservatives than for liberals because of our observations of public discourse (e.g., conservatives appeared to discuss the issue of liberty regarding mask mandates substantially more than liberals in popular discourse). We focus here on the theoretical predictions derived from MFT because they are more relevant to our theoretical comparison.

4. Our preregistered predictions regarding the relationship between moral foundation endorsement and moral conviction were initially based only on MFT. However, when initial results did not cleanly align with the predictions of MFT, the authors decided to explore the fit with other prominent theories of morality as well (i.e., dyadic theory and social domain theory).

5. It is not entirely clear what prediction social domain theory would make about the liberty foundation (liberty as a concept itself is never discussed). However, if liberty is construed in terms of rights, social domain theory would predict that it should positively predict people's moral convictions.

6. Link to pre-registrations: https://aspredicted.org/XK4_LC3,https://aspredicted.org/44Q_SV6, https://aspredicted.org/XJ9_JNY

7. Data and code can be found at https://osf.io/njta4/?view_only=6e6e9f718e8f49ffab97f177140aa9.

8. Although the .02 threshold was considered for a priori power analyses, regression terms in the following studies were not removed based on effect size.

9. For the Cloud Research samples, participants were also included only if their country location had been verified, they had a 95% hit approval rate, passed Cloud Research's prescreening procedure, did not have a duplicate IP address, and were not completing the survey from a suspicious geocode.

10. The preregistered sample sizes of Studies 1 and 2 were approximately 545 participants. Issues related to the method for balancing liberals and conservatives led to larger samples than originally intended.

11. In initial pre-registrations, we planned to exclude participants using a bot detection program. This was later deemed unfeasible because we had not collected the type of data used by the bot detection program.

12. Results of the main analyses do not meaningfully differ when conducted without any exclusions.

13. We also examined whether people's emotional reactions, or the perceived harms and benefits of policies on both sides of each issue predicted moral conviction, and whether these effects were moderated by political orientation. For the sake of brevity, we exclude these because they did not add any theoretical insight. Analyses controlling for perceived harms and benefits are included in supplemental materials (see S6).

14. Reliabilities of our adapted moral foundation measures are low, but comparable to those of the MFQ across most studies (Tamul et al., 2020; see also, Study 5 of this paper). We closely followed the language used in the MFQ to allow for clear comparisons with other research in this area and because there is no better alternative.

15. All analyses were conducted in R version 4.1.1 and used the following packages: apaTables v 2.0.8 (Stanley, 2021), effects v 4.2.0 (Fox & Weisberg, 2019), extrafont v 0.17 (Chang, 2014), interactions v 1.1.0 (Long, 2019) ISwR v 2.0.8 (Dalgaard, 2020), lsr v 0.5 (Navarro, 2015), psych v 2.1.3 (Revelle, 2021), relaimpo v 2.2.5 (Grömping, 2006), rockchalk v 1.8.144 (Johnson, 2019), and tidyverse v 1.3.1 (Wickham et al., 2019).

16. In another robustness check, each foundation was entered into an individual regression analysis with political orientation (with the interaction between the foundation and political orientation entered in the next step). Results of this non-unique approach were mostly the same as the unique approach (see S11), with one exception: The effect of authority without controlling for other foundations was *positive* in Studies 1 to 3, demonstrating a suppression effect. In other words, analysis that does not control for the other foundations masks the unique relationship between authority and moral conviction. Our choice to focus on unique effects provided important insight into the relationship between authority and moral conviction that would have been missed if we had taken a different approach to our focal analyses.

17. See https://aspredicted.org/Q97_5BS for the pre-registration of Study 5.

18. The results of the main analyses do not meaningfully differ when conducted without any exclusions.

19. We did not include additional descriptive questions about each issue, the emotion items, or perceptions of harm/benefit of anticipated consequences because of limited space. No other changes were made besides those noted here and in the manuscript.

20. In another robustness check of Study 5, each foundation was entered into an individual regression analysis with political orientation (with the interaction between the foundation and political orientation entered in the next step). Results of this non-unique approach were more consistent with the predictions

of MFT than the unique approach (see S12). However, given MFT explicitly argues that the moral foundations *distinctly* contribute to moral judgments and attitudes (Haidt, 2012), it makes more sense to consider the unique effects of moral foundation endorsements on moral conviction, especially when prior literature's independent analysis using CFA found that "the assertion from MFT that there are five separate and distinct moral foundations is therefore supported" (Davies et al., 2014, p. 433), and across WEIRD and non-WEIRD cultures (Doğruyol et al., 2019). Moreover, there was no multicollinearity found in any of the models (see S7), indicating that the interpretation of unique models was not hindered by intercorrelations between the moral foundations measures.

21. When entered into separate regressions, abstract binding foundation endorsements (Study 5) generally predicted moral conviction for conservatives and not liberals, as predicted by MFT (see S7), suggesting that the binding measures capture *something* related to moral differences between liberals and conservatives. Their unique contribution to conservative moral conviction is less clear. This discrepancy between results of the unique versus non-unique models is one limitation of these studies and is worth future investigation (see S12 for further discussion).

References

Ahmed-Zaid, S. (2020, July 19). Wearing a mask during pandemic is not just a health decision, it's a moral imperative. *Idaho Statesman*. https://www.idahostatesman.com/living/religion/article244282522.html

Amin, A. B., Bednarczyk, R. A., Ray, C. E., Melchiori, K. J., Graham, J., Huntsinger, J. R., & Omer, S. B. (2017). Association of moral values with vaccine hesitancy. *Nature Human Behaviour*, *1*(12), 873–880. https://doi.org/10.1038/s41562-017-0256-5

Caputo, M. (2021, November 8). Poll: Majorities support vaccine, mask mandates—But not Republicans [Data set]. *Politico*. https://www.politico.com/news/2021/08/11/majorities-support-vaccine-mask-mandates-republicans-503506

Chang, W. (2014). *extrafont: Tools for using fonts* (Version 0.17). https://CRAN.R-project.org/package=extrafont

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Routledge. https://doi.org/10.4324/9780203771587

Dalgaard, P. (2020). *ISwR: Introductory statistics with R* (Version 2.0.8). https://CRAN.R-project.org/package=ISwR

Davies, C. L., Sibley, C. G., & Liu, J. H. (2014). Confirmatory factor analysis of the Moral Foundations Questionnaire: Independent scale validation in a New Zealand sample. *Social Psychology*, *45*(6), 431–436. https://doi.org/10.1027/1864-9335/a000201

Doğruyol, B., Alper, S., & Yilmaz, O. (2019). The five-factor model of the moral foundations theory is stable across WEIRD and non-WEIRD cultures. *Personality and Individual Differences*, *151*, 109547. https://doi.org/10.1016/j.paid.2019.109547

Fox, J., & Weisberg, S. (2019). *An R companion to applied regression* (3rd ed.). Sage. https://socialsciences.mcmaster.ca/jfox/Books/Companion/index.html

Frimer, J. A., Tell, C. E., & Motyl, M. (2017). Sacralizing liberals and fair-minded conservatives: Ideological symmetry in the moral motives in the culture war. *Analyses of Social Issues and Public Policy*, *17*(1), 33–59. https://doi.org/10.1111/asap.12127

Graham, J., Haidt, J., & Nosek, B. A. (2009). Liberals and conservatives rely on different sets of moral foundations. *Journal of Personality and Social Psychology*, *96*(5), 1029–1046. https://doi.org/10.1037/a0015141

Graham, J., Nosek, B. A., Haidt, J., Iyer, R., Koleva, S., & Ditto, P. H. (2011). Mapping the moral domain. *Journal of personality and social psychology*, *101*(2), 366. https://doi.org/10.1037/a0021847

Graso, M., Chen, F. X., & Reynolds, T. (2021). Moralization of Covid-19 health response: Asymmetry in tolerance for human costs. *Journal of Experimental Social Psychology*, *93*, 104084. https://doi.org/10.1016/j.jesp.2020.104084

Gray, K., & Keeney, J. E. (2015). Disconfirming moral foundations theory on its own terms: Reply to Graham (2015). *Social Psychological and Personality Science*, *6*(8), 874–877. https://doi.org/10.1177/1948550615592243

Grömping, U. (2006). Relative importance for linear regression in R: The package relaimpo. *Journal of Statistical Software*, *17*(1), 1–27.

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, *108*(4), 814–834. https://doi.org/10.1037/0033-295X.108.4.814

Haidt, J. (2012). *The righteous mind: Why good people are divided by politics and religion*. Vintage.

Harper, C. A., & Rhodes, D. (2021). Reanalysing the factor structure of the moral foundations questionnaire. *British Journal of Social Psychology*, *60*(4), 1303–1329. https://doi.org/10.1111/bjso.12452

Iyer, R., Koleva, S., Graham, J., Ditto, P., & Haidt, J. (2012). Understanding libertarian morality: The psychological dispositions of self-identified libertarians. *PLOS ONE*, *7*(8), e42366. https://doi.org/10.1371/journal.pone.0042366

Johnson, P. (2019). *rockchalk: Regression estimation and presentation* (Version 1.8.144). https://CRAN.R-project.org/package=rockchalk

Koleva, S. P., Graham, J., Iyer, R., Ditto, P. H., & Haidt, J. (2012). Tracing the threads: How five moral concerns (especially Purity) help explain culture war attitudes. *Journal of Research in Personality*, *46*(2), 184–194. https://doi.org/10.1016/j.jrp.2012.01.006

Long, J. A. (2019). *interactions: Comprehensive, user-friendly toolkit for probing interactions* (Version 1.1.0). https://cran.r-project.org/package=interactions

Malik, M., Hopp, F. R., Chen, Y., & Weber, R. (2021). Does regional variation in pathogen prevalence predict the moralization of language in COVID-19 news? *Journal of Language and Social Psychology*, *40*(5–6), 653–676. https://doi.org/10.1177/0261927X211044194

Navarro, D. (2015). *Learning statistics with R: A tutorial for psychology students and other beginners* (Version 0.5) [Computer software]. University of Adelaide. http://ua.edu.au/ccs/teaching/lsr

Nucci, L. P., & Turiel, E. (1978). Social interactions and the development of social concepts in preschool children. *Child Development*, *49*(2), 400–407. https://doi.org/10.2307/1128704

Revelle, W. (2021). *psych: Procedures for psychological, psychometric, and personality research* (Version 2.1.6). Northwestern University. https://CRAN.R-project.org/package=psych

Ryan, T. J. (2014). Reconsidering moral issues in politics. *The Journal of Politics*, *76*(2), 380–397. https://doi.org/10.1017/S0022381613001357

Schein, C., & Gray, K. (2015). The unifying moral dyad: Liberals and conservatives share the same harm-based moral template. *Personality and Social Psychology Bulletin*, *41*(8), 1147–1163. https://doi.org/10.1177/0146167215591501

Schein, C., & Gray, K. (2018). The theory of dyadic morality: Reinventing moral judgment by redefining harm. *Personality and Social Psychology Review*, *22*(1), 32–70. https://doi.org/10.1177/1088868317698288

Skitka, L. J., & Bauman, C. W. (2008). Moral conviction and political engagement. *Political Psychology*, *29*(1), 29–54. https://doi.org/10.1111/j.1467-9221.2007.00611.x

Skitka, L. J., Bauman, C. W., & Sargis, E. G. (2005). Moral conviction: Another contributor to attitude strength or something more? *Journal of Personality and Social Psychology*, *88*(6), 895–917. https://doi.org/10.1037/0022-3514.88.6.895

Skitka, L. J., Hanson, B. E., Morgan, G. S., & Wisneski, D. C. (2021). The psychology of moral conviction. *Annual Review of Psychology*, *72*, 347–366.

Smetana, J. G. (2013). Moral development: The social domain theory view. In P. D. Zelazo (Ed.), *The Oxford handbook of developmental psychology (Vol 1): Body and mind* (pp. 832–863). Oxford University Press.

Stanley, D. (2021). *apaTables: Create American Psychological Association (APA) style tables* (Version 2.0.8). https://CRAN.R-project.org/package=apaTables

Tamul, D., Elson, M., Ivory, J. D., Hotter, J. C., Lanier, M., Wolf, J., & Martínez-Carrillo, N. I. (2020). *Moral foundations' methodological foundations: A systematic analysis of reliability in research using the Moral Foundations Questionnaire* [Preprint]. PsyArXiv. https://doi.org/10.31234/osf.io/shcgv

Tucker Carlson speech transcript: "Contact child protective services" if kids wearing masks outside. (2021, April 26). *Rev*. https://www.rev.com/blog/transcripts/tucker-carlson-speech-transcript-contact-child-protective-services-if-kids-wearing-masks-outside

Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge University Press.

Voelkel, J. G., & Brandt, M. J. (2019). The effect of ideological identification on the endorsement of moral values depends on the target group. *Personality and Social Psychology Bulletin*, *45*(6), 851–863. https://doi.org/doi.org/10.1177/0146167218798822

Wickham, H., Averick, M., & Bryan, J. (2019). Welcome to the {tidyverse}. *Journal of Open Source Software*, *4*(43), 1686. https://doi.org/10.21105/joss.01686