Mapping the Connections between Politics and Morality: The Multiple Sociopolitical Orientations Involved in Moral Intuition

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According to moral foundations theory (Haidt & Joseph, 2004), five foundations are central to moral intuition. The two individualizing foundations—harm/care and fairness/reciprocity—hinge on the rights of the individual, whereas the three binding foundations—in-group/loyalty, authority/respect, and purity/sanctity—focus on communal bonds. Recent work suggests that reliance on the various foundations varies as a function of sociopolitical orientation: liberals consistently rely on the individualizing foundations, whereas conservatives rely on both the individualizing and binding foundations. In an effort to further explore the relationship between sociopolitical orientation and morality, we argue that only certain types of sociopolitical attitudes and beliefs should relate to each cluster of foundations. Drawing on dual-process models of social and political attitudes, we demonstrate that the individualizing foundations are aligned with attitudes and beliefs relevant to preferences for equality versus inequality (i.e., SDO and competitive-jungle beliefs), whereas the binding foundations are aligned with attitudes and beliefs relevant to preferences for openness versus social conformity (i.e., RWA and dangerous-world beliefs). We conclude by discussing the consequences of these findings for our understanding of the relationship between sociopolitical and moral orientations.

KEY WORDS: morality, social dominance orientation, right-wing authoritarianism, political psychology

In recent years, the portrait of human morality painted by psychologists has changed in a number of ways. In addition to placing a greater emphasis on the role of affect and intuition in moral judgment (Haidt, 2001, 2007), psychologists have moved toward a broader understanding of which concerns influence moral judgment (Haidt & Kesebir, 2010). Psychological treatments of morality have often focused on the role of goals related to not harming other individuals or treating them unfairly (e.g., Kohlberg, 1969), but newer approaches have begun to more explicitly consider goals dealing with the maintenance of social order and the integrity of communal structures (Haidt &
Graham, 2009; Shweder, Much, Mahapatra, & Park, 1997). According to this perspective, binding concerns about loyalty to the in-group, respect for authority and tradition, and purity and religious sanctity are as central to moral functioning as individualizing concerns about protecting people from harm and injustice (Haidt & Joseph, 2007).

This shift has had a notable impact on psychologists’ understanding of the interface between politics and morality (Lakoff, 2002). In this vein, moral foundations theory suggests that the relative importance individuals place on “individualizing” and “binding” concerns varies with one’s politics: whereas liberals place a greater emphasis on individualizing concerns about harm avoidance and fairness and relatively less emphasis on concerns about in-group loyalty, authority, and moral purity, conservatives place a premium on both individualizing and binding concerns (Graham, Haidt, & Nosek, 2009). Nevertheless, extant work on this topic has focused almost exclusively on general predispositions like liberalism-conservatism, leaving open the question of exactly which kinds of sociopolitical orientations relate to the two clusters of moral foundations. Along these lines, research suggests that social and political orientations tend to fall along two dimensions: (1) those related to one’s preference for equality versus inequality and (2) those related to one’s preference for openness versus conformity (Duckitt & Sibley, 2009). In this article, we contend that the sociopolitical orientations associated with each of these dimensions have distinct effects on structuring of moral concerns. Specifically, we argue that individualizing concerns about harm and fairness should relate largely to orientations pertaining to equality versus inequality, while binding concerns about in-group loyalty, authority, and purity should relate primarily to orientations relevant to openness versus conformity. We begin by reviewing recent work on the foundations of morality.

Moral Foundations Theory

Moral foundations theory (Haidt & Graham, 2007) is a recent effort to parsimoniously account for the intuitive bases of human morality. Like other approaches (e.g., Schwartz, 1992), moral foundations theory tries to boil the wide range of potential human moral motivations down to a manageable number of clusters. However, more so than other approaches, it draws heavily on anthropological and evolutionary models of morality to identify basic moral motives (Graham et al., 2009; see also Richerson & Boyd, 2005 and Shweder et al., 1997). Specifically, the model identifies five key “moral foundations.” Two of these, harm/care and fairness/reciprocity, focus on the protection of the vulnerable and the promotion of justice. These foundations are believed to have roots in the evolution of empathy and reciprocal altruism (Haidt & Joseph, 2004, 2007). As suggested previously, they can be thought of as individualizing foundations, since they protect individuals from being harmed or having their rights violated. In this respect, they are central to the “ethic of autonomy” characteristic of Western societies (Haidt & Joseph, 2004; Shweder et al., 1997).

As central as they are to Western cultures, the individualizing foundations do not exhaust the full range of moral concerns found in human societies. The other three foundations, in-group/loyalty, authority/respect, and purity/sanctity, are focused less on the protection of individuals and more on restraint and the integration of communal life. They can thus be thought of as binding foundations. On one hand, in-group/loyalty and authority/respect produce group solidarity and self-sacrifice and support for legitimate authority, reflecting evolved tendencies toward in-group favoritism and social hierarchy (de Waal, 1996). These motives correspond to the “ethic of community” central to the traditional social groups that most human beings have lived in for most of history (Shweder et al., 1997). On the other hand, purity/sanctity motivates concern for religious or ritual purity and the avoidance of the “unclean”—a concern that is mediated by the emotion of disgust and reflects evolved tendencies aimed at the maintenance of hygiene, control over carnal impulses, and the marking of cultural boundaries. This foundation corresponds to the “ethic of divinity” central to religion (Haidt & Joseph, 2007; Shweder et al., 1997).
While these five foundations can be thought of as universal, there are important cultural and individual differences in the degree to which the individualizing and binding clusters are emphasized. As noted above, Western societies tend to emphasize the individualizing foundations over the binding ones, given their relevance to the regulation of social life in market democracies (Haidt & Graham, 2009; see also Habermas, 1995; Tönnies, 1887/2001; Turiel, 2006). More importantly, even within Western societies, individuals with different political orientations vary in the relative emphasis they place on the individualizing and binding foundations (Graham et al., 2009; Haidt & Graham, 2007). Liberals tend to prioritize the individualizing harm and fairness foundations over binding concerns about in-group loyalty, authority, and purity. This reflects the historical emphasis placed on the welfare and rights of individuals by liberal political philosophy and practice. In contrast, conservatives emphasize in-group loyalty, respect for authority, and moral purity to a greater extent, placing these binding foundations on the same level of importance as the individualizing ones. This reflects the classical conservative focus on tradition and organic social integrity as a balance against abstract notions of individual rights (e.g., Burke, 1790/2003; Haidt & Graham, 2007). Thus, use of the basic moral mechanisms available to humans is partly constrained by political convictions.

**Pinpointing the Roots of Individualizing and Binding Moral Concerns: The Role of Dual Ideological Processes**

Research thus suggests that there are reliable differences in the breadth of the moral concerns that individuals on the left and right are concerned with: while liberals emphasize the individualizing foundations over all others, conservatives place equal emphasis on the individualizing and binding moral foundations. A different question—one which research has paid less attention to—is the question of exactly what kinds of sociopolitical orientations predict the various moral foundations. As the preceding review suggests, most work in this area has relied on the general liberal-conservative dimension as a summary of individuals’ social and political orientations, thereby reducing their attitudes and beliefs to a single dimension—and in many cases, a single questionnaire item. If there are multiple sociopolitical orientations that often get subsumed under this dimension, then previous work may have overlooked the possibility that concern for particular moral themes may be bound up with a personal emphasis on orientations that reflect particular sociopolitical themes.

Although the liberal-conservative dimension is an important predictor of other attitudes and behaviors (see Jost, Federico, & Napier, 2009; Jost, Glaser, Kruglanski, & Sulloway, 2003), research increasingly suggests that attitudes, values, and beliefs in the political domain fall along two distinct but related content dimensions (Duckitt & Sibley, 2009; Treier & Hillygus, 2009). The first dimension reflects one’s general preference for equality versus inequality in social affairs: individuals at one end of this dimension favor equality and a leveling of social hierarchies, while individuals at the other end favor inequality and the maintenance of social hierarchies. In turn, the second dimension reflects one’s general preference for openness versus conformity in social life: individuals at one end of this dimension favor social freedom and openness to novelty and difference, while individuals at the other end are more inclined toward order, conformity, and tradition. These two dimensions repeatedly emerge in studies of ideology and intergroup relations (Altemeyer, 1998; Duckitt, 2001; Duriez & Soenens, 2006; Duriez, Van Hiel, & Kossowska, 2005; Eysenck, 1954; McFarland, 2005; Stangor & Leary, 2006), values (Braithwaite, 1997; Rokeach, 1973; Schwartz, 1992), and attitudes toward specific social and political issues (Feldman & Johnston, 2009; Treier & Hillygus, 2009; Zumbrunnen & Gangl, 2008).

In the analysis we present here, we draw on one of the most important forms of this approach in contemporary psychology, namely, the dual-process model developed by Duckitt and his colleagues (Duckitt, 2001; Duckitt & Fisher, 2003; Duckitt & Sibley, 2009; Duckitt, Wagner, du Plessis,
& Birum, 2002; Sibley, Wilson, & Duckitt, 2007). According to this model, two sociopolitical attitude systems orient people in the realm of politics and intergroup relations. On one hand, attitudes linked to the equality-versus-inequality dimension are best represented by social dominance orientation (SDO; Sidanius & Pratto, 1999), which taps one’s general level of egalitarianism with respect to intergroup relations; those low in SDO prefer greater equality, while those high in SDO show greater anti-egalitarianism. On the other hand, attitudes linked to the openness-versus-conformity dimension are best represented by right-wing authoritarianism (RWA; Altemeyer, 1996, 1998), or one’s level of conventionalism, submission to in-group authorities, and aggression toward out-groups; those low in RWA prefer openness and freedom, while those high in RWA prefer order, traditional values, and conformity. In turn, Duckitt and his colleagues argue that each of these sociopolitical attitude systems is rooted in a different worldview. While SDO is a function of the extent to which individuals believe the world to be a dog-eat-dog competitive jungle, RWA is mainly a function of the extent to which individuals believe that they live in a dangerous world full of various threats and emphasize social control. Moreover, the model goes further by linking each of these attitude-belief pairs with deeper value orientations—namely, the self-enhancement-versus-self-transcendence and openness-versus-conservation dimensions identified by the theory of basic values (Schwartz, 1992). It also suggests that the two dimensions may have a basis in underlying personality traits—i.e., power motivation and (lack of) empathy in the case of SDO and conformity and low openness to experience in the case of RWA (Duckitt, 2001; Duckitt & Sibley, 2009).

Of course, the two basic dimensions highlighted by the dual-process model and other approaches do correlate to varying degrees (depending on context; see Duriez et al., 2005; Jost et al., 2009), and both dimensions correlate with general liberalism-conservatism (Federico, Hunt, & Ergun, 2009; Weber & Federico, 2007). Nevertheless, the fact that two distinct dimensions—concerned with distinct facets of social and political life—emerge in so many studies raises important questions about whether the variables associated with these dimensions might correlate in unique ways with the various moral foundations.

In this regard, a comparison of the functional prerogatives associated with the individualizing and binding clusters and those associated with the two dimensions highlighted by Duckitt (2001) suggests some predictions. On one hand, the dimension represented by SDO and competitive-jungle beliefs may have stronger psychological implications for the individualizing foundations than the binding foundations. Specifically, equality-related attitudes—and antecedent beliefs about forms of competition that might shape the level of inequality in a given context—should have a particularly strong impact on one’s level of concern about harm and fairness, which are the moral considerations most relevant to the regulation of competitive, self-seeking behaviors that threaten equality.1 Thus, to the extent that one is high in SDO—and less concerned about equality—one should place less emphasis on harm avoidance and fairness. Moreover, the key antecedent of SDO—competitive-jungle beliefs—should be indirectly related to reduced emphasis on the individualizing foundations via SDO.

On the other hand, the dimension represented by RWA and dangerous-world beliefs may have a closer link to the three binding moral foundations than the two individualizing foundations. In

1 In terms of formal content, SDO refers specifically to intergroup dominance and inequality (Sidanius & Pratto, 1999). Given that the harm and fairness foundations are regarded as “individualizing” and do not refer specifically to group level more concerns, one may ask why SDO should predict them. However, SDO generally predicts any beliefs functionally capable of legitimizing inequality among groups, even if they do not refer specifically to groups; indeed, many of the “legitimizing myths” that SDO most strongly predicts have content related to the well-being and rights of individuals (Pratto et al., 1994). Research also strongly indicates that SDO generally predicts value constructs related to harm avoidance and fairness, even if they do not have explicitly group-focused content (Duckitt, 2001). Moreover, given SDO’s focus on hierarchy, one might also expect it to be related to endorsement of the authority foundation. However, the authority foundation focuses more on support for traditional, normatively sanctioned hierarchical role relationships (Graham et al., 2009, 2011). As such, we expect SDO to be minimally related to support for authority once RWA—a construct linked more closely than SDO to support for traditional relationships (Duckitt & Sibley, 2009)—is accounted for.
particular, general attitudes about the desirability of openness versus order—and predisposing beliefs about the prevalence of social dangers that might make different levels of openness or order more or less desirable—should have especially strong implications for one’s level of concern about loyalty to groups, respect for authority, and taboos against impurity, i.e., the moral considerations most relevant to the regulation of communal social bonds that guarantee order. Therefore, to the extent that one is high in RWA—and more concerned about order (versus openness)—one should place greater emphasis on in-group loyalty, authority, and purity. Furthermore, the key predictor of RWA—belief in a dangerous, disorderly world—should be indirectly related to increased emphasis on the three binding foundations via RWA.

Unfortunately, almost no work has examined the possibility of differential relationships between the two dimensions of sociopolitical orientations and the individualizing and binding foundations, and no study has examined the full set of relationships hypothesized by the present study. However, there are a handful of findings consistent with our argument. Recent work suggests differential correlations between the individualizing and binding foundations and SDO and RWA, without considering the variables in a multivariate context or accounting for the potential role of worldviews (Graham et al., 2011). Moreover, research suggests that a personality trait with conceptual links to SDO—the compassion aspect of Agreeableness—predicts support for the individualizing foundations, while a dimension with ties to RWA—the politeness aspect of Agreeableness—predicts support for the binding foundations (Hirsh, DeYoung, Xu, & Peterson, 2010; see also; McAdams et al., 2008; van Leeuwen & Park, 2009). In the analyses which follow, we go beyond these tentative explorations in an effort to comprehensively map the relationships between the moral foundations and the two dimensions of sociopolitical orientations highlighted by dual-process models.

**Study Overview**

Using data from two large samples, we provide a thorough test of the predictions outlined above. Specifically, we examine two key predictions:

**H1**: SDO should predict reduced concern for harm and fairness, while having weaker and less consistent relationships with concern for in-group/loyalty, authority/respect, and purity. In contrast, RWA should predict increased concerns for in-group/loyalty, authority/respect, and purity, while having weaker relationships with harm and fairness.

**H2**: Competitive-jungle beliefs should have strong indirect relationships with reduced concern for harm and fairness via SDO, while having weaker, less consistent indirect relationships with in-group/loyalty, authority/respect, and purity. In contrast, dangerous-world beliefs should have strong indirect relationships with greater concern for in-group/loyalty, authority/respect, and purity via RWA, while having weaker indirect relationships with harm and fairness.

We examine these hypotheses using structural-equation modeling. Since moral foundations theory has also identified general liberalism-conservatism as an important predictor of moral-foundation endorsement (Graham et al., 2009, 2011), we preface our main analyses with a series of regression analyses aimed at demonstrating distinct effects of SDO and RWA, net of general liberalism-conservatism. Moreover, while we assume that general sociopolitical attitudes and beliefs are prior to moral intuitions, we also explore the fit of alternative models in which the moral foundations are exogenous and theoretically prior to SDO, RWA, and their worldview antecedents.
Method

Participants

Sample 1 came from a survey of undergraduates enrolled in psychology courses at the University of Minnesota (N = 1,065). All participants received either extra credit or $5 as compensation. Participants were recruited for mass-testing sessions by class announcements, online advertisements on the department website, and flyers posted in university buildings. All participants completed the survey individually. Sample 2 came from a survey of undergraduates enrolled in mass communication and political science courses at Louisiana State University (N = 434). Participants were drawn from a large subject pool and offered either course or extra credit for their participation. All participants completed the survey online. As the summary statistics reported below indicate, respondents in Sample 2 leaned further to the right in their sociopolitical orientations, consistent with prior research on North-South differences in the American context (Shafer & Johnson, 2006). Thus, support for our hypotheses across these two culturally different samples should provide particularly strong evidence for our arguments.

Measures

Nine constructs were measured in both samples: competitive-jungle beliefs, dangerous-world beliefs, social dominance orientation, right-wing authoritarianism, and the five moral foundations. Details about these measures follow below. In the subsequent analyses, items for each construct were either used as individual latent-variable indicators or grouped into parcels for use as indicators in structural-equation models; nevertheless, for summary purposes, descriptive statistics for full scales are provided in this section. Unless otherwise indicated, all items used a 7-point response scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Competitive-jungle beliefs. This was measured using a 13-item version of Duckitt’s (2001) Competitive-Jungle Scale (Federico et al., 2009). Sample items included: “It’s a dog-eat-dog world where you have to be ruthless at times” and “Winning is not the first thing; it’s the only thing.” All items were recoded to indicate a stronger belief that the world is a competitive jungle (α = .86, M = 2.89, SD = .93, in Sample 1; α = .82, M = 3.19, SD = .82, in Sample 2).

Dangerous-world beliefs. This was assessed using Duckitt’s (2001) 10-item scale. Sample items included: “My knowledge and experience tells me that the social world we live in is basically a dangerous and unpredictable place, in which good, decent, and moral people’s values and way of life are threatened and disrupted by bad people” and “There are many dangerous people in our society who will attack somebody out of pure meanness, for no reason at all.” All items were recoded to indicate stronger dangerous-world beliefs (α = .66, M = 3.84, SD = .78, in Sample 1; α = .77, M = 4.10, SD = .82, in Sample 2).

Social dominance orientation. SDO was measured using the 16-item Social Dominance Orientation Scale (Pratto, Sidanius, Stallworth, & Malle, 1994). Sample items included: “Increased social equality” (reverse coded) and “To get ahead in life, it’s sometimes necessary to step on other groups.” All items were recoded so that higher scores indicated greater SDO (α = .92, M = 2.83, SD = 1.14, in Sample 1; α = .89, M = 3.32, SD = 0.96, in Sample 2).

Right-wing authoritarianism. RWA was measured using a shortened 12-item version of the Right-Wing Authoritarianism Scale comprised of items that have appeared consistently on successive versions of the instrument (Federico et al., 2009). Sample items included: “Obedience and respect for authority are the most important virtues children can learn” and “It may be considered old-fashioned by some, but having a decent, respectable appearance is still the mark of a gentleman
and, especially, a lady.” All items were recoded so that higher scores indicated greater RWA ($\alpha = .76$, $M = 4.04$, $SD = .88$, in Sample 1; $\alpha = 0.74$, $M = 4.51$, $SD = 0.76$, in Sample 2).

**Moral Foundations Questionnaire.** In both samples, respondents completed a 20-item version of the Moral Foundations Questionnaire (MFQ; Graham et al., 2011). The MFQ measures the five aforementioned moral foundations identified by Haidt and Joseph (2007). Each foundation was measured using four items: two items assessing the relevance of the foundation to the respondents’ judgments and two items assessing reactions to statements exemplifying the foundation. The full text of these items can be found in the appendix. The relevance items were answered on a 6-point scale ranging from 0 (not at all relevant) to 5 (extremely relevant) in both samples, while the statement items were answered on a 6-point scale ranging from 0 (strongly disagree) to 5 (strongly agree) in Sample 1 and a 7-point scale ranging from 0 (strongly disagree) to 6 (strongly agree) in Sample 2. In each sample, the four MFQ items corresponding to each construct were used as indicators of harm/care ($\alpha = .57$, $M = 3.40$, $SD = .81$, in Sample 1; $\alpha = 0.61$, $M = 3.76$, $SD = 0.88$, in Sample 2), fairness/reciprocity ($\alpha = .57$, $M = 3.72$, $SD = .83$, in Sample 1; $\alpha = 0.73$, $M = 3.74$, $SD = 0.83$, in Sample 2), in-group/loyalty ($\alpha = .52$, $M = 2.94$, $SD = .84$, in Sample 1; $\alpha = 0.64$, $M = 3.41$, $SD = 0.90$, in Sample 2), authority/respect ($\alpha = .57$, $M = 2.67$, $SD = .86$, in Sample 1; $\alpha = 0.59$, $M = 3.84$, $SD = 0.81$, in Sample 2), and purity ($\alpha = .66$, $M = 2.65$, $SD = .93$, in Sample 1; $\alpha = 0.65$, $M = 3.21$, $SD = 0.87$, in Sample 2). While some of these reliabilities are low, they are similar to those found in previous research (Graham et al., 2009). Moreover, the low estimates are partly a function of the MFQ’s design: the item clusters were developed with an eye to maximal coverage of each foundation’s construct domain, as opposed to maximization of internal consistency (Graham et al., 2011; for a general psychometric treatment, see John & Soto, 2007). We deal with this issue in several ways, and we return to it below.

**Liberalism-conservatism.** In Sample 1, ideology was measured using two items: “How would you describe your political outlook with regard to economic issues?” and “How would you describe your political outlook with regard to social issues?” Participants responded to both items on a 7-point scale ranging from 1 (very liberal) to 7 (very conservative); higher scores indicated greater conservatism ($\alpha = .71$; $M = 3.63$, $SD = 1.43$). In Sample 2, one general item was used: “How would you describe your political outlook?” This item relied on the same response scale used in Sample 1; higher scores indicate greater conservatism ($M = 4.39$, $SD = 1.52$).

**Results**

**Preliminary Analyses: SDO, RWA, and Liberalism-Conservatism as Predictors of the Moral Foundations**

As a point of departure, we demonstrate that variables representing the two sociopolitical dimensions we are primarily interested in—SDO and RWA—predict variance in support for the moral foundations even when controlling for general liberalism-conservatism, a factor clearly linked to patterns of moral-foundation endorsement in recent work (Graham et al., 2009). To this end, we used ordinary least-squares regression to predict the five foundations using liberalism-conservatism, SDO, and RWA in both samples. In these analyses, SDO, RWA, liberalism-conservatism, and the moral foundations were recoded to run from 0 to 1 for ease of interpretation.2 For each foundation, two models were estimated. Model 1 predicted each foundation using liberalism-conservatism only, while Model 2 added SDO and RWA as additional predictors. The results of these analyses can be

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2 For SDO, RWA, and liberalism-conservatism, this involved subtracting 1 from each participant’s raw 1–7 scale score and dividing by 6. For the moral foundations, the transformation consisted of dividing each participant’s raw score by 5 (for the relevance measures in both samples and the statement measures in Sample 1) or 6 (for the statement measures in Sample 2).
found in Tables 1 and 2. Consistent with prior research (e.g., Graham et al., 2009), the “Model 1” columns show negative relationships between conservatism and endorsement of the individualizing foundations (although these relationships are only marginal or nonsignificant in Sample 2), while the “Model 2” columns show positive relationships between conservatism and endorsement of all three binding foundations. More importantly, the “Model 2” columns in Tables 1 and 2 show significant net effects of SDO and/or RWA, even when liberalism-conservatism is also considered as a predictor. In fact, in all cases where liberalism-conservatism has a significant effect in Model 1, the strength of the relationship between liberalism-conservatism and the moral foundations is reduced once SDO and RWA are added as predictors in Model 2. Moreover, in both tables, the pattern of effects we observe corresponds to the predictions offered in Hypothesis 1: the absolute values of the coefficients for SDO are much larger than those of RWA for harm and fairness, while the absolute values for the coefficients for RWA are notably larger than those of SDO for in-group/loyalty, authority, and purity. Thus, SDO and RWA predict support for the moral foundations even when controlling for general liberalism-conservatism—and that they do so in ways that are consistent with our basic theory.

The Differing Bases of Support for the Five Moral Foundations

Having provided evidence that SDO and RWA predict the moral foundations net of liberalism-conservatism and initial evidence for our claims about how SDO and RWA should relate to the individualizing and binding foundations, we turned to a more systematic examination of our main hypotheses. In order to examine Hypothesis 1 and Hypothesis 2, we used a latent-variable structural-equation modeling approach. In an effort to keep the already complex models described below as simple as possible, we do not examine liberalism-conservatism, having already established that SDO and RWA have the predicted direct effects on the individualizing and binding foundations once liberalism-conservatism is controlled for. In these models, our aim is merely to get an overall picture of the direct effects of SDO and RWA and the indirect effects of competitive-jungle and dangerous-world beliefs while taking advantage of the correction for measurement error afforded by latent-variable SEM. All models were estimated with Mplus 6, using the program’s MLR estimator for robust maximum-likelihood estimation in the presence of nonnormal input variables and missing cases; raw data were used as input (Muthén & Muthén, 2010). This same basic model specification was used in both samples. We describe the components of our model below.

Measurement models. To conserve degrees of freedom, measurement models for competitive-jungle beliefs, dangerous-world beliefs, SDO, and RWA were generated by averaging subsets of items to create three parcels for each construct. The three parcels for each construct were then used as latent-variable indicators. The measurement models for each of the five moral foundations were specified using the two appropriate MFQ statements and the two appropriate MFQ relevance items. The metric of all latent variables was set by constraining the first factor loading for each to 1.

The breadth-oriented construction of the MFQ—which produced low internal consistencies for some of the dimensions—also presented us with a few special modeling issues. While MFQ measures were used only to construct dependent variables in our models—meaning that the measurement error in the MFQ should inflate the errors of prediction in our regression rather than biasing the actual point estimates for the effects of other variables on the moral foundations—their relatively poor measurement resulted in low factor loadings for some of the MFQ indicators and lowered the global fit of our models. In an effort to offset this problem, we allowed a number of error terms from

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3 In the interest of conserving space, we do not reproduce matrices of correlations between the indicators for Samples 1 and 2; both matrices were very large (i.e., 32 ¥ 32). These matrices are available on request from the authors.
Table 1. Moral Foundation Support as a Function of Liberalism-Conservatism, SDO, and RWA (Sample 1)

<table>
<thead>
<tr>
<th>Moral Foundation</th>
<th>Harm/Care</th>
<th>Fairness/Reciprocity</th>
<th>Ingroup/Loyalty</th>
<th>Authority/Respect</th>
<th>Purity</th>
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<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Lib/Con</td>
<td>−.11***</td>
<td>−.06*</td>
<td>−.13***</td>
<td>−.06*</td>
<td>.25***</td>
</tr>
<tr>
<td></td>
<td>(.02)</td>
<td>(.03)</td>
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<td>(.02)</td>
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<tr>
<td>SDO</td>
<td>−</td>
<td>−.25***</td>
<td>−</td>
<td>−.39***</td>
<td>−</td>
</tr>
<tr>
<td></td>
<td>−</td>
<td>(.03)</td>
<td>−</td>
<td>(.02)</td>
<td>−</td>
</tr>
<tr>
<td>RWA</td>
<td>−</td>
<td>.07†</td>
<td>−</td>
<td>.14**</td>
<td>−</td>
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<td></td>
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<tr>
<td>Constant</td>
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<td>.80***</td>
<td>.82***</td>
<td>.48***</td>
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<td>(.01)</td>
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<tr>
<td>F-test</td>
<td>25.70***</td>
<td>29.07***</td>
<td>40.77***</td>
<td>119.88***</td>
<td>133.78***</td>
</tr>
</tbody>
</table>

Note. $N = 1043$ for all models. Degrees of freedom for the $F$-tests are (1, 1041) for Model 1 and (3, 1039) for Model 2 for all moral foundations. Entries are unstandardized OLS regression coefficients; standard errors are given in parentheses.

†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$. 
<table>
<thead>
<tr>
<th>Moral Foundation</th>
<th>Harm/Care</th>
<th>Fairness/Reciprocity</th>
<th>Ingroup/Loyalty</th>
<th>Authority/Respect</th>
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<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Lib/Con</td>
<td>-.05†</td>
<td>-.02</td>
<td>-.03</td>
<td>.01</td>
<td>.22***</td>
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<tr>
<td></td>
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<td>(.04)</td>
<td>(.03)</td>
<td>(.02)</td>
<td>(.03)</td>
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<tr>
<td>SDO</td>
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<td>–</td>
<td>-.41***</td>
<td>–</td>
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<td>(.03)</td>
<td>(.05)</td>
<td>(.05)</td>
<td>(.05)</td>
<td>(.04)</td>
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<tr>
<td>RWA</td>
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<td>–</td>
<td>.22***</td>
<td>–</td>
<td>45***</td>
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<td></td>
<td>(.04)</td>
<td>(.06)</td>
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<td>.64***</td>
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<td>.88</td>
<td>35.16***</td>
<td>45.02***</td>
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<td>.114</td>
<td>.0002</td>
<td>.213</td>
<td>.136</td>
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</tbody>
</table>

Note. N = 426 for all models. Degrees of freedom for the F-tests are (1, 424) for Model 1 and (3, 422) for Model 2 for all moral foundations. Entries are unstandardized OLS regression coefficients; standard errors are given in parentheses. †p < .10, *p < .05, **p < .01, ***p < .001.
the measurement models to correlate in each sample. While our decisions about which error covariances to free were partly guided by a consideration of modification indices, it is important to note that the process was not completely data driven. The vast majority of the freed covariances involved only the MFQ items, and all freed error covariances involved pairs of items tapping the same latent construct, ensuring that the distinctness of the constructs was not diluted and that relationships between constructs were reflected only in the structural model. Moreover, the same error covariances were used in all models we compared in each dataset, eliminating any potential for the covariances to account for differences in fit across models (as we note below). Finally, while the analyses reported below focus on models including the error covariances, our substantive findings were identical when the models were run without the error covariances.

Structural model. In the structural portion of the models, competitive-jungle beliefs and dangerous-world beliefs were allowed to have direct effects on SDO and RWA alone, following previous theory and research suggesting that the worldviews are prior to SDO and RWA (Duckitt & Sibley, 2009). In turn, SDO and RWA were allowed to directly predict each moral foundation. The latter specification is consistent with prior work on the relationship between sociopolitical variables and moral foundations (which treats sociopolitical variables as predictors and moral foundations as dependent variables in a regression context; see Graham et al., 2009), and it reflects a general assumption that sociopolitical orientations exert an impact on moral intuitions. It is also broadly consistent with longitudinal and experimental work suggesting that various political constructs shape moral judgment (Goren, 2005; Goren, Federico, & Kittilson, 2009). Of course, morality may be prior to general sociopolitical orientations, so an effort to examine alternative structural specifications is made below. Nevertheless, our data are cross-sectional, so we cannot definitively compare causal scenarios. As such, our main specification should be seen mainly as an effort to differentially predict relative support for the moral foundations using different general attitudes and beliefs, as opposed to a firm causal analysis. Finally, (1) the latent variables corresponding to competitive-jungle beliefs and dangerous-world beliefs and (2) the disturbances for SDO and RWA were allowed to covary to reflect the usual small-to-moderate correlation between these pairs of constructs (Weber & Federico, 2007). Moreover, disturbances for all moral foundations were allowed to covary, for a total of 10 free disturbance covariances among the foundations.

Sample 1. Results for the final Sample 1 model are displayed in Figure 1; for clarity of presentation, factor loadings for the latent variables are not displayed. The overall fit of the model was adequate. While the chi-square for the model was significant, \( \chi^2 (427) = 1738.89, p < .001 \), other fit indices that are less sensitive to sample size indicated a good fit (i.e., RMSEA = .05, SRMR = .06; see Kline, 1998). All measurement-model factor loadings were significant at the \( p < .001 \) level. In the

4 In Sample 1, 11 error covariances were freed; in Sample 2, 4 error covariances were freed. In Sample 1, errors for the following pairs of indicators were allowed to covary: the first and third SDO item parcels; the second and third SDO item parcels; the second harm relevance item and the second harm statement; the two fairness statements; the first ingroup relevance item and the first ingroup statement; the second ingroup relevance item and the first ingroup statement; the first authority relevance item and the first authority statement; the first authority relevance item and the second authority statement; the second authority relevance item and the first authority statement; the second purity relevance item and the first purity statement; and the first purity relevance item and the second purity statement. In Sample 2, the following error pairs were allowed to covary: the first and third SDO item parcels; the first and second competitive-jungle item parcels; the two fairness relevance items; and the two purity statements. (See the appendix for item numbers.)

5 To provide further evidence that our results were not idiosyncratic to a latent-variable approach, we also estimated several models using only observed-variable composites. In particular, we estimated five ordinary least-squares models in each sample, where scales corresponding to each of the MFQ dimensions were regressed on SDO and RWA composites. Estimates from these models converged with the SEM results reported below: SDO was more strongly related to the individualizing foundations, while RWA was more strongly related to the binding foundations. Also confirming our SEM results, Sobel tests derived from multi-step mediation analyses—also using only observed-variable composites for all variables—indicated that competitive-jungle beliefs had a stronger effect on the individualizing foundations via SDO, whereas dangerous-world beliefs had a stronger effect on the binding foundations via RWA. These results, as well as the results for the SEM models that did not include the error covariances, are available on request from the authors.
measurement models for competitive-jungle beliefs, dangerous-world beliefs, SDO, and RWA, all nonconstrained standardized factor loadings were in excess of .60; in the measurement models for the MFQ dimensions, all nonconstrained standardized factor loadings were in excess of .30. Turning to the structural model, we can see that SDO was more strongly predicted by competitive-jungle beliefs than by dangerous-world beliefs, while RWA was more strongly predicted by dangerous-world beliefs than by competitive-jungle beliefs—consistent with earlier work on the antecedents of SDO and RWA (Duckitt & Sibley, 2009). Moreover, competitive-jungle beliefs and dangerous-world beliefs were correlated, as were SDO and RWA (both \( p < .001 \)).

However, the more interesting direct paths involve SDO, RWA, and the five moral foundations. According to Hypothesis 1, SDO should strongly predict reduced concern for harm and fairness, while having weaker and less consistent relationships with concern for in-group/loyalty, authority/respect, and purity. In contrast, RWA should strongly predict increased concerns for in-group/loyalty, authority/respect, and purity, while having weaker relationships with harm and fairness. Unstandardized estimates for these relationships are displayed in the center portion of Figure 1; corresponding standardized estimates can be found in the top panel of Table 3. Consistent with our first hypothesis, SDO had strong negative relationships with concern for harm and fairness (\( ps < .001 \)). Its strongest negative relationship was with fairness (standardized \( \beta = -.68 \)), reinforcing SDO’s reputation as an engine of opposition to “hierarchy-attenuating” ideas (Sidanius & Pratto, 1999). However, its relationships with the other three foundations were weaker and less consistent. SDO was basically unrelated to authority (\( p > .20 \)) and in-group/loyalty (\( p > .10 \)). Less expectedly, SDO was negatively related to concern for purity (\( p < .01 \)). Moreover, in absolute terms, SDO more

![Figure 1. Final structural-equation model of the ideological bases of support for the five moral foundations, Sample 1.](image)
strongly predicted the harm and fairness foundations (average absolute $\beta = .33$; average absolute standardized $\beta = .59$) than the in-group, authority, and purity foundations (average absolute $\beta = .07$; average absolute standardized $\beta = .08$). To formally test the differing strength of SDO as a predictor of each set of foundations, we reestimated the model with the average of the absolute values of SDO’s relations with harm and fairness constrained to equal the average of the absolute values of its relations with in-group, authority, and purity. Confirming the above pattern, a Wald test indicated that this constraint produced a significant decline in model fit, $\Delta \chi^2 (1) = 128.66, p < .001$.

Conversely, RWA was strongly associated with greater concern for in-group/loyalty, authority/respect, and purity ($ps < .001$), as expected. Not surprisingly, its strongest relationship was with authority/respect (standardized $\beta = .65$). Its relationships with harm and fairness were also positive, but considerably weaker (both $ps < .01$). Moreover, in absolute terms, RWA more strongly predicted the in-group, authority, and purity foundations (average absolute $\beta = .47$; average absolute standardized $\beta = .71$) than the harm and fairness foundations (average absolute $\beta = .11$; average absolute standardized $\beta = .17$). The differing strength of RWA as a predictor of each set of foundations was tested by reestimating the model with the average of the absolute values of its relations with harm and fairness constrained to equal the average of the absolute values of its relations with in-group, authority, and purity. Further suggesting that the predictive power of RWA differs across the two moral-foundation clusters, a Wald test indicated that this constraint produced a significant and sizable decline in model fit, $\Delta \chi^2 (1) = 142.87, p < .001$.

The logic of Hypothesis 1 also suggests that SDO should be more strongly related than RWA to harm and fairness, whereas RWA should be more strongly related than SDO to in-group/loyalty, authority, and purity. To address this question, we reran our model with the average of the absolute values of the effects of SDO on harm and fairness constrained to equal the average of the absolute values of the effects of RWA on the same two foundations. This constraint produced a significant decline in fit, Wald $\Delta \chi^2 (1) = 64.58, p < .001$. Similarly, a model run in which the average of the absolute values of the effects of RWA on in-group, authority, and purity was constrained to equal the average of the absolute values of the effects of SDO on the same three foundations also produced a significant decline in fit, Wald $\Delta \chi^2 (1) = 285.16, p < .001$. Thus, SDO is the more powerful predictor of individualizing concerns, while RWA is the more consequential predictor of binding concerns.

Beyond this asymmetrical pattern of direct relationships between SDO and RWA and the moral

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Table 3. Standardized Effects of Social Dominance Orientation and Right-Wing Authoritarianism on Moral Foundations from Structural-Equation Models (Samples 1 and 2)

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Moral Foundation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Harm/ Care</td>
</tr>
<tr>
<td><strong>Sample 1:</strong></td>
<td></td>
</tr>
<tr>
<td>SDO</td>
<td>-.49</td>
</tr>
<tr>
<td>RWA</td>
<td>.13</td>
</tr>
<tr>
<td><strong>Sample 2:</strong></td>
<td></td>
</tr>
<tr>
<td>SDO</td>
<td>-.54</td>
</tr>
<tr>
<td>RWA</td>
<td>.29</td>
</tr>
</tbody>
</table>

*Note.* Entries are standardized path coefficients from the structural-equation models reported in Figures 1 and 2.

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6 We follow the notational convention of using $\gamma$ to refer to direct effects of exogenous variables on endogenous variables and $\beta$ to refer to direct effects of endogenous variables on other endogenous variables (Mueller, 1996).

7 All model constraints and associated Wald tests were carried out using the MODEL TEST command in Mplus 6 (Muthen & Muthen, 2010).
foundations, Hypothesis 2 suggests that competitive-jungle beliefs should have strong indirect relationships with reduced concern for harm and fairness via SDO, while having weaker, less-consistent indirect relationships with in-group/loyalty, authority, and purity. In contrast, dangerous-world beliefs should have strong indirect associations with greater concern for in-group/loyalty, authority, and purity via RWA, while having less pronounced indirect relationships with harm and fairness. To examine this hypothesis, we estimated 10 indirect effects: (1) the indirect effects of competitive-jungle beliefs on the five moral foundations via SDO and (2) the indirect effects of dangerous-world beliefs on the five moral foundations via RWA.

Unstandardized and standardized estimates for these indirect relationships are summarized in the top panel of Table 4. Confirming our predictions, competitive-jungle beliefs had strong negative indirect relations with harm and fairness via SDO, while having weaker, less-consistent indirect relationships with in-group/loyalty, authority, and purity. In contrast, dangerous-world beliefs should have strong indirect associations with greater concern for in-group/loyalty, authority, and purity via RWA, while having less pronounced indirect relationships with harm and fairness. To examine this hypothesis, we estimated 10 indirect effects: (1) the indirect effects of competitive-jungle beliefs on the five moral foundations via SDO and (2) the indirect effects of dangerous-world beliefs on the five moral foundations via RWA.

Unstandardized and standardized estimates for these indirect relationships are summarized in the top panel of Table 4. Confirming our predictions, competitive-jungle beliefs had strong negative indirect relations with harm and fairness via SDO (ps < .001), while having weaker indirect relationships with the other foundations. Moreover, in absolute terms, competitive-jungle beliefs had stronger indirect relationships with harm and fairness (average absolute IE = .29; average absolute standardized IE = .44) than with in-group, authority, and purity (average absolute IE = .04; average absolute standardized IE = .06) via SDO. Conversely, dangerous-world beliefs had strong positive indirect relationships with in-group, authority, and purity via RWA (ps < .001), while having considerably weaker indirect relationships with harm and fairness. In particular, dangerous-world beliefs had a notably strong indirect relationship with respect for authority via RWA (standardized IE = .43), consistent with the notion that perceived social dangers may prompt an especially strong concern for the maintenance of clear authority structures (Duckitt & Sibley, 2009; Feldman, 2003). Moreover, in absolute terms, dangerous-world beliefs had stronger indirect relationships with in-group, authority, and purity (average absolute IE = .56; average absolute standardized IE = .38) than with harm and fairness (average absolute IE = .13; average absolute standardized IE = .09) via RWA. Thus, the data from Sample 1 provide a strong pattern of support for our second hypothesis.

Sample 2. The Sample 2 analyses produced similar results. The final Sample 2 model is shown in Figure 2; factor loadings for the latent variables are not displayed. Overall model fit was reasonable. While the chi-square was significant, \( \chi^2 (434) = 1087.193, p < .001 \), other fit indices again indicated an acceptable fit (i.e., RMSEA = .06, SRMR = .07). All nonconstrained measurement-model factor loadings were significant at the \( p < .001 \) level. In the measurement models for competitive-jungle beliefs, dangerous-world beliefs, SDO, and RWA, all nonconstrained standardized loadings were in excess of .55. In the measurement models for the MFQ dimensions,
all nonconstrained standardized loadings were in excess of .40, with one exception of λ = .28 in the measurement model for authority/respect. In the structural model, SDO was again more strongly predicted by competitive-jungle beliefs, while RWA was more strongly predicted by dangerous-world beliefs. In this sample, competitive-jungle beliefs and dangerous-world beliefs were not correlated (p > .20), but SDO and RWA were (p < .001).

In order to examine Hypothesis 1, we again focus on the direct relationships between SDO and RWA and the five moral foundations. Unstandardized estimates for these relationships are shown in the middle portion of Figure 2; standardized estimates are displayed in the bottom panel of Table 3. Confirming our Sample 1 results, SDO had strong negative relationships with harm and fairness (ps < .001), but weaker, less consistent relationships with the other three foundations. Furthermore, in absolute terms, SDO more strongly predicted the harm and fairness foundations (average absolute $\beta = .40$; average absolute standardized $\beta = .59$) than the in-group, authority, and purity foundations (average absolute $\beta = .10$; average absolute standardized $\beta = .14$). To confirm this, we reestimated the model with the same constraint on the relationships between SDO and the foundations used above in Sample 1. As before, the Wald test associated with this constraint indicated that it produced a significant decline in model fit, $\Delta \chi^2 (1) = 47.11, p < .001$. In contrast, RWA had uniformly strong positive relationships with in-group, authority, and purity (ps < .001). RWA was also positively related to harm and fairness. However, as predicted, these relationships were weaker in magnitude: in absolute terms, RWA more strongly predicted the in-group, authority, and purity foundations (average absolute $\beta = .49$; average absolute standardized $\beta = .65$) than the harm and fairness foundations (average absolute $\beta = .26$; average absolute standardized $\beta = .33$). Again, we reestimated the

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**Figure 2.** Final structural-equation model of the ideological bases of support for the five moral foundations, Sample 2. Unstandardized estimates are shown; tests on parameter estimates are based on robust standard errors. Factor loadings for latent variables are not shown.
model with a constraint on the relationships between RWA and the foundations identical to the one used above in Sample 1. A Wald test indicated that this constraint significantly reduced the fit of the model, $\Delta \chi^2 (1) = 26.51, p < .001$.

Hypothesis 1 also implies that SDO should be more strongly related than RWA to harm and fairness, but that RWA should be more strongly related than SDO to in-group/loyalty, authority, and purity. Confirming this, a model run in which the average of the absolute values of the relationships between SDO and harm and fairness was constrained to equal the average of the absolute values of the relationships between RWA and harm and fairness produced a significant drop in fit, Wald $\Delta \chi^2 (1) = 8.18, p < .01$. Moreover, a model in which the average of the absolute values of the relationships between RWA and in-group, authority, and purity was constrained to equal the average of the absolute values of the relationships between SDO and in-group, authority, and purity also produced a significant drop in fit, Wald $\Delta \chi^2 (1) = 62.24, p < .001$. This replicates our Sample 1 findings.

In turn, we examined Hypothesis 2 by estimating the same indirect effects of competitive-jungle beliefs (via SDO) and dangerous-world beliefs (via RWA) that we estimated in Sample 1. Unstandardized and standardized estimates for these indirect relationships are shown in the bottom panel of Table 4. Consistent with Hypothesis 2, competitive-jungle beliefs had strong negative indirect relationships with harm and fairness via SDO ($ps < .001$), while having weaker, inconsistently signed indirect relationships with the other foundations. In absolute terms, competitive-jungle beliefs had stronger indirect relationships with harm and fairness (average absolute $\text{IE} = .32$; average absolute standardized $\text{IE} = .38$) than with in-group, authority, and purity (average absolute $\text{IE} = .08$; average absolute standardized $\text{IE} = .09$) via SDO. Conversely, dangerous-world beliefs had strongly positive indirect relationships with in-group/loyalty, authority, and purity via RWA ($ps < .001$). Again, dangerous-world beliefs had a relatively strong indirect effect on authority/respect via RWA (standardized $\text{IE} = .35$). Dangerous-world beliefs also had positive indirect relationships with harm and fairness via RWA ($ps < .001$). Nevertheless, in absolute terms, dangerous-world beliefs had stronger indirect relationships—via RWA—with in-group, authority, and purity (average absolute $\text{IE} = .28$; average absolute standardized $\text{IE} = .32$) than with harm and fairness (average absolute $\text{IE} = .15$; average absolute standardized $\text{IE} = .17$). As such, the data once again support Hypothesis 2.

### Alternative Specifications

The models in Figures 1 and 2 assume that beliefs and attitudes in the sociopolitical domain are prior to the moral foundations. However, because our data are not longitudinal, it is conceivable that an alternate specification would better approximate the pattern of relationships between sociopolitical orientations and the moral foundations. While the models in Figure 1 and Figure 2 best comport with our theoretical expectations, it is possible that moral foundations are exogenous to general beliefs and attitudes. Moral foundations may structure perceptions of the social world, and they may provide a lens through which sociopolitical concerns are considered.

This implies that the individualizing and binding foundations may predict social beliefs, which then manifest themselves in terms of SDO and RWA. To explore this possibility, we compared the overall fit of the model in Figures 1 and 2 to the fit of an alternative model treating the foundations as exogenous—i.e., where the foundations predict beliefs, which in turn predict RWA and SDO. In this model, the foundations were allowed to have direct effects on the beliefs but only indirect effects on SDO and RWA via the beliefs. The measurement models for all constructs were identical to those in the hypothesized model, including the error covariances that were freed in each dataset; only the structural specifications were changed. While the overall model fit was good in the alternative specification (Sample 1: RMSEA = 0.06, SRMR = 0.07; Sample 2: RMSEA = 0.07, SRMR = 0.08), comparisons using the Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), and sample-corrected Bayesian Information Criterion (sBIC) indicated that the models in Figures 1
and 2 provided a better fit-to-data. These statistics are most appropriate when comparing non-ested models of the sort we consider here (Burnham & Anderson, 1998; Kline, 1998). Since these “information criteria” are scale-free, their absolute values are meaningless; they can only be used to compare the fit of different models, with larger statistics indicating a worse fit (Burnham & Anderson, 2004). For comparison, the information criteria for the hypothesized and alternative models are shown in Table 5, and they provide clear evidence for the reduction in fit produced by the alternative specification. The most important entries in this table can be found in the final column, which contains the changes in the information criteria (\( \Delta \)) that result from moving from the best-fitting model—the hypothesized model in this case—to the alternative model. Across all criteria, the alternative specification produced increases in excess of 300 in Sample 1 and in excess of 100 in Sample 2, which are far in excess of the \( \Delta \) value of 10 recommended as an indicator of worsened fit (Burnham & Anderson, 1998, 2004). 

Table 5. Information Criteria Comparing Hypothesized and Alternative Models (Samples 1 and 2)

<table>
<thead>
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<th>Fit Indices</th>
<th>Model</th>
<th>( \Delta )</th>
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<tr>
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<td>Hypothesized</td>
<td>Alternative</td>
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<tr>
<td>Sample 1:</td>
<td></td>
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<tr>
<td>AIC</td>
<td>98549.26</td>
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<tr>
<td>BIC</td>
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<tr>
<td>sBIC</td>
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</tr>
<tr>
<td>Sample 2:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AIC</td>
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<td>37582.69</td>
</tr>
<tr>
<td>BIC</td>
<td>37973.49</td>
<td>38095.31</td>
</tr>
<tr>
<td>sBIC</td>
<td>37573.64</td>
<td>37695.45</td>
</tr>
</tbody>
</table>

Note. AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; sBIC = sample-corrected Bayesian Information Criterion. The “hypothesized” model refers to the specification in Figures 1 and 2; the “alternative” model refers to a specification where the moral foundations were treated as exogenous variables directly predicting the worldviews and indirectly predicting the ideologies via the worldviews; \( \Delta = \text{Fit(alternative)} - \text{Fit(hypothesized)} \).

Discussion

According to moral foundations theory, individuals display both individualizing concerns about fairness and harm avoidance and binding moral concerns about group loyalty, authority, and purity but place varying degrees of emphasis on each set of concerns (Haidt et al., 2009). Importantly, recent research has demonstrated that people with different political orientations differ in their patterns of emphasis on these foundations. Liberals place greater emphasis on the individualizing

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8 While the change statistics in Table 5 may seem small relative to the fairly large information criteria for the models, it is important to remember that the absolute values of these statistics are meaningless as fit indices on their own and can be large even for “good” models. The AIC, BIC, and sBIC are all a function of the log-likelihood and the number of model parameters; as the latter increase, so will the information criteria. However, subtracting the information-criteria values for the best-fitting model from comparison models eliminates these “scaling constants,” making the change statistics the only valid indicators of relative fit (Burnham & Anderson, 2004, p. 271).
foundations, considering the consequences of public policy for the rights of the individual; they place less value on the binding foundations, showing reduced concern about in-group loyalty, respect for authority, and moral purity. Conservatives, however, tend to equally value the individualizing and binding foundations (Graham et al., 2009).

In this project, our aim was to explore a somewhat different question about the relationship between politics and morality: namely, the question of whether particular sociopolitical orientations link up in specific ways with particular sets of moral concerns. Our starting point was research suggesting that these orientations fall along two dimensions: (1) preferences for equality versus inequality and (2) preferences for openness versus conformity (Feldman, 2003). Drawing in particular on Duckitt’s (2001) dual-process model, we contend that general sociopolitical attitudes and beliefs corresponding to each of these dimensions—social dominance orientation and competitive-jungle beliefs, on one hand, and right-wing authoritarianism and dangerous-world beliefs, on the other—should differentially predict the endorsement of the individualizing and binding moral foundations. Because they tap most closely into considerations about the extent to which sociopolitical life should value equality, SDO and competitive-jungle beliefs should be most related to the individualizing foundations, which deal most closely with the protection of individuals from behaviors that threaten equality. Similarly, since they deal most directly with concerns about social order, RWA and dangerous-world beliefs should be most related to support for the binding foundations, as the latter are most closely linked to the protection of communal structures that provide order and security. Our data supported these predictions about the relationships between SDO and RWA. Moreover, the belief antecedents of SDO and RWA—competitive-jungle beliefs and dangerous-world beliefs—showed a similar pattern of indirect relationships with the individualizing and binding foundations via SDO and RWA.

Of course, our data are not without their limitations. First, they are cross-sectional, limiting our ability to draw clear causal inferences. As noted previously, we have followed other researchers in treating sociopolitical orientations as independent variables and moral foundations as dependent variables (e.g., Graham et al., 2009). Moreover, the fit of a model based on this assumption was superior to the fit of a model specifying morality as exogenous. While it makes sense to us that sociopolitical orientations should have a causal impact on moral judgment (e.g., Goren, 2005), we cannot rule out the possibility of reverse causality using the present data. Longitudinal data and experimental studies that prime different sociopolitical orientations or moral considerations will be needed to fully investigate matters of causality (e.g., Duckitt & Sibley, 2009). Second, our analyses rely on student data collected in a single nation (i.e., the United States), making it important that these results be replicated in other contexts before making broad claims about their generality. Of course, the fact remains that we obtained very similar support for our hypotheses in data drawn from different regions of the United States (i.e., the upper Midwest versus the South). As evident from our description of our measures, respondents in Sample 2 were far more right-wing in their orientation—not just with respect to liberalism-conservatism, but also with respect to SDO, RWA, and the two worldviews. This provides some reassurance that our results are robust across respondents drawn from populations with different political cultures, aggregate value orientations, and absolute levels of support for the five moral foundations. Finally, our approach—like moral foundations theory itself—focuses mainly on the intuitive aspects of morality. However, it is important to note that morality is not entirely intuitive in nature. Moral reasoning of the sort classically examined by psychologists (e.g., Kohlberg, 1969) is needed not only to apply general moral concerns to specific situations but also to resolve conflicts between multiple moral concerns (Narvaez, 2010). This is particularly likely to be true of moral judgment in politics, which often involves the balancing of multiple moral goals in complex environments. Thus, our emphasis on how sociopolitical orientations interface with various intuitive foundations of morality should not be taken as a dismissal of the significance of moral reasoning in politics.
Nevertheless, our findings have important implications. Most importantly, they shed light on the multiple sociopolitical orientations governing different patterns of moral intuition, expanding a body of work that has focused almost entirely on the general liberal-conservative dimension (e.g., Graham et al., 2009). In particular, they indicate that different kinds of sociopolitical orientations relate differently to the individualizing and binding clusters of moral concerns identified by moral foundations theory. Specifically, while orientations to preferences about equality versus inequality are most closely linked to the individualizing foundations, orientations relevant to social openness versus order are most closely linked to the binding foundations. This suggests that variation in moral intuition is not solely a matter of left versus right; it relates to individual differences along multiple sociopolitical dimensions, even after the role of general liberalism-conservatism is considered (as our preliminary analyses demonstrate). Since standard unidimensional measures of liberalism-conservatism cannot separately assess these dimensions—and since liberal-conservative self-placement is influenced by both dimensions to some extent (see Federico et al., 2009)—these nuances will be missed by an exclusive focus on unidimensional indices of ideology.

In turn, the differential relationships between the two sociopolitical dimensions and the two clusters of moral foundations provide additional clues about the nature of the orientations—and behind them, the generalized social motives—that shape moral concerns. On one hand, the strong relationship between anti-egalitarian beliefs and attitudes and reduced concern about harm and fairness—or conversely, between egalitarianism and increased concern about harm and fairness—suggests that the latter are activated most heavily by concern for an equitable balance of power and resources in social relations. On the other hand, the especially strong relationship between beliefs and attitudes favoring social order and increased concern about in-group loyalty, authority, and purity reinforces the notion that the latter moral foundations are activated most intensely by concern about protecting traditional communal norms, identities, and structures of meaning.

At another level, this suggests that multiple sets of sociopolitical orientations contribute to the bitter political disagreements about morality that characterize contemporary politics. While these moral disputes are commonly played out and analyzed along liberal-conservative lines (e.g., Graham et al., 2009; Lakoff, 2002), our results suggest that disputes about the morality of any number of issues are not simply a function of conflict between the left and the right. Rather, they are a function of potentially cross-cutting conflicts between those who prefer more versus less equality and conflicts between those who prefer more versus less social order. Although these axes of conflict inevitably overlap to some extent due to the organizing role of political institutions (Jost et al., 2009), they nevertheless reflect different functions that are worth attending to. In this respect, we believe that this article marks a step toward better understanding the underpinnings of the moral differences that underlie contemporary political conflicts.

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REFERENCES


### Appendix

**Moral Foundations Questionnaire Items (Graham et al., 2011)**

**Moral Relevance Items**

*Harm/care:* (1) Whether or not someone suffered emotionally; (2) Whether or not someone cared for someone weak or vulnerable.

*Fairness/reciprocity:* (1) Whether or not some people were treated differently from others; (2) Whether or not someone acted unfairly.
Ingroup/loyalty: (1) Whether or not someone’s action showed love for his or her country; (2) Whether or not someone did something to betray his or her group.

Authority/respect: (1) Whether or not someone showed a lack of respect for authority; (2) Whether or not someone conformed to the traditions of society.

Purity: (1) Whether or not someone violated standards of purity and decency; (2) Whether or not someone did something disgusting.

Moral Statement Items

Harm/care: (1) Compassion for those who are suffering is the most crucial virtue; (2) One of the worst things a person could do is hurt a defenseless animal.

Fairness/reciprocity: (1) When the government makes laws, the number one principle should be ensuring that everyone is treated fairly; (2) Justice is the most important requirement for a society.

Ingroup/loyalty: (1) I am proud of my country’s history; (2) People should be loyal to their family members, even when they have done something wrong.

Authority/respect: (1) Respect for authority is something all children need to learn; (2) Men and women each have different roles to play in society.

Purity: (1) People should not do things that are disgusting, even if no one is harmed; (2) I would call some acts wrong on the grounds that they are unnatural.