### Binding Moral Foundations and the Narrowing of Ideological Conflict to the Traditional Morality Domain

Personality and Social
Psychology Bulletin
1–15
© 2016 by the Society for Personality
and Social Psychology, Inc
Reprints and permissions:
sagepub.com/journalsPermissions.nav
DOI: 10.1177/0146167216653936
pspb.sagepub.com

(\$)SAGE

Ariel Malka<sup>1</sup>, Danny Osborne<sup>2</sup>, Christopher J. Soto<sup>3</sup>, Lara M. Greaves<sup>2</sup>, Chris G. Sibley<sup>2</sup>, and Yphtach Lelkes<sup>4</sup>

#### **Abstract**

Moral foundations theory (MFT) posits that binding moral foundations (purity, authority, and ingroup loyalty) are rooted in the need for groups to promote order and cohesion, and that they therefore underlie political conservatism. We present evidence that binding foundations (and the related construct of disgust sensitivity) are associated with lower levels of ideological polarization on political issues outside the domain of moral traditionalism. Consistent support for this hypothesis was obtained from three large American Internet-based samples and one large national sample of New Zealanders (combined N = 7,874). We suggest that when political issues do not have inherent relevance to moral traditionalism, binding foundations promote a small centrist shift away from ideologically prescribed positions, and that they do so out of desire for national uniformity and cohesion.

#### **Keywords**

moral foundations, political psychology, attitudes, disgust

Received August 2, 2013; revision accepted May 17, 2016

Many people around the world judge morality on the basis of standards that seem to extend beyond concerns with harm and fairness. According to moral foundations theory (MFT; Graham et al., 2013; Graham, Haidt, & Nosek, 2009), three other standards potentially underlie moral evaluations. These standards, which are collectively referred to as *binding moral foundations*, are concern with purity, respect for authority, and loyalty to the ingroup. Like the *individualizing moral foundations* of harm and fairness, binding foundations are said to have evolved as moral intuitions useful for solving particular types of adaptive problems. In particular, the necessities for groups to coordinate their actions and maintain loyal commitment are thought to have given rise to these types of moral standards.

Whether moral foundations reflect distinct mechanisms of moral cognition (e.g., Haidt, 2012) or differing perceptions of what types of action cause harm (e.g., Schein & Gray, 2015), it is quite clear that people vary meaningfully in the degree to which they endorse specific moral foundations. Indeed, the most influential research guided by MFT has related individual differences in moral foundations to political ideologies. The main conclusion of this research is that political liberals tend to place exclusive priority on the foundations of harm and fairness whereas political conservatives tend to place strong value on both of these moral foundations as well as the three binding foundations (e.g., Graham et al., 2009; Haidt, 2012;

Haidt & Graham, 2007). This difference in the scope of moral standards is said to underlie deep and hostile political disputes between the right and left, including those that have been referred to with the term "culture war" since the early 1990s.

Although controversies concerning MFT abound (e.g., Gray & Keeney, 2015; Kugler, Jost, & Noorbaloochi, 2014), it is generally agreed that people on the right are more inclined than are those on the left to endorse binding foundations (cf. Frimer, Biesanz, Walker, & MacKinlay, 2013). We presently propose a refinement to this general characterization of how moral foundations relate to ideology. Specifically, to the extent that binding foundations deal with group cohesiveness and "binding people together into larger groups and institutions" (Graham et al., 2011, p. 369), we argue that binding foundations might temper, rather than exacerbate, certain areas of ideological conflict. That is, because binding foundations reflect preference for

<sup>1</sup>Yeshiva University, New York, NY, USA <sup>2</sup>University of Auckland, New Zealand <sup>3</sup>Colby College, Waterville, ME, USA <sup>4</sup>University of Pennsylvania, Philadelphia, USA

#### **Corresponding Author:**

Ariel Malka, Yeshiva University, 2495 Amsterdam Avenue, New York, NY 10033, USA.
Email: amalka@yu.edu

ingroup unity and consensus (Janoff-Bulman & Carnes, 2013; I. H. Smith, Aquino, Koleva, & Graham, 2014), binding foundations might attenuate the gap between fellow national citizens on the political right and left with respect to several political matters. This perspective stands in contrast with a key theme of traditional MFT research – specifically, that deep-seated moral differences underlie and inflame political tensions between the right and the left.

## The Structural Complexity of Political Ideology

We start with the view that research on the psychological origins of ideology ought to account for ideology's complex and multidimensional nature (Feldman & Johnston, 2014; Malka, Soto, Inzlicht, & Lelkes, 2014). For one thing, measures of substantive political attitudes should not be treated as interchangeable with measures of partisan identity (e.g., Green, Palmquist, & Schickler, 2002) or ideological identity (e.g., Ellis & Stimson, 2012). Rather, partisan and ideological identities are best viewed within the broad framework of politically relevant social identities that are linked with deeply felt affective orientations toward political symbols (Devine, 2015; Huddy, Mason, & Aaroe, 2015; Malka & Lelkes, 2010; Sears, 2001). Thus, the relations between substantive attitudes and political identities are best treated as a social process worthy of empirical investigation rather than a reflection of converging measurements of a single construct.

In addition to separating political identities from political attitudes, there is utility in distinguishing among substantive political attitudes themselves. Indeed, political attitudes are multidimensionally structured, and it is quite common to draw a distinction between socio-cultural attitudes (which include attitudes about traditional morality) and economic attitudes (e.g., Stimson, 2004; Treier & Hillygus, 2009). Critically, these distinct attitude domains (or different domains that roughly correspond with them) often have distinct psychological origins (Crowson, 2009; Duckitt & Sibley, 2009; Feldman & Johnston, 2014; Johnson & Tamney, 2001; Malka et al., 2014).

#### Moral Foundations and Domain-Specific Political Attitudes

If political attitudes are multidimensionally structured, and if distinct political attitude domains have distinct psychological origins, then binding foundations might predict conservative attitudes in some domains but not in others. Indeed, self-identified libertarians (who at least nominally identify with an economically right-wing but culturally left-wing worldview) tend to display low levels of binding foundations and related psychological characteristics (Graham et al., 2009; Iyer, Koleva, Graham, Ditto, & Haidt, 2012). Consistent with this finding, binding foundations tend to reliably predict social,

but not economic, forms of conservatism (Weber & Federico, 2013; see also Federico, Weber, Ergun, & Hunt, 2013). These relationships would appear to be driven to a great extent by a link between concern with purity and moral traditionalism. For example, Koleva, Graham, Iyer, Ditto, and Haidt (2012) found that the purity foundation (but no other moral foundation) strongly and independently predicted attitudes pertaining to traditional morality (e.g., abortion, homosexuality, and pornography).

Research focusing on disgust sensitivity suggests a similar pattern. Disgust, an unpleasant emotion experienced in reaction to potential sources of bodily contamination, is said to activate a set of psychological mechanisms that evolved to promote pathogen avoidance (e.g., Schaller, 2006). However, the consequences of these psychological mechanisms now seem to extend to social and attitudinal domains pertaining to conformity and intolerance of deviance (Fincher, Thornhill, Murray, & Schaller, 2008; Murray, Trudeau, & Schaller, 2011), and to provide an important basis for using purity as a standard for moral judgment (Feinberg, Antonenko, Willer, Horberg, & John, 2014; Horberg, Oveis, Keltner, & Cohen, 2009; cf. Landy & Goodwin, 2015). Thus, the purity foundation is linked with the experience of disgust, and, like binding foundations in general, disgust sensitivity seems to most reliably predict attitudes related to traditional morality (Crawford, Inbar, & Maloney, 2014; Hatemi & McDermott, 2012; Inbar, Pizarro, Knobe, & Bloom, 2009; K. B. Smith, Oxley, Hibbing, Alford, & Hibbing, 2011; Terrizzi, Shook, & McDaniel, 2013; see also Petrescu & Parkinson, 2014).

It therefore seems that binding foundations—especially purity—and the related construct of disgust sensitivity have an organic relationship with moral traditionalism. This makes sense, as moral traditionalism preserves the historic norms and modes of conduct of the social entity to which one belongs (e.g., Duckitt & Sibley, 2009; Feldman, 2003). Because many other contemporary political attitudes described as conservative do not seem to serve these functions as directly, binding foundations might not organically attract a person to them. However, this does not mean that binding foundations have no influence on such attitudes.

# Why Might Binding Foundations Attenuate Certain Ideological Differences?

Moral foundations theorists refer to the intercorrelated cluster of group loyalty, authority, and purity foundations as "binding" because people, events, and social structures that meet these moral standards often serve to "bind people into roles, duties, and mutual obligations" (Graham et al., 2011, p. 368), thereby promoting order, stability, and a sense of meaning derived through consensus and uniformity (e.g., Janoff-Bulman & Carnes, 2013). As described above, the prioritization of binding foundations might naturally favor

traditional morality, a worldview that can bind people on the basis of longstanding social norms and customs. However, we propose that binding moral foundations might exert a different type of political influence beyond this issue domain. In particular, binding foundations might motivate people to move toward a broader group consensus on issues outside the traditional morality domain.

In theory, binding foundations promote group cohesiveness. However, contemporary Westerners belong to many different kinds of groups and tend to juggle multiple group identities that become operative under different circumstances (e.g., Huddy, 2001; Sinclair, Hardin, & Lowery, 2006; Turner, 1991). One such identity is a national identity (e.g., Huddy & Khatib, 2007; Schatz, Staub, & Lavine, 1999), and cohesiveness of the national group may be promoted when citizens hold attitudes that are relatively similar (Janoff-Bulman & Carnes, 2013; Stenner, 2005). If a person with strong binding foundations is confronted with an attitude object that lacks inherent relevance to group cohesiveness, what will guide her judgment of where she stands? If the national group is salient for many people and if national cohesiveness is facilitated by uniformity in social attitudes, she might be motivated to move her attitudes away from her ideologically prescribed position and toward a centrist position. This would be based on a desire for cohesive uniformity within the national group. And this motivation for national cohesion might be accentuated by the tendency of those high in binding foundation-related characteristics (such as authoritarianism and disgust sensitivity) to display relatively high levels of nationalism (Navarrete & Fessler, 2006; Stenner, 2005).

To be sure, we would not expect binding foundations and disgust sensitivity to promote strong centrist movement away from ideologically prescribed positions on every issue for every person. A person's stance on a particular issue at a particular point in time will be influenced by ideological and partisan identities (e.g., Huddy et al., 2015; Malka & Lelkes, 2010), core values (e.g., Feldman, 1988), issue-specific sentiments (e.g., Krosnick, 1990; Skitka, Bauman, & Sargis, 2005), and considerations that happen to be momentarily accessible (e.g., Zaller & Feldman, 1992). Rather, we propose that binding foundations and disgust sensitivity will on average tilt individuals at both ends of the political identity spectrum toward moderation in their stances outside the traditional morality domain. This tilt away from ideologically prescribed positions will be observable when one averages across multiple political preferences outside the traditional morality domain.1

#### The Present Research

We report evidence from four samples: three large volunteer Internet samples of Americans (Study 1) and one large sample of New Zealanders recruited from the voter rolls and the website of a national newspaper (Study 2). Each sample completed an assessment of moral foundations or disgust sensitivity, right-wing versus left-wing political identity, and attitudes toward a range of political issues. We hypothesized that binding foundations and disgust sensitivity would predict traditional morality regardless of one's political identity, but that, on average across other political domains, these characteristics would temper differences between those identifying with the political right and those identifying with the political left.

#### Study I

#### Method

Participants and sample selection. Participants responded to an Internet-based personality survey from the non-commercial, advertisement-free website personalitylab.org between April 2011 and March 2014. Potential participants could reach this website in a number of ways, including search engines, links from other websites, and word of mouth. Visitors to personalitylab.org are presented with options to complete surveys in exchange for personality feedback. The data for Study 1 were based on responses to a survey titled "My Life Goals" in which participants initially completed a measure of personal goals before completing the study materials of interest. Some of the visitors who selected the My Life Goals survey were randomly directed to one of three survey versions relevant to the present study. Each of these surveys contained, in this order, the initial goals assessment, an assessment of moral foundations or disgust sensitivity, political attitude measures, and demographic questions.

The three survey versions differed only in the assessment of moral foundations or disgust sensitivity. One of the Study 1 samples (N=1,379) completed a "Moral Relevance" (MR) assessment of their moral foundations (see Graham et al., 2009, p. 1044). Participants in the second Study 1 sample (N=1,460) completed a "Taboo Trade-offs" (TTO) assessment of their moral foundations (see Graham et al., 2009, p. 1045). Finally, participants in the third Study 1 sample completed disgust sensitivity measures instead of a moral foundations assessment (N=1,606). Hereafter, we refer to these as the MR, TTO, and Disgust samples, respectively. Information about the demographic composition of these three samples is displayed in Table 1.

We screened for participants who were currently residing in the United States and who reported that they had never before completed the My Life Goals survey. As a further precaution against repeat responders, we excluded completions that were from an IP address from which one or more completions had already appeared (see Gosling, Vazire, Srivastava, & John, 2004). After completing the survey, participants received automatically generated, broadly worded feedback regarding their relative positions on various goal dimensions.

Table	ı.	Demographic	Composition	of Sample:
I able		Delliogi apriic	Composition	OI Salliple

	Study I—the United States moral relevance	Study I—the United States taboo trade-offs	Study I—the United States disgust	Study 2—New Zealand moral foundations	
% female	66.3	64.8	66.4	37.6	
Average age	26.5	26.4	25.5	50.1	
% college degree	32.5	30.9	27.9	NA	
% Asian/Pacific Islander	9.4	9.7	8.5	NA	
% Black	7.8	7.4	7.9	NA	
% Latino	6.0	7.7	7.2	NA	
% White	65.1	63.4	64.5	NA	
% Asian	NA	NA	NA	3.2	
% Māori	NA	NA	NA	2.9	
% Pacific Nations	NA	NA	NA	1.8	
% Pākehā/White	NA	NA	NA	76.7	
N	1,379	1,460	1,606	3,429	

Procedure and measures. Participants first responded to items assessing their personal goals, which constituted the basis of the personality feedback that they later received. Respondents then completed the measures relevant to the present research. All items from these measures are listed in the online appendix, and all measures were coded to range from 0.00 to 1.00.

Moral foundations. Participants in the MR sample rated the relevance of 23 distinct concerns to their moral judgments on a 1 ("never relevant") to 6 ("always relevant") scale (see Graham et al., 2009, Studies 1 and 2). Each concern fell into one of the five categories of moral intuition posited in MFT, and alpha reliabilities for these individual foundation subscales ranged from .72 (Fairness) to .84 (Purity). A binding foundations composite was computed by averaging the Ingroup, Authority, and Purity subscales (M= .63, SD= .18, correlations between the subscales ranged from .46 to .60, ps < .001), and an individualizing foundations composite was computed by averaging the Harm and Fairness subscales (M= .78, SD= .16, r= .58, p < .001).

Participants in the TTO sample rated how much money one would have to pay them to violate each of 26 potentially taboo social violations (see Graham et al., 2009, Study 3). Each violation was rated on an 8-point scale with response options ranging from "\$0 (I'd do it for free)" to "never for any amount of money." As with the moral relevance items, the violation items fell into five moral foundations categories (alphas ranged from .66 [purity] to .79 [ingroup]). A binding foundations composite was computed by averaging the Ingroup, Authority, and Purity subscales (M = .77, SD = .19, correlations between the subscales ranged from .59 to .74, p < .001) and an individualizing foundations composite was computed by averaging the Harm and Fairness subscales (M = .82, SD = .16, r = .62, p < .001).

Disgust sensitivity. Participants in the Disgust sample completed two measures of disgust sensitivity. The first was the eight-item Disgust Sensitivity Scale-Version 2 (DSS-V2), reported in Inbar, Pizarro, and Bloom (2009).

All items in this measure assess "core disgust," which deals specifically with disgust experience relevant to pathogens. Respondents first rated how true each of four statements was (e.g., "Seeing a cockroach in someone else's house does not bother me" [reverse-coded]), and then rated how disgusting they would find each of four experiences (e.g., "You see a bowel movement left unflushed in a public toilet"). All ratings were made on 4-point scales. After reverse scoring the appropriate items, items were averaged and the scale was recoded to range from 0.00 to 1.00  $(M = .55, SD = .20, \alpha = .72)$ .

Next, respondents completed 27 items from the Three-Domain Disgust Scale (3DDS; Tybur, Lieberman, & Griskevicius, 2009). For each item, respondents indicated how disgusting they would find a particular experience on a 0 ("not disgusting at all") to 6 ("extremely disgusting") scale. These items fall into three categories: pathogen disgust (e.g., "Accidentally touching someone's bloody cut"), sexual disgust ("Hearing two strangers having sex"), and moral disgust (e.g., "A student cheating to get good grades"). Items were selected from among the highest loading items on each of the three domain factors reported in Tybur et al. (2009, Table 1). Items were averaged, and the scale was recoded to range from 0.00 to 1.00 (M = .62, SD = .16,  $\alpha = .90$ ).

Conservative (vs. liberal) identity. We created a composite of right versus left political identification by averaging across indicators of the two most salient political identities in American politics: partisan identity and ideological identity. Respondents rated their partisan identification on a 1 ("strong Democrat") to 7 ("strong Republican") scale, and their ideological identification on a 1 ("extremely liberal") to 7 ("extremely conservative") scale. These strongly correlated items (MR: r = .64; TTO: r = .63; Disgust: r = .65; all ps < .001) were recoded to range from 0.00 to 1.00 and averaged (for each of the three samples, M = .44, SD = .22).

Table 2. Panel A: Study 1: Z	ero-Order Correlations for Moral Re	levance (Above Diagonal) and Tabo	o Trade-Off (Below Diagonal)
Samples.			

	Binding	Individualizing	Conservative identity	Traditional morality	General conservatism
Binding	_	.47***	.15***	.19***	.12***
Individualizing	.69***	_	16***	03	<b>−.27</b> ***
Conservative identity	.16***	04	_	.52***	.65***
Traditional morality	.26***	.04	.43***	_	.38***
General conservatism	.06*	18***	.63***	.27***	_

Panel B: Study 1: Zero-Order Correlations for Disgust Sample.

	DSS-V2	3DDS	Conservative identity	Traditional morality	General conservatism
DSS-V2	_	.50***	.01	.11*	06*
3DDS	_	_	.14***	.25***	.04
Conservative identity	_	_		.47***	.63***
Traditional morality	_	_	_	_	.32***

Note. Moral relevance sample N = 1,379, taboo trade-off sample N = 1,460, and disgust sample N = 1,606. DSS-V2 = Disgust Sensitivity Scale-Version 2; 3DDS = Three-Domain Disgust Scale.

Political attitudes. Respondents completed a series of political attitude items that comprised eight distinct political attitude subscales. Item wordings were in most cases adapted from the American National Election Studies (ANES) surveys. All items were recoded to range from 0.00 to 1.00, with higher scores signifying a conservative position.

The two composite political attitude measures used presently are a "Traditional Morality" measure and a "General Conservatism" measure, with the latter comprising attitudes outside the traditional morality domain. The Traditional Morality measure was formed by averaging attitudes toward abortion and same-sex marriage (MR: M = .27, SD = .31, r = .45, p < .001; TTO: M = .27, SD = .30, r = .42, p < .001; Disgust: M = .27, SD = .31, r = .44, p < .001). The General Conservatism composite was formed by averaging the seven remaining political attitude subscales: Economic, Foreign Policy, Punitiveness, Racial Policy, Immigration, Gun Control, and Global Warming (MR: M = .42, SD = .16,  $\alpha = .75$ ; TTO: M = .43, SD = .16,  $\alpha = .75$ ; Disgust: M = .44, SD = .16,  $\alpha = .74$ ). Descriptive statistics for the subscales are presented with item wordings in the online appendix.

*Political engagement.* As we describe below, knowing each respondent's degree of engagement with politics was necessary to rule out an alternative explanation for the hypothesized findings. Political Engagement was thus measured as a composite of four items, mostly adapted from ANES surveys, that assessed political interest and knowledge about politics. These items were coded to range from 0.00 to 1.00 and averaged (MR: M= .43, SD= .25,  $\alpha$ = .86; TTO: M= .43, SD= .25,  $\alpha$ = .85; Disgust: M= .42, SD= .25,  $\alpha$ = .85).

Control variables. Respondents reported their sex (female = 1, male = 0), age (recoded to range from 0 to 1), income (by selecting a bracket, recoded to range from 0 to 1), and highest level of education completed (0 = no high school degree, 2 = high school degree, 4 = associate's degree, 6 = bachelor's degree, 8 = master's degree or equivalent, and 1 = doctoral degree or equivalent). Respondents also reported their ethnicity, from which dummy-coded variables were formed for Asian, Latino, Black, and all other non-Whites (leaving White as the reference category).

#### Results

Zero-order correlations among the main variables are displayed in Table 2, with Panel A displaying correlations for the MR and TTO samples and Panel B displaying correlations for the Disgust sample.

To test our key hypothesis that people who strongly endorse binding foundations (or disgust sensitivity) would display less of an ideological polarization on issues outside the traditional morality domain, we conducted a series of regression analyses. These analyses were conducted separately for each of the three samples, and in each analysis, either traditional morality or general conservatism was the dependent variable. In Step 1 of these analyses, the given political attitude dependent variable was regressed (with predictors mean-centered) on either binding foundations (MR and TTO samples) or a disgust sensitivity measure (Disgust sample), as well as political identity and the demographic control variables. In Step 2 of these analyses, the Binding foundations/Disgust sensitivity × Political identity interaction term was added to the equation. The key results

<sup>\*</sup>p < .05. \*\*p < .01. \*\*\*p < .001.

Table 3. Study I Moral Foundations Samples: Interactive Effect of Binding Foundations and Political Identity on Political Attitudes.

	Traditional morality			General conservatism			
	В	SE	95% CI	В	SE	95% CI	
Main effects							
MR sample							
Binding	.177	.042	[.092, .255]	.044	.020	[.005, .084]	
Conservative identity	.703	.032	[.639, .764]	.453	.017	[.419, .484]	
TTO sample						-	
Binding	.299	.047	[.199, .385]	024	.020	[061, .017]	
Conservative identity	.568	.038	[.496, .642]	.468	.017	[.433, .500]	
Interaction effect							
MR sample							
Binding × Conservative identity	.478	.180	[.114, .817]	179	.087	[350,012	
TTO sample						-	
Binding × Conservative identity	.213	.222	[209, .662]	268	.087	[435,095]	
Simple effects of conservative identity						-	
MR sample							
High binding	.788	.044	[.700, .873]	.421	.024	[.369, .467]	
Low binding	.615	.048	[.516, .704]	.486	.021	[.444, .525]	
TTO sample							
High binding	.609	.059	[.492, .723]	.417	.023	[.372, .463]	
Low binding	.530	.052	[.422, .628]	.517	.024	[.468, .561]	
Simple effects of binding							
MR sample							
Conservative	.296	.068	[.160, .426]	.000	.028	[056, .054]	
Liberal	.082	.048	[011, .177]	.080	.027	[.027, .134]	
TTO sample			•				
Conservative	.349	.071	[.210, .483]	087	.030	[147,028]	
Liberal	.256	.066	[.115, .374]	.030	.025	[020, .079]	

Note. Main effects are from models including the binding foundations, political identity, and demographic control variables (sex, age, education, household income, Black, Asian, Latino, other non-white ethnicity). Interaction and simple effects are from the same model with the addition of the Binding foundations × Political identity interaction term. Standard errors and confidence intervals were computed using a bias-corrected and accelerated bootstrapping procedure (with 5,000 resamples). B = unstandardized regression coefficient; CI = confidence interval; MR = moral relevance; TTO = taboo trade-off.

of these analyses are displayed in Tables 3 (MR and TTO samples) and 4 (Disgust sample). We report standardized regression coefficients and their confidence intervals (CIs) in the text, and unstandardized regression coefficients and their standard errors and CIs in the tables. All standard errors and CIs were computed using a bias-corrected and accelerated bootstrapping procedure with 5,000 resamples.

Binding foundations. Binding foundations significantly predicted traditional morality in both the MR ( $\beta$  = .105, 95% CI = [.056, .151]) and TTO ( $\beta$  = .183, 95% CI = [.122, .232]) samples; they also had a smaller main effect on general conservatism in the MR sample ( $\beta$  = .049, 95% CI = [.004, .091]), but not in the TTO sample ( $\beta$  = -.027, 95% CI = [-.072, .015]). Meanwhile, (conservative) political identity was the strongest predictor of both traditional morality (MR:  $\beta$  = .514, 95% CI = [.471, .553]; TTO:  $\beta$  = .409, 95% CI = [.357, .458]) and general conservatism (MR:  $\beta$  = .615, 95% CI = [.574, .654]; TTO:  $\beta$  = .620, 95% CI = [.579, .658]).

The key hypothesis that binding foundations would be linked with a narrowing of ideological conflict outside the traditional morality domain was supported. Specifically, the Binding foundations × Conservative identity interaction negatively predicted general conservatism in both the MR  $(\beta = -.044, 95\% \text{ CI} = [-.087, -.002])$  and TTO  $(\beta = -.066,$ 95% CI = [-.106, -.022]) samples. Among people high in binding foundations (+1 SD), the effect of conservative identity on general conservatism was weaker (MR:  $\beta$  =  $.572, 95\% \text{ CI} = [.511, .632], \text{ TTO: } \beta = .552, 95\% \text{ CI} = [.492, .572, .572]$ .610]) than it was among people low in binding foundations  $(-1 SD; MR: \beta = .660, 95\% CI = [.607, .710]; TTO: \beta =$ .684, 95% CI = [.624, .737]). Within the MR sample, those with a relatively conservative identity (+1 SD) displayed no relationship between binding foundations and general conservatism ( $\beta = .000, 95\%$  CI = [-.062, .062]), whereas those with a relatively liberal identity (-1 SD) displayed a positive relationship ( $\beta = .088, 95\% \text{ CI} = [.030, .147]$ ). Within the TTO sample, those with a relatively conservative identity displayed a negative relationship ( $\beta = -.098, 95\%$ 

Table 4. Study I: Disgust Sensitivity Sample: Interactive Effect of Binding Foundations and Political Identity on Political Attitudes.

	Traditional morality			General conservatism			
	В	SE	95% CI	В	SE	95% CI	
Main effects							
DSS-V2 model							
Disgust	.142	.039	[.066, .220]	021	.018	[056, .016]	
Conservative identity	.640	.033	[.571, .703]	.433	.018	[.398, .466]	
3DDS model							
Disgust	.387	.051	[.286, .486]	012	.026	[059, .043]	
Conservative identity	.594	.033	[.528, .655]	.433	.019	[.396, .469]	
Interaction effect			-			-	
DSS-V2 model							
Disgust × Conservative identity	092	.163	[404, .228]	425	.081	[587,270]	
3DDS model							
Disgust × Conservative identity	.432	.251	[070, .940]	391	.129	[634,122]	
Simple effects of conservative identity							
DSS-V2 model							
High disgust	.622	.046	[.527, .711]	.350	.025	[.297, .397]	
Low disgust	.658	.047	[.565, .748]	.519	.023	[.475, .563]	
3DDS model							
High disgust	.658	.054	[.552, .761]	.376	.027	[.318, .423]	
Low disgust	.518	.050	[.418, .613]	.502	.029	[.437, .553]	
Simple effects of disgust sensitivity							
DSS-V2 model							
Conservative	.122	.059	[.006, .237]	114	.026	[165,064]	
Liberal	.163	.045	[.073, .251]	.074	.025	[.028, .126]	
3DDS model							
Conservative	.480	.077	[.331, .641]	096	.039	[163,009]	
Liberal	.288	.073	[.137, .424]	.078	.038	[.012, .167]	

Note. Main effects are from models including disgust sensitivity, political identity, and demographic control variables (sex, age, education, household income, Black, Asian, Latino, other non-white ethnicity). Interaction and simple effects are from the same model with the addition of the Disgust sensitivity × Political identity interaction term. Standard errors and confidence intervals were computed using a bias-corrected and accelerated bootstrapping procedure (with 5,000 resamples). B = unstandardized regression coefficient; CI = confidence interval; DSS-V2 = Disgust Sensitivity Scale—Version 2; 3DDS = Three-Domain Disgust Scale.

CI = [-.162, -.032]), whereas those with a relatively liberal identity displayed a non-significant positive relationship ( $\beta = .034, 95\%$  CI = [-.020, .089]). Within both samples, liberals and conservatives were closer to each other on general conservatism to the degree that they were high (vs. low) in binding foundations. These interaction effects are plotted in Panels A (MR) and B (TTO) of Figure 1.

Did binding foundations also attenuate the relationship between conservative identity and traditional morality? No. In fact, within the MR sample, binding foundations were associated with a more positive effect of conservative identity on traditional morality ( $\beta = .063, 95\%$  CI = [.015, .109]), although this effect was not significant in the TTO sample ( $\beta = .028, 95\%$  CI = [-.029, .088]).

Did individualizing foundations also attenuate the relationship between conservative identity and general conservatism? No. The above analyses were repeated with individualizing foundations substituted for binding foundations, and individualizing foundations did not significantly

moderate the effect of political identity on general conservatism in either the MR sample ( $\beta = -.020$ , 95% CI = [-.061, .022]) or the TTO sample ( $\beta = -.028$ , 95% CI = [-.071, .019]).

Finally, we tested whether the key interaction effect was attributable to overlap between binding foundations and political engagement. Prior research indicates that high political engagement is typically associated with stronger positive relationships between political identities and political attitudes (e.g., Federico & Schneider, 2007; Jennings, 1992). Thus, it is possible that low levels of binding foundations were associated with stronger congruence between identity and issue stances simply because low levels of binding foundations are associated with high political engagement. This was not the case, however. Binding foundations were at most slightly negatively correlated with political engagement MR: r = -.02, ns; TTO: r = -.07, p < .01). When political engagement and the Political engagement × Conservative identity interaction were added to the equation, the interaction term significantly predicted general conservatism (MR:  $\beta = .166$ ,

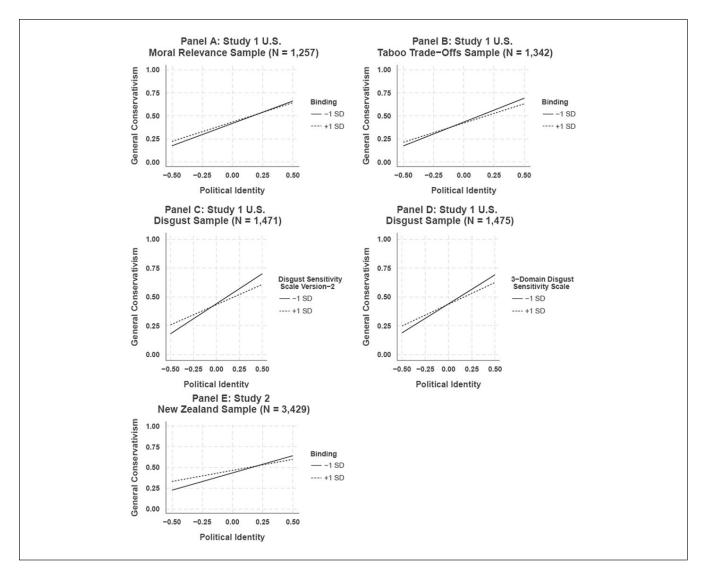


Figure 1. Binding foundations, disgust sensitivity, and the link between conservative political identity and issue-based general conservatism.

95% CI = [.126, .204]; TTO:  $\beta$  = .135, 95% CI = [.092, .175]), but the Binding foundations × Political identity interaction remained a significant (negative) predictor as well (MR:  $\beta$  = -.044, 95% CI = [-.086, -.005]; TTO:  $\beta$  = -.061, 95% CI = [-.101, -.019]).

Disgust sensitivity. Both disgust sensitivity measures significantly predicted traditional morality (DSS-V2 model:  $\beta$  = .092, 95% CI = [.044, .142]; 3DDS model:  $\beta$  = .205, 95% CI = [.150, .253]). In contrast, neither disgust sensitivity measure significantly predicted general conservatism (DSS-V2 model:  $\beta$  = -.026, 95% CI = [-.069, .019]; 3DDS model:  $\beta$  = -.012, 95% CI = [-.059, .041]; cf. Crawford et al., 2014; Terrizzi et al., 2013). Conservative identity was again the strongest predictor of both traditional morality (DSS-V2 model:  $\beta$  = .462, 95% CI = [.414, .506]; 3DDS model:  $\beta$  = .428, 95% CI = [.382, .470]) and general

conservatism (DSS-V2 model:  $\beta$  = .591, 95% CI = [.543, .629]; 3DDS model:  $\beta$  = .591, 95% CI = [.542, .632]).

As predicted, those high in disgust sensitivity displayed less of an ideological polarization on issues outside the traditional morality domain. The Disgust sensitivity  $\times$  Conservative identity interaction was a significant negative predictor of general conservatism in both models (DSS-V2 model:  $\beta = -.115$ , 95% CI = [-.158, -.073]; 3DDS model:  $\beta = -.086$ , 95% CI = [-.140, -.032]). The simple effect of political identity was weaker among those high in disgust sensitivity (DSS-V2 model:  $\beta = .477$ , 95% CI = [.408, .536]; 3DDS model:  $\beta = .512$ , 95% CI = [.429, .577]) than it was among those low in disgust sensitivity (DSS-V2 model:  $\beta = .685$ , 95% CI = [.603, .748]). Among participants with a relatively conservative identity, disgust sensitivity negatively predicted general conservatism (DSS-V2

model:  $\beta$  = -.140, 95% CI = [-.202, -.078]; 3DDS model:  $\beta$  = -.095, 95% CI = [-.163, -.014]), whereas disgust sensitivity positively predicted general conservatism among those with a relatively liberal identity (DSS-V2 model:  $\beta$  = .091, 95% CI = [.035, .158]; 3DDS model:  $\beta$  = .077, 95% CI = [.013, .159]). These interaction effects are plotted in Panels C and D of Figure 1.

Disgust sensitivity did not significantly moderate the relationship between conservative identity and traditional morality (DSS-V2 model:  $\beta = -.013$ , 95% CI = [-.058, .033]; 3DDS model:  $\beta = .050$ , 95% CI = [-.006, .108]). Moreover, when the Conservative identity × Political engagement interaction term was added to the equation predicting general conservatism, it had significant positive effects (DSS-V2 model:  $\beta = .182$ , 95% CI = [.146, .223]; 3DDS model:  $\beta = .189$ , 95% CI = [.150, .232]), but the effects of the Disgust sensitivity × Conservative identity interaction remained significantly negative (DSS-V2 model:  $\beta = -.107$ , 95% CI = [-.146, -.071]; 3DDS model:  $\beta = -.091$ , 95% = [-.138, -.045]).

#### Discussion

Study 1 tested the hypothesis that differences between those identifying with the right and left on political matters outside the traditional morality domain would be less pronounced among those who endorse binding moral foundations or who are high in disgust sensitivity. This hypothesis was supported, as the association between political orientation and general conservatism was weakened to the extent that the person held binding moral foundations or was high in disgust sensitivity. In contrast, binding foundations and disgust sensitivity had relatively strong main effects on traditional morality and did not attenuate ideological polarization in this domain. These findings held across two separate binding foundations measures administered to two different samples as well as two separate disgust sensitivity measures administered to a third sample.

Although these findings are encouraging, Study 1 had some important limitations. First, the findings should theoretically generalize to populations beyond the United States, but Study 1 exclusively sampled Americans. Second, Study 1 used samples of Internet respondents seeking personality feedback who might differ systematically from people who do not make their way to online personality surveys (but see Gosling et al., 2004). Third, the measure of traditional morality used in Study 1 focused exclusively on sexual morality policy preferences and did not directly assess a valuing of conventionalism and enforced conformity that often underlies moral traditionalism (e.g., Duckitt & Sibley, 2009; Feldman, 2003). Study 2 addressed these limitations.

#### Study 2

Study 2 was conducted with a large national sample of New Zealanders. Thus, we were able to address potential concerns

over the nature of the Internet sample used in Study 1, as well as the cross-cultural generalizability of the Study 1 results. Furthermore, in addition to assessing traditional morality with sexual morality-based policy preferences, Study 2 involved an assessment of an ideological orientation toward conventionalism and enforced conformity, namely, rightwing authoritarianism (RWA; Altemeyer, 1988).

#### Method

Participants and sample selection. The data for Study 2 come from two waves of the New Zealand Attitudes and Values Study (NZAVS): the Time 3 (2011) and Time 3.5 (2012) waves. The usable sample for Study 2 (N = 3,429) consisted of respondents recruited from the voter rolls and an online newspaper advertisement who completed the relevant items from both of these waves. More information about this sample can be found in the online appendix, and this sample's demographic characteristics are summarized in the fourth column of Table 1.<sup>3</sup>

*Measures.* All items used in Study 2 are listed in the online appendix, and all measures were coded to range from 0.00 to 1.00.

Moral foundations. Binding and individualizing moral foundations were assessed with the 30-item Moral Foundations Questionnaire (Graham et al., 2011), which was administered in the Time 3.5 assessment. For each moral foundations subscale, three items were rated with an agreedisagree format (1 = "strongly disagree," 7 = "strongly agree"), and three items were rated for their relevance to moral judgments (1 = "not at all relevant," 7 = "extremely relevant"). Alpha reliabilities ranged from .61 (Fairness) to .84 (Purity). The binding foundations composite was computed by averaging the Ingroup, Authority, and Purity subscales (M = .54, SD = .16, inter-subscale correlations ranged from .56 to .67, ps < .001), and the individualizing composite was computed by averaging the Harm and Fairness subscales (M = .73, SD = .12, r = .55, p < .001).

Conservative (vs. liberal) identity. Political identification with the right versus left was measured as a composite of two items from the Time 3 assessment. For one of these items, respondents rated their ideology on a 1 ("extremely liberal") to 7 ("extremely conservative") scale. For the other, respondents rated their ideology on a 1 ("extremely left-wing") to 7 ("extremely right-wing") scale. These items were recoded to range from 0.00 to 1.00 and averaged (M = .45, SD = .21, r = .63, p < .001).

Political attitudes. In the Time 3 assessment, respondents completed a series of political attitude items from which seven Political Attitude subscales were computed. All items were recoded to range from 0.00 to 1.00, with higher scores signifying a conservative position. Once again, our main

Table 5. Study 2: Zero-Order Correlations.

	Binding	Individualizing	Conservative identity	Traditional morality	Right-wing authoritarianism	General conservatism
Binding	_	.32***	.49***	.53***	.65***	.35***
Individualizing	_	_	12***	.01	.07***	22***
Conservative identity	_	_	_	.43***	.51***	.54***
Traditional morality	_	_	_	_	.63****	.33***
Right-wing authoritarianism	_	_	_	_	_	.32***

Note. N = 3,429.

Table 6. Study 2: Interactive Effect of Binding Foundations and Political Identity on Political Attitudes.

	Traditional morality			Righ	Right-wing authoritarianism			General conservatism		
	В	SE	95% CI	В	SE	95% CI	В	SE	95% CI	
Main effects										
Binding	.634	.028	[.579, .688]	.610	.018	[.574, .646]	.105	.017	[.071, .138]	
Conservative identity	.279	.023	[.235, .324]	.254	.014	[.226, .282]	.346	.013	[.320, .371]	
Interaction effect						_			_	
Binding × Conservative identity	.423	.112	[.187, .635]	.285	.067	[.147, .413]	455	.061	[576,337]	
Simple effects of conservative ident	ity									
High binding	.352	.033	[.284, .415]	.304	.020	[.265, .341]	.267	.017	[.233, .300]	
Low binding	.213	.024	[.165, .261]	.210	.016	[.179, .243]	.416	.016	[.385, .448]	
Simple effects of binding										
Conservative	.733	.040	[.654, .809]	.676	.025	[.627, .725]	00 I	.022	[046, .041]	
Liberal	.559	.033	[.498, .628]	.560	.021	[.519, .601]	.185	.020	[.148, .226]	

Note. Main effects are from models including binding foundations, political identity, and demographic control variables (sex, age, log household income, Māori, Asian, Pacific nations, or other non-white/Pākehā ethnicity). Interaction and simple effects are from the same model with the addition of the Binding foundations × Political identity interaction term. Standard errors and confidence intervals were computed using a bias-corrected and accelerated bootstrapping procedure (with 5,000 resamples). B = unstandardized regression coefficient; CI = confidence interval.

interest was in distinguishing traditional morality from a conservatism that excludes this content.

One measure of traditional morality was a policy-based measure focused on sexual morality, similar to that of Study 1. This measure was computed by averaging attitudes toward abortion and civil unions (M = .39, SD = .27, r = .51, p < .001), and we refer to it as moral traditionalism. The second measure was an RWA scale that was formed as a composite of six items selected from Altemeyer's (1996) 30-item scale (M = .34, SD = .19,  $\alpha = .75$ ). The content of this measure reflects an ideological orientation toward conventionalism and preference for enforced conformity.

General Conservatism was formed as a composite of the remaining five political attitude subscales: Social Dominance Orientation (Sidanius & Pratto, 1999), Flat Tax, Māori Policy, Immigration, and Social Incentives in the economy (M = .44, SD = .15,  $\alpha = .59$ ). Descriptive statistics for these subscales are presented with item wordings in the online appendix.

*Political engagement.* Political Engagement was measured as a composite of seven political knowledge items administered in the Time 3.5 assessment. They were coded 1 for correct and 0 for incorrect, and averaged (M = .66, SD = .20,  $\alpha = .54$ ).

Control variables. Respondents reported their sex (female = 1, male = 0) and age (recoded to range from 0 to 1). Respondents also reported their ethnicity, from which dummy-coded variables were formed for Asian, Pacific Islander, Māori, and Other non-Pākehā/White, with Pākehā/White as the reference category. Finally, respondents reported their household income in New Zealand dollars, which was log transformed and recoded to range from 0.00 to 1.00.

#### Results

Zero-order correlations among the main variables are displayed in Table 5.

To test our main hypotheses, we conducted a series of regression analyses in which the dependent variable was traditional morality, RWA, or general conservatism. The procedures for conducting and reporting these analyses paralleled those of Study 1, with standardized regression coefficients and their CIs reported in the text and with unstandardized regression coefficients, their standard errors, and CIs reported in Table 6.

Binding foundations strongly predicted traditional morality ( $\beta$  = .387, 95% CI = [.355, .418]) and RWA ( $\beta$  = .526,

p < .05. p < .01. p < .001.

95% CI = [.497, .552]), and had a smaller main effect on general conservatism ( $\beta$  = .113, 95% CI = [.077, .148]). Conservative identity also positively predicted traditional morality ( $\beta$  = .212, 95% CI = [.180, .244]), RWA ( $\beta$  = .273, 95% CI = [.244, .302]), and general conservatism ( $\beta$  = .464, 95% CI = [.433, .496]).

As in Study 1, the hypothesis that binding foundations would attenuate ideological differences in general conservatism was supported. The Binding foundations × Political identity interaction was a significant negative predictor of general conservatism ( $\beta = -.100$ , 95% CI = [-.127, -.074]). Simple slope analyses indicated that the effect of conservative identity on general conservatism was weaker among those high in binding foundations ( $\beta = .358, 95\%$  CI = [.313, .401]) than it was among those low in binding foundations ( $\beta = .559, 95\%$ CI = [.518, .595]). Among those self-identifying as relatively conservative, binding foundations were unrelated to general conservatism ( $\beta = -.001$ , 95% CI = [-.046, .047]), whereas among those self-identifying as relatively liberal, binding foundations were a positive predictor of general conservatism  $(\beta = .200, 95\% \text{ CI} = [.157, .241])$ . This interaction is plotted in Figure 1, Panel E.

Binding foundations did not similarly attenuate ideological differences in traditional morality or RWA. In fact, the Binding foundations × Conservative identity interaction was a positive predictor of both traditional morality ( $\beta$  = .053, 95% CI = [.025, .077]) and RWA ( $\beta$  = .050, 95% CI = [.027, .074]). Furthermore, whereas binding foundations negatively moderated the effect of conservative identity on general conservatism, individualizing foundations did not ( $\beta$  = .016, 95% CI = [-.013, .046]).

Finally, binding foundations were negatively correlated with political engagement (r = -.12, p < .001), raising the possibility that low levels of binding foundations were associated with a stronger relationship between conservative identity and general conservatism merely because those low in binding foundations are more politically engaged. This was not the case, however. Although adding political engagement and the Political engagement  $\times$  Conservative identity interaction term as predictors of general conservatism resulted in a significant positive effect for that interaction term ( $\beta = .052$ , 95% CI = [.024, 081]), the negative effect of Binding foundations  $\times$  Conservative identity remained significant ( $\beta = -.096$ , 95% CI = [-.121, -.070]).

#### Discussion

Study 2 replicated the key finding of Study 1 that binding foundations are associated with a tempering of ideological division on political matters outside the domain of traditional morality. It did so within a different national context using a sample recruited in a different way. Furthermore, two distinct measures dealing with traditional morality were used in this study and yielded similar results, thereby providing further support that the depolarization associated with binding foundations is restricted to areas that are

outside the realm of traditional morality. Finally, as with the MR sample (but not the TTO sample) of Study 1, binding foundations accentuated ideological differences within the domain of traditional morality.

#### **General Discussion**

Although MFT is commonly used to explain differences between "conservatives" and "liberals," it has been acknowledged that binding foundations primarily explain differences between the right and the left on matters having to do with traditional morality (e.g., Graham et al., 2009; Koleva et al., 2012; Weber & Federico, 2013). Similarly, the related trait of disgust sensitivity seems to primarily explain right-left differences on matters of traditional morality (e.g., Crawford et al., 2014; Inbar, Pizarro, & Bloom, 2012; Inbar, Pizarro, & Bloom, 2009; K. B. Smith et al., 2011; Terrizzi et al., 2013). This is consistent with the view that binding foundations and the related trait of disgust sensitivity promote a set of ideological attitudes that maintain traditional and conventional modes of conduct that have historically served to fuse individuals into social groups (Janoff-Bulman & Carnes, 2013; Schaller, 2006).

In this research, we report evidence from four large samples that binding foundations might also facilitate another sort of socially binding function. In three separate samples, two from the United States and one from New Zealand, those high in binding foundations displayed less ideological polarization on political matters outside the traditional morality domain. Specifically, those identifying with the political right and political left were closer to one another in their average issue stance across a range of matters outside the traditional morality domain to the extent that they held binding foundations. In another American sample, disgust sensitivity was associated with the same depolarization. Meanwhile, individualizing foundations were not associated with an attenuation of ideological differences on these political matters. Thus, it would appear that the narrowing of ideological conflict outside the traditional morality domain is specific to binding foundations, disgust sensitivity, and perhaps other related traits.

### Consistency With Both MFT and Critical Perspectives

Recently, a variety of criticisms of MFT have been offered that might—at first glance—seem to have implications for our underlying theory and findings. However, as we explain in this section, our hypotheses and findings concerning binding foundations are consistent with these critical perspectives, as well as with the basic tenets of MFT.

First, Janoff-Bulman and Carnes (2013) have argued that it is inappropriate to regard binding foundations as the sole categories of moral intuition that are relevant to group-based morality. Consistent with MFT, they view morality as a system of rules for coordinating group living and argue that

"Loyalty, Authority, and Purity reflect concerns with order and solidarity" (p. 5). However, they note that so-called individualizing foundations may also concern collective (as opposed to individual or interpersonal) morality. Specifically, they argue that there are two kinds of collective morality: one associated with harm and fairness ("social justice") and one having to do with the binding foundations ("social order"). In their words,

A morality based on Social Justice recognizes the importance of a superordinate category (e.g., American), but acknowledges and accepts the existence of societal subgroups . . . In contrast, those who emphasize Social Order value greater identity-based homogeneity, which binds communities via conformity and uniformity. A morality based on Social Order places considerable emphasis on homogeneity of group members, reflecting social identity-based considerations for legitimate group membership; a single defining category for all (e.g., American) is optimal.

Thus, although individualizing foundations may constitute a form of group-based morality, this morality does not pertain to concerns with achieving collective order through uniformity. Such concerns are only characteristic of binding foundations. In light of this critique, it is worth clarifying that it is not the "group morality" aspect of binding foundations that will motivate an ideological depolarization; rather, it is the concern with social order inherent in binding foundations that does so.

Second, Gray, Young, and Waytz (2012) have offered a parsimonious account of the nature of morality in which they argue that moral transgressions may be distilled to perception of a moral agent and a suffering moral patient. They also acknowledge that "moral judgment extends beyond justice to include concerns for one's group, one's relationships, and even one's God" (p. 102), but argue that such concerns still "may be unified by an underlying psychological essence" (p. 102) characterized by one entity doing harm to another.

At first glance, concerns with ingroup loyalty, authority, and purity might seem irrelevant to the perception of one entity inflicting harm on another. However, Gray and colleagues (2012) argue that violations pertaining to binding foundations are in fact experienced as harmful—for example, by destabilizing the social structures that promote safety or by invoking the wrath of a deity. We do not presently take a position on whether perceived violations of binding foundations are, in their essence, reducible to perception that harm has been inflicted. However, if these violations are reducible to harm perception, this perceived harm would often pertain to matters of social disorder and destabilization. Thus, we would still expect binding foundations to, on average, promote centrist movement away from ideologically prescribed positions across many political issues.

# Binding Foundations, Political Identities, and Competing Considerations

We found that binding foundations and disgust sensitivity were associated with a reduced relationship between political identity and one's average non-traditional morality-based issue preferences. However, even among those high in binding foundations and disgust sensitivity, political identity played a dominant role in structuring political attitudes. We propose that the concerns with uniformity and social order characteristic of binding foundations and disgust sensitivity make people more likely to entertain considerations that temper ideologically prescribed positions outside the traditional morality domain, and thus constitute a force compelling movement toward the ideological center on certain issues. This process can be understood in terms of the influential theory of survey response posited by Zaller and Feldman (1992; Zaller, 1992).

Politics can be complicated, and political judgments often involve trade-offs. For example, a person might hold the belief not only that social welfare programs can encourage laziness and freeloading, but also that these programs reduce suffering among those who are genuinely trying, but failing, to take care of their families. According to Zaller and Feldman (1992), people will often possess a conflicting store of "considerations" about political matters in long-term memory. When they are asked to report a political opinion, they will do so on the basis of the considerations that they are able to access at the particular moment. In general, the probabilities of reporting a left-wing or right-wing view at any moment are based on the proportions of considerations about the issue that are left-wing and right-wing, respectively, within the person's long-term memory.

We believe that this framework can help explain why binding foundations and disgust sensitivity could lead to ideological depolarization outside the traditional morality domain. For a person who identifies with the political right or the political left, considerations that are consistent with that identification will predominate for many political issues (Malka & Lelkes, 2010). However, what if this person strongly endorses the binding foundations that are rooted in concerns for social order and uniformity? Likewise, what if the person is especially prone to disgust—an emotion that is also tied to concern with collective uniformity (e.g., Schaller, 2006)? We propose that such dispositions will promote adoption of considerations favoring a centrist position on these political matters. Specifically, considerations regarding the benefits of national uniformity and consensus will favor a centrist tilt away from ideologically polarized positions; they will constitute an ideologically tempering force. These considerations will, however, usually not be enough to overcome the ideological considerations—and thus, we should see considerable ideological polarization on these matters even among people high in binding foundations. However, across

a range of issues that do not inherently relate to traditional morality, this perspective would predict a greater presence of "centrist" considerations overall. The present findings may be interpreted within this perspective.

#### **Limitations and Future Directions**

The present studies are limited in some key respects. Foremost among these is the fact that these data are correlational; we therefore cannot identify the causal mechanisms underlying the present findings. We hypothesize that binding foundations and disgust sensitivity lead people to adopt centrist considerations regarding political matters outside the traditional morality domain to satisfy needs for cohesive uniformity. However, these dispositions may simply correlate with other characteristics which causally affect depolarization. Alternatively, being somewhat flexible regarding ideologically prescribed positions might lead people (or correlate with characteristics that lead people) to endorse binding foundations or to be sensitive to disgust. Longitudinal and experimental designs (especially ones measuring perceptions and preferences regarding national cohesion) will be useful for identifying mechanisms of causal influence.

Second, it should be noted that the present findings might not generalize beyond the types of highly developed and democratic nations sampled in the current studies. Both political attitude structure and the way dispositions map onto political attitudes vary across national contexts (e.g., Benoit & Laver, 2006; Malka et al., 2014; Thorisdottir, Jost, Liviatan, & Shrout, 2007). Moreover, various types of group memberships (e.g., ethnic, religious, linguistic, partisan, and national) are tied to political viewpoints in differing ways across national contexts. Thus, it is possible that binding foundations and disgust sensitivity do not simply promote movement from ideological group norms to national group norms within all national contexts. Survey evidence from a wider range of nations will be necessary to address this matter.

#### **Conclusion**

The present findings contribute to a growing recognition that dispositional effects on political attitudes do not take the form of broad-based influences on a right versus left dimension (Duckitt & Sibley, 2009; Feldman & Johnston, 2014; Malka et al., 2014). Not only do pre-political dispositions tend to differentially affect distinct attitude domains, they also may differentially affect attitudes as a function of one's self-identification with the left or the right (Federico, Deason, & Fisher, 2012), with the potential to temper—even if only to a small extent—ideologically based conflict. With respect to MFT, the present findings underscore the utility of considering the multiple group memberships and identities (e.g., ideological, national) that might determine which social groups one seeks to unify as a result of binding foundations. With respect to practical concerns about political polarization,

these findings raise the possibility that certain types of influences that promote the motivation to socially unify have the potential to temper polarization (see also Tuller, Bryan, Heyman, & Christenfeld, 2015). However, one should proceed cautiously with that line of thinking; in a politically polarized environment, motivation for unity can backfire as it might more readily promote unification with fellow partisans than with one's entire nation.

#### **Declaration of Conflicting Interests**

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

#### **Funding**

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Collection of the New Zealand Attitudes and Values Study (NZAVS) data analyzed here was supported by a Templeton World Charity Foundation Grant (#0077).

#### Supplemental Material

The online supplemental material is available at http://pspb.sagepub.com/supplemental.

#### **Notes**

- 1. Recently published experiments have examined how framing specific issue stances (e.g., pro-environmental stances, support of military spending) in terms of individualizing or binding foundations affects policy preferences among self-identified conservatives and liberals (Day, Fiske, Downing, & Trail, 2014; Feinberg & Willer, 2013, 2015). Some findings from these studies are consistent with a depolarizing influence of binding foundations, whereas others are not. However, it is important to note that these studies explored effects of framing directional political issue stances on the basis of moral foundations rather than effects of the general salience of moral foundations. According to the present theorizing, binding foundations will promote consideration of consensus and uniformity that will compete with directional issue considerations and thus temper the latter influence. The experiments referenced here, however, explored the important matter of how being induced to focus particular moral standards on specific issue positions affects one's issue positions. They, therefore, have limited relevance to the present theorizing.
- 2. There is evidence that characteristics pertaining to disease avoidance are related to ethnocentric attitudes (Faulkner, Schaller, Park, & Duncan, 2004; Navarrete & Fessler, 2006), suggesting that disgust sensitivity might predict opposition to immigration. However, evidence regarding the relation between disgust sensitivity and opposition to immigration has been mixed (Faulkner et al., 2004; Inbar, Pizarro, & Bloom, 2009; K. B. Smith, Oxley, Hibbing, Alford, & Hibbing, 2011; Terrizzi, Shook, & McDaniel, 2013). In this study, Disgust Sensitivity Scale–Version 2 (DSS-V2; r = .04, p = .088) and Three-Domain Disgust Scale (3DDS; r = .07, p < .001) displayed small positive correlations with opposition to immigration.</p>

- 3. Educational attainment was not assessed for a large proportion of the present sample, and thus is not included in Table 1 and is not used as a demographic control variable.
- 4. Māori are the indigenous peoples of New Zealand. Historically, they have been subjected to oppressive treatment, including discrimination and fraudulent land acquisitions, and they display higher rates of adverse health and social outcomes relative to members of the European-descended majority ("Pākehā"). Nevertheless, Māori customs and culture are regarded with pride as a valuable part of New Zealand's national heritage among sizable segments of the Pākehā population (for a review of intergroup relations in New Zealand, see Sibley & Osborne, 2016).

#### References

- Altemeyer, B. (1988). Enemies of freedom: Understanding right-wing authoritarianism. San Francisco, CA: Jossey-Bass.
- Altemeyer, B. (1996). *The authoritarian specter*. Cambridge, MA: Harvard University Press.
- Benoit, K., & Laver, M. (2006). *Party policy in modern democracies*. London, England: Routledge.
- Crawford, J. T., Inbar, Y., & Maloney, V. (2014). Disgust sensitivity selectively predicts attitudes toward groups that threaten (or uphold) traditional sexual morality. *Personality and Individual Differences*, 70, 218-223.
- Crowson, H. M. (2009). Are all conservatives alike? A study of the psychological correlates of cultural and economic conservatism. *The Journal of Psychology*, 143, 449-463.
- Day, M. V., Fiske, S. T., Downing, E. L., & Trail, T. E. (2014). Shifting liberal and conservative attitudes using moral foundations theory. *Personality and Social Psychology Bulletin*, 40, 1559-1573.
- Devine, C. J. (2015). Ideological social identity: Psychological attachment to ideological in-groups as a political phenomenon and a behavioral influence. *Political Behavior*, *37*, 509-535.
- Duckitt, J., & Sibley, C. G. (2009). A dual-process motivational model of ideology, politics, and prejudice. *Psychological Inquiry*, 20, 98-109.
- Ellis, C., & Stimson, J. A. (2012). *Ideology in America*. Cambridge, UK: Cambridge University Press.
- Faulkner, J., Schaller, M., Park, J. H., & Duncan, L. A. (2004). Evolved disease-avoidance mechanisms and contemporary xenophobic attitudes. *Group Processes & Intergroup Relations*, 7, 333-353.
- Federico, C. M., Deason, G., & Fisher, E. L. (2012). Ideological asymmetry in the relationship between epistemic motivation and political attitudes. *Journal of Personality and Social Psychology*, 103, 381-398.
- Federico, C. M., & Schneider, M. C. (2007). Political expertise and the use of ideology: Moderating effects of evaluative motivation. *Public Opinion Quarterly*, *71*, 221-252.
- Federico, C. M., Weber, C. R., Ergun, D., & Hunt, C. (2013). Mapping the connections between politics and morality: The multiple sociopolitical orientations involved in moral intuition. *Political Psychology*, *34*, 589-610.
- Feinberg, M., Antonenko, O., Willer, R., Horberg, E. J., & John, O. P. (2014). Gut check: Reappraisal of disgust helps explain liberal conservative differences on issues of purity. *Emotion*, 14, 513-521.
- Feinberg, M., & Willer, R. (2013). The moral roots of environmental attitudes. *Psychological Science*, 24, 56-62.

- Feinberg, M., & Willer, R. (2015). From gulf to bridge: When do moral arguments facilitate political influence? *Personality and Social Psychology Bulletin*, 41, 1665-1681.
- Feldman, S. (1988). Structure and consistency in public opinion: The role of core beliefs and values. *American Journal of Political Science*, *32*, 416-440.
- Feldman, S. (2003). Enforcing social conformity: A theory of authoritarianism. *Political Psychology*, 24, 41-74.
- Feldman, S., & Johnston, C. (2014). Understanding the determinants of political ideology: Implications of structural complexity. *Political Psychology*, 35, 337-358.
- Fincher, C. L., Thornhill, R., Murray, D. R., & Schaller, M. (2008). Pathogen prevalence predicts human cross-cultural variability in individualism/collectivism. *Proceedings of the Royal Society B: Biological Sciences*, 275, 1279-1285.
- Frimer, J. A., Biesanz, J. C., Walker, L. J., & MacKinlay, C. W. (2013). Liberals and conservatives rely on common moral foundations when making moral judgments about influential people. *Journal of Personality and Social Psychology*, 104, 1040-1059.
- Gosling, S. D., Vazire, S., Srivastava, S., & John, O. P. (2004). Should we trust web-based studies? A comparative analysis of six preconceptions about internet questionnaires. *American Psychologist*, 59, 93-104.
- Graham, J., Haidt, J., Koleva, S., Motyl, M., Iyer, R., Wojcik, S., & Ditto, P. H. (2013). Moral foundations theory: The pragmatic validity of moral pluralism. *Advances in Experimental Social Psychology*, 47, 55-130.
- 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, 1029-1046.
- 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, 366-385.
- Gray, K., & Keeney, J. (2015). Impure, or just weird? Scenario sampling bias raises questions about the foundation of morality. Social Psychological & Personality Science, 6, 859-868.
- Gray, K., Young, L., & Waytz, A. (2012). Mind perception is the essence of morality. *Psychological Inquiry*, *23*, 101-124.
- Green, D., Palmquist, B., & Schickler, E. (2002). *Partisan hearts and minds*. New Haven, CT: Yale University Press.
- Haidt, J. (2012). The righteous mind: Why good people are divided by religion and politics. New York, NY: Pantheon.
- Haidt, J., & Graham, J. (2007). When morality opposes justice: Conservatives have moral intuitions that liberals may not recognize. Social Justice Research, 20, 98-116.
- Hatemi, P., & McDermott, R. (2012). Policing the perimeter: Disgust and purity in democratic debate. *Political Science & Politics*, 45, 675-687.
- Horberg, E. J., Oveis, C., Keltner, D., & Cohen, A. B. (2009). Disgust and the moralization of purity. *Journal of Personality and Social Psychology*, 97, 963-976.
- Huddy, L. (2001). From social to political identity: A critical examination of social identity theory. *Political Psychology*, 22, 127-156.
- Huddy, L., & Khatib, N. (2007). American patriotism, national identity, and political involvement. American Journal of Political Science, 51, 63-77.
- Huddy, L., Mason, L., & Aaroe, L. (2015). Expressive partisanship: Campaign involvement, political emotion, and partisan identity. *American Political Science Review*, 109, 1-17.

- Inbar, Y., Pizarro, D. A., & Bloom, P. (2009). Conservatives are more easily disgusted than liberals. Cognition and Emotion, 23, 714-725.
- Inbar, Y., Pizarro, D. A., & Bloom, P. (2012). Disgusting smells cause decreased liking of gay men. *Emotion*, *12*, 23-27.
- Inbar, Y., Pizarro, D. A., Knobe, J., & Bloom, P. (2009). Disgust sensitivity predicts intuitive disapproval of gays. *Emotion*, 9, 435-439.
- 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.
- Janoff-Bulman, R., & Carnes, N. C. (2013). Surveying the moral landscape moral motives and group-based moralities. *Personality and Social Psychology Review*, 17, 219-236.
- Jennings, M. K. (1992). Ideological thinking among mass publics and political elites. *Public Opinion Quarterly*, 56, 419-441.
- Johnson, S. D., & Tamney, J. B. (2001). Social traditionalism and economic conservatism: Two conservative political ideologies in the United States. *The Journal of Social Psychology*, 141, 233-243.
- 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, 184-194.
- Krosnick, J. A. (1990). Government policy and citizen passion: A study of issue publics in contemporary America. *Political Behavior*, 12, 59-92.
- Kugler, M., Jost, J. T., & Noorbaloochi, S. (2014). Another look at moral foundations theory: Do authoritarianism and social dominance orientation explain liberal-conservative differences in "moral" intuitions? Social Justice Research, 27, 413-431.
- Landy, J. F., & Goodwin, G. P. (2015). Does incidental disgust amplify moral judgment? A meta-analytic review of experimental evidence. *Perspectives on Psychological Science*, 10, 518-536.
- Malka, A., & Lelkes, Y. (2010). More than ideology: Conservative—liberal identity and receptivity to political cues. *Social Justice Research*, 23, 156-188.
- Malka, A., Soto, C. J., Inzlicht, M., & Lelkes, Y. (2014). Do needs for security and certainty predict cultural and economic conservatism? A cross-national analysis. *Journal of Personality and Social Psychology*, 106, 1031-1051.
- Murray, D. R., Trudeau, R., & Schaller, M. (2011). On the origins of cultural differences in conformity: Four tests of the pathogen prevalence hypothesis. *Personality and Social Psychology Bulletin*, 37, 318-329.
- Navarrete, C. D., & Fessler, D. M. T. (2006). Disease avoidance and ethnocentrism: The effects of disease vulnerability and disgust sensitivity on intergroup attitudes. *Evolution & Human Behavior*, 27, 270-282.
- Petrescu, D. C., & Parkinson, B. (2014). Incidental disgust increases adherence to left-wing economic attitudes. *Social Justice Research*, 27, 464-486.
- Schaller, M. (2006). Parasites, behavioral defenses, and the social psychological mechanisms through which cultures are evoked. *Psychological Inquiry*, *17*, 96-137.
- Schatz, R. T., Staub, E., & Lavine, H. (1999). On the varieties of national attachment: Blind versus constructive patriotism. *Political Psychology*, 20, 151-174.

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, 1147-1163.

- Sears, D. O. (2001). The role of affect in symbolic politics. In J. H. Kuklinski (Ed.), *Citizens and politics: Perspectives from political psychology* (pp. 14-40). New York, NY: Cambridge University Press.
- Sibley, C. G., & Osborne, D. (2016). Ideology and post-colonial society. Advances in Political Psychology, 37, 1-47. doi:10.1111/pops.12323
- Sidanius, J., & Pratto, F. (1999). Social dominance: An intergroup theory of social hierarchy and oppression. New York, NY: Cambridge University Press.
- Sinclair, S., Hardin, C. D., & Lowery, B. S. (2006). Selfstereotyping in the context of multiple social identities. *Journal* of *Personality and Social Psychology*, 90, 529-542.
- 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, 895-917.
- Smith, I. H., Aquino, K., Koleva, S., & Graham, J. (2014). The moral ties that bind ... even to out-groups: The interactive effect of moral identity and the binding moral foundations. *Psychological Science*, 25, 1554-1562.
- Smith, K. B., Oxley, D., Hibbing, M. V., Alford, J. R., & Hibbing, J. R. (2011). Disgust sensitivity and the neurophysiology of left-right political orientations. *PLoS ONE*, 6(10), e25552.
- Stenner, K. (2005). *The authoritarian dynamic*. London, England: Cambridge University Press.
- Stimson, J. A. (2004). Tides of consent: How public opinion shapes American politics. New York, NY: Cambridge University Press.
- Terrizzi, J. A., Jr., Shook, N. J., & McDaniel, M. A. (2013). The behavioral immune system and social conservatism: A metaanalysis. Evolution & Human Behavior, 34, 99-108.
- Thorisdottir, H., Jost, J. T., Liviatan, I., & Shrout, P. E. (2007). Psychological needs and values underlying left-right political orientation: Cross-national evidence from Eastern and Western Europe. *Public Opinion Quarterly*, 71, 175-203.
- Treier, S., & Hillygus, D. S. (2009). The nature of political ideology in the contemporary electorate. *Public Opinion Quarterly*, 73, 679-703.
- Tuller, H. M., Bryan, C. J., Heyman, G. D., & Christenfeld, N. J. (2015). Seeing the other side: Perspective taking and the moderation of extremity. *Journal of Experimental Social Psychology*, 59, 18-23.
- Turner, J. C. (1991). Social influence. Belmont, CA: Thomson Brooks/Cole Publishing.
- Tybur, J. M., Lieberman, D., & Griskevicius, V. (2009). Microbes, mating, and morality: Individual differences in three functional domains of disgust. *Journal of Personality and Social Psychology*, 97, 103-122.
- Weber, C. R., & Federico, C. M. (2013). Moral foundations and heterogeneity in ideological preferences. *Political Psychology*, 34, 107-126.
- Zaller, J. (1992). The nature and origins of mass opinion. Cambridge, UK: Cambridge University Press.
- Zaller, J., & Feldman, S. (1992). A simple theory of the survey response: Answering questions versus revealing preferences. *American Journal of Political Science*, 36, 579-616.