Lay Belief in Biopolitics and Political Prejudice

Elizabeth Suhay
American University, Washington, D.C.

Mark J. Brandt
Tilburg University, Tilburg, Netherlands

Travis Proulx
Cardiff University, Cardiff, UK

Abstract

Building on psychological research linking essentialist beliefs about human differences with prejudice, we test whether lay belief in the biological basis of political ideology is associated with political intolerance and social avoidance. In two studies of American adults (Study 1 N=288, Study 2 N=164), we find that belief in the biological basis of political views is associated with greater intolerance and social avoidance of ideologically dissimilar others. The association is substantively large and robust to demographic, religious, and political control variables. These findings stand in contrast to some theoretical expectations that biological attributions for political ideology are associated with tolerance. We conclude that biological lay theories are especially likely to be correlated with prejudice in the political arena, where social identities tend to be salient and linked to inter-group competition and animosity.

Word count: 4,974
Key words: political psychology; prejudice; essentialism; lay beliefs

Lay Belief in Biopolitics and Political Prejudice

Dozens of well-publicized studies published in the last decade suggest that political views and behaviors may be influenced by genes and other biological factors (see Hatemi & McDermott, 2011 and Hibbing, Smith, & Alford, 2014 for overviews; for a countervailing view see, e.g., Charney, 2008). The relatively new research area of "biopolitics" addresses a longstanding curiosity regarding the causes of political differences: in simplified terms, whether people are born more as "blank slates" (with their political views shaped primarily by social context and/or perceived interests) or whether political views are to a significant extent "predetermined" by biological influences such as genetics.

While scientists may be the ultimate authority on causation in nature, lay people routinely make causal attributions as well (Heider, 1958; Weiner, 1995). These attributions may have important political consequences when applied to salient societal events, such as economic downturns (e.g., Arceneaux, 2003; Rudolph, 2003). Causal attributions for individual and group behavior, particularly stigmatized behavior, also appear to be politically consequential (Iyengar, 1991; Skitka & Tetlock, 1993). Among the various broad categories of causal attribution for behavior—nature, nurture, and choice—"nature" may be most consistently intertwined with political attitudes, although the direction of the relationship varies depending on what is being explained (Suhay & Jayaratne, 2013). In some cases, ascribing an attitudinal difference to biology is associated with increased tolerance, as in the case of homosexuality; in other cases, biological beliefs are associated with increased prejudice, as in the case of racial stereotypes (Jayaratne et al., 2006).

Despite considerable interest in biopolitics among scholars and the media (e.g., Biuso, 2008), we are aware of no published scholarship which has examined the relationship between

people's relative tendency to ascribe political beliefs to biology and their political attitudes, including people's relative tolerance of those with opposing ideological commitments. This is surprising, especially given that political polarization and ideological prejudice are widespread, particularly in the U.S. (Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014; Gift & Gift, 2014; Iyengar, Sood, & Lelkes, 2012; Iyengar & Westwood, 2015; Mason, 2015). Is the belief that biology plays an important role in shaping ideology associated with political tolerance or prejudice? This question is the topic of our investigation.

Biological Attributions and Prejudice

It has been argued that biological attributions for political attitudes and behaviors are likely associated with tolerance of political outgroups and, thus, public consumption of biopolitics research findings should decrease ideological antipathy and foster political compromise (Hibbing, 2013; Hibbing, Smith, & Alford, 2014). From this perspective, it is noted that human characteristics that are thought to be "genetic" are widely perceived to be predetermined and immutable (unchanging). For this reason, attributing behaviors to genes suggests people are not in control of their actions and cannot be blamed for them. While this series of claims has not been tested in the domain of political ideology, it is consistent with some attribution frameworks (e.g., Weiner, 1995; Weiner, Osborne, & Rudolph, 2011). In other domains, researchers have demonstrated that characteristics or behaviors that are perceived to be undesirable *and* innate can evoke sympathy for, and even a desire to aid, those displaying qualities found to be objectionable. Examples include non-heterosexual orientations (Haider-Markel & Joslyn, 2008; Jayaratne et al., 2006), criminal behavior (Shariff et al., 2014), and disease affliction (Weiner, 1995).

Nevertheless, biological attributions appear to be a double-edged sword (Haslam & Kvaale, 2015; Heine, Dar-Nimrod, Cheung, & Proulx, in press). Understanding characteristics or behaviors as emanating from a person's distinct biology (e.g., their DNA) tends to increase perceived differences between individuals and render those differences deep-seated and permanent. In other words, biological explanations evoke cognitive biases associated with psychological essentialism: people perceive that a fixed and hidden cause underlies a discrete social category with unique features (Bastian & Haslam, 2006; Dar-Nimrod & Heine, 2011; Gelman, 2003; Haslam, Bastian, Bain, & Kashima, 2006; Rothbart & Taylor, 1992). When applied to characteristics and behaviors considered to be undesirable, biological explanations tend to increase prejudice, stigmatization, and a desire for social distance (Haslam & Kvaale, 2015; Heine, Dar-Nimrod, Cheung, & Proulx, in press). This is true even for those cases where genetic attributions may increase sympathy and tolerance to some degree: non-heterosexual orientation (Haslam & Levy, 2006; Sheldon et al., 2008), criminality (Appelbaum & Scurich, 2013; Cheung & Heine, 2015) and mental illness (Kvaale, Gottdiener, & Haslam, 2013; Kvaale, Haslam, & Gottdiener, 2013).

These outcomes appear to be particularly exaggerated when a shared biological essence is mapped onto preexisting salient social categories, including racial, ethnic, and gender groups (Jayaratne et al., 2006; Keller, 2005; Williams & Eberhardt, 2008). Group boundaries are sharpened, making outgroup members seem more similar to one another and less similar to the self. Perceived negative stereotypes of outgroups appear natural and inevitable, with attendant pessimism regarding future change (Dar-Nimrod & Heine, 2011; Rothbart & Taylor, 1992; Williams & Eberhardt, 2008). These psychological processes not only tend to worsen intergroup

prejudices but they also can discourage societal attempts to ameliorate inequality and even justify discrimination (Hofstadter, 2006; Lewontin, Rose, & Kamin, 1984).

Scholars disagree over the causal process underlying the association between psychological essentialism and biological attribution. In our view, extant research demonstrates support for causation running in two directions. Exposure to biological explanations (in general, or for a specific characteristic or behavior) appears to increase essentialism and all that accompanies it, including stereotyping, stigmatization, social avoidance, and acceptance of inequality (e.g., see Dar-Nimrod & Heine, 2011; Heine, Dar-Nimrod, Cheung, & Proulx, in press). However, individuals who are motivated to understand or justify perceived group differences, stigmas, inequalities, etc. also often actively recruit biological explanations post-hoc (e.g., Gelman, 2003; Keller, 2005; Lewontin, Rose, & Kamin, 1984). In the current paper, we do not aim to shed light on the causality question. Instead, our focus is assessing the size and direction of the association between lay biopolitics and political prejudice.

Lay Biopolitics and Political Prejudice

The primary question of the current studies is: Is endorsing a lay theory of biopolitics likely associated with tolerance or prejudice toward the political opposition? By "lay theory of biopolitics," we mean a belief that political characteristics and behaviors are biological and innate, and therefore change little over the lifespan. This particular set of beliefs mirrors more general beliefs among the public about biological—particularly genetic—influences on human differences (Dar-Nimrod & Heine, 2011). Note that lay theories of biopolitics tend to have only a tenuous connection to quality academic research on the subject, which increasingly emphasizes the complex interplay of environmental, genetic, and other factors on human behavior throughout a person's lifetime.

Based on current thinking in the field of genetic essentialism (e.g., Haslam & Kvaale, 2015; Heine, Dar-Nimrod, Cheung, & Proulx, forthcoming), we anticipate that biological attributions for political ideology are more likely to be associated with prejudice than with tolerance. While viewing opponents as not in control of their (perceived) problematic beliefs and opinions may decrease blame and increase sympathy, the aforementioned literature suggests these positive sentiments are likely swamped by less forgiving considerations, especially in the U.S. context, the site of our studies.

First, politics tends to be vitriolic, and the American political arena has been particularly so in recent decades. Political opponents routinely go beyond polite disagreement to open animus and contempt for one another (Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014; Gift & Gift, 2014; Iyengar, Sood, & Lelkes, 2012; Iyengar & Westwood, 2015; Mason, 2015; Pew 2016). The biological essentialism literature leaves little doubt that viewing undesirable characteristics of others through a biological lens increases stigmatization and social avoidance (see especially Haslam & Kvaale, 2015; Heine, Dar-Nimrod, Cheung, & Proulx, forthcoming). Second, the animosity so apparent in American politics today stems in part from the fact that party preference and liberal-conservative political ideology constitute highly salient social identities in the U.S. (e.g., Conover & Feldman, 1981; Devine, 2015; Ellis & Stimson, 2012; Green, Palmquist, & Schickler, 2002; Huddy, Mason, & Aarøe, 2015). As we discuss above, biological attributions for extant social categories tend to exaggerate perceived intergroup differences and increase associated prejudice and intolerance. Third, and finally, recall that biological attributions make differences seem permanent, depressing expectations for future reform or change (Haslam & Kvaale, 2015). This eliminates any rationale for attempts to engage in intergroup dialogue or political compromise.

The Current Studies

In sum, we expect that the lay belief that political ideology is primarily biological will be associated with prejudice against one's political opposition, expressed as intolerance, social avoidance, and opposition to compromise. In addition, we examine whether variation in conservative-liberal ideology among people moderates the relationship between lay biopolitics and political prejudice. Lay biopolitics and prejudice may be more tightly connected on the right or left, or this association may not vary according to self-professed ideology. Given the dearth of previous empirical evidence on this subject, we leave this as an exploratory investigation.

We test this hypothesis with two observational studies of U.S. citizens. The first study was conducted with a community sample recruited via Amazon Mechanical Turk; the second was conducted with a quasi-representative sample assembled by Qualtrics Panels. We measured participants' (1) beliefs about the causes of people's political views, and (2) political intolerance, avoidance of politically different others, and opposition to political compromise (Study 2 only). To reduce the chance that we might observe a spurious relationship, we included a wide variety of demographic, attributional, and political control measures.

Study 1

Method

Sample. Our sample achieves reasonable diversity on demographic and political characteristics of interest. The study included 283 participants with mean age 33.6 (SD = 11.6); 58.5% were male, 41.5% female.[1] Additional characteristics of the sample are available in Table

[1] Note that we pooled two samples collected about one week apart (Sample 1 N = 97, Sample 2 N = 186). Sample 1 was collected with the aim of approximately 80% power to detect a medium-sized effect. Sample 2 aimed to double the sample size and had approximately >99% power to replicate the smallest lay biopolitics-prejudice association found in Sample 1 (i.e. $r = 34$). Both samples included our key measures and so we pooled the data to have a more accurate effect size estimate. Sample 2 also included measures assessing a variety of essentialist-related beliefs to rule out these potential confounds. In all pooled analyses, we tested if the key coefficients were moderated by

SA1 in the Online Appendix. While Mechanical Turk samples are not representative of the U.S. population, they tend to be superior to student convenience samples (Berinsky, Huber, and Lenz, 2012). Further, both liberals and conservatives in samples drawn from the service resemble their counterparts in the mass public in their politically relevant values and attitudes (Clifford, Jewell, & Waggoner, 2015). We also took a number of precautions to ensure a high quality sample, including restricting participants to people from the U.S. on the MTurk system, removing duplicate cases based on IP addresses, and only including respondents in analyses who indicated that they were citizens of the U.S. and spoke English as a first language.

Measures. To measure the Lay Theory of Biopolitics, a four-item Likert-type scale was created for these studies. We based the items on a well-validated scale assessing people's lay theories about the origins of racial categories (No et al., 2008), changing the content to reflect our focus on political ideology (see comparison table in Online Appendix). The scale taps beliefs about biological influences and the closely related idea that biological traits are immutable. Example items are: "A person's political beliefs are determined by their genetics" and "Political beliefs are fluid, malleable constructs" [reversed] ($\alpha = .62$). Answer choices ranged from 1 = strongly disagree to 7 = strongly agree. To measure political intolerance, participants completed a nine-item domain general measure of political tolerance from Haas and Cunningham (2014) that we reverse-scored. This scale includes items like "When you have the right position on some issue, you should keep those with the wrong opinion from being heard" ($\alpha = .82$).[2] Participants also completed a measure of their willingness to interact with people who have different political

sample, but these interactions were never significant. Thus, we do not include a sample indicator in the final models and do not discuss this further.

[2] Some intolerance researchers prefer the "least-liked group" measure (Sullivan, Piereson, & Marcus, 1982), as it taps tolerance of groups whom a person *dislikes*. While our general measure does not mention specific groups, it follows the "least liked" intuition by gauging tolerance of those with whom the participant disagrees.

beliefs. This measure, also reverse scored, was created by adapting items about willingness to interact with people who are a different race/ethnicity (Williams & Eberhardt, 2008). An example item is, "I often spend time with people who have political beliefs different from my own" ($\alpha = .75$).[3] Answer choices ranged from 1 = strongly disagree to 7 = strongly agree. Precise wording for the above measures is in the Online Appendix. Finally, we gathered additional information, including political ideology, party identification, political knowledge, and religious attendance as well as demographic information (e.g., education, income, age, gender, and race/ethnicity).

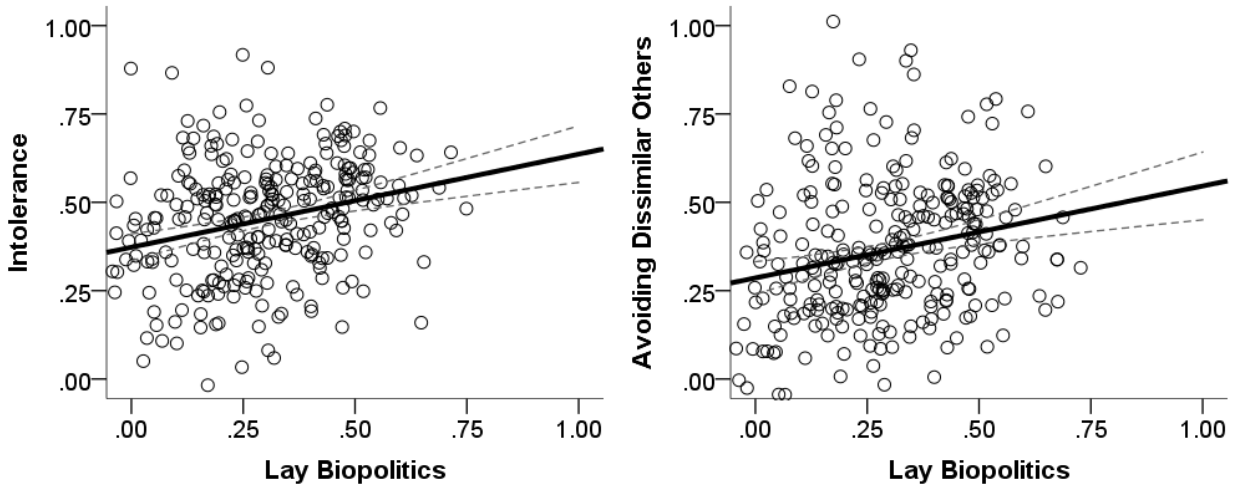
Results

Prior to analysis, all measures were recoded to range from 0 to 1. We used ordinary least squares regression, regressing our outcome measures on Lay Biopolitics (Model 1). In subsequent models, we added possible demographic (Model 2) and political/religion (Model 3) covariates. In the final model (Model 4), we include an interaction between Lay Biopolitics and participants' left-right ideological self-placement. Note that bivariate relationships among all variables can be found in the Appendix.

[3] We also assessed the perceived inevitability of political conflict among elites, a construct somewhat orthogonal to prejudice. We do not discuss this measure here to maintain our focus on prejudice. Relevant analyses are available upon request from the authors.

Figure 1

Scatterplot of Association between Lay Theory of Biopolitics and Political Intolerance. (Study 1)



In Model 1, Lay Biopolitics is positively associated with intolerance and avoiding dissimilar others. Figure 1 displays these relationships. The full results are available in Table 1 (Political Intolerance) and Table 2 (Avoidance of Ideological Outgroups) below. These associations change very little and remain statistically distinguishable from zero (all *p's* < .001) in models that added demographics (Model 2) and politics/religion covariates (Model 3), suggesting that the associations of interest are unlikely reducible to these variables. Note also that the coefficients on Lay Biopolitics in these models indicate the relationship is of substantive import. Compared to those scoring low on the measure, those at the top of the Lay Biopolitics measure score approximately 25% higher on intolerance (b = .24, 95%CI[.12, .35], p < .001) and avoidance of politically dissimilar others (b = .27, 95%CI[.13, .41], p < .001). Finally, Model 4 does not reveal consistent moderation by political ideology. The coefficient on the interaction

term is negative and reaches marginal significance in Table 1 (Intolerance, $p < .10$) but changes sign and loses significance in Table 2 (Avoidance, $p > .10$).[4]

Table 1

Association between Political Intolerance and Lay Biopolitics (Study 1)

	Model 1		Model 2		Model 3		Model 4	
	b	(SE)	*b*	(SE)	*b*	(SE)	*b*	(SE)
Lay Biopolitics	.26***	(.06)	.25***	(.06)	.24***	(.06)	.35***	(.09)
Income			-.06	(.04)	-.07	(.04)	-.07	(.04)
Education			.09^{+}	(.05)	.09	(.05)	.09^{+}	(.05)
Age			-.06	(.04)	-.07	(.05)	-.06	(.05)
Gender			.04*	(.02)	.04^{+}	(.02)	.04^{+}	(.02)
Race			-.02	(.02)	-.01	(.02)	-.01	(.02)
Ideology					.05	(.04)	.14*	(.07)
Party Identification					.0004	(.04)	.0001	(.04)
Religious Attendance					-.04	(.03)	-.05	(.03)
Political Knowledge					-.01	(.04)	-.01	(.04)
Lay Biopolitics x Ideology							-.33^{+}	(.19)
Constant	.37***	(.02)	.35***	(.04)	.38***	(.06)	.35***	(.06)
N	282		276		274		274	
R^2	.07		.11		.13		.14	

Note. OLS Regression. All variables re-coded to range from 0 to 1. Gender (0 = women, 1 = men), Race/Ethnicity (0 = non-White, 1 = White). Higher scores for ideology and party identification indicate more conservative and Republican responses.
$^{+}p<.10$, $*p<.05$, $**p<.01$, $***p<.001$ (all two-tailed)

[4] In the interest of a thorough exploration of the data, we examined other potential moderators as well, including party ID, education, and political knowledge. Few statistically significant results, and no clear patterns of moderation, emerged.

Table 2

Association between Avoiding Ideological Outgroups and Lay Biopolitics (Study 1)

	Model 1		Model 2		Model 3		Model 4	
	b	(SE)	*b*	(SE)	*b*	(SE)	*b*	(SE)
Lay Biopolitics	.26***	(.07)	.26***	(.07)	.27***	(.07)	.21^{+}	.11
Income			-.08	(.05)	-.08	(.05)	-.08	.05
Education			.07	(.06)	.06	(.07)	.05	.07
Age			.001	(.05)	.01	(.06)	.01	.06
Gender			-.02	(.02)	-.02	(.02)	-.02	.02
Race			-.07**	(.03)	-.08**	(.03)	-.08	.03
Ideology					.03	(.05)	-.02	.08
Party Identification					-.03	(.05)	-.02	.05
Religious Attendance					-.05	(.04)	-.05	.04
Political Knowledge					.03	(.05)	.03	.05
Lay Biopolitics x Ideology							.15	.23
Constant	.29***	(.02)	.34***	(.05)	.30***	(.07)	.31***	(.07)
N	280		274		272		272	
R^2	.05		.09		.09		.09	

Note. OLS Regression. All variables re-coded to range from 0 to 1. Gender (0 = women, 1 = men), Race/Ethnicity (0 = non-White, 1 = White). Higher scores for ideology and party identification indicate more conservative and Republican responses.
$^{+}p<.10$, $*p<.05$, $**p<.01$, $***p<.001$ (all two-tailed)

Discussion

In Study 1, the lay belief that political views are biological in nature is associated with *more* political prejudice. This result was robust, with the size of the coefficient on Lay Biopolitics hardly changing as we added demographic variables and measures of political ideology, partisanship, religiosity, and political knowledge.

While these results are supportive of our hypothesis, there exists a viable counterargument: It is possible that the strong relationship between Lay Belief in Biopolitics and political prejudice is spurious, driven by an unmeasured third variable representing variation in essentialist beliefs *in general*. Individual differences in essentialist and related beliefs are a consistent predictor of prejudice in other domains (e.g. Haslam et al., 2006). We were able to

evaluate this counterhypothesis by asking participants in Sample 2 of Study 1 (N=184) to also fill out several essentialism scales. The scales included: biological basis of essentialism (α = .84; Bastian & Haslam, 2006), entity theory of self (α = .93; Levy, Stroessner, & Dweck, 1998), biological gender theory (α = .83; Coleman & Hong, 2008), biological basis of homosexuality (α = .86; Haslam & Levy, 2006), and biological conception of race (α = .91; Williams & Eberhardt, 2008). Given their shared focus on biological influences on behavior, it is not surprising that adding these five essentialism scales reduces the size of the Lay Biology coefficients by approximately 20%; yet, Lay Biopolitics still significantly predicts intolerance (*b*'s range [.19, .22], all *p*'s < .05) and marginally predicts avoidance of dissimilar others (*b*'s range [.15, .20], all *p*'s < .10).[5] See Tables SA2 and SA3 in the Online Appendix.

There are two limitations to consider with respect to Study 1. First, while adult convenience samples from Mechanical Turk are thought to be superior to student samples, they tend to be less representative than samples drawn from Internet panels (Berinsky, Huber, and Lenz, 2012). A bias in our sample is an overrepresentation of citizens on the left of the political spectrum (see Table SA1), which is typical in such samples. Second, in focusing on the public's beliefs regarding the impact of "nature" on political ideology, Study 1 overlooked two potentially competing beliefs: that political views are shaped mainly by "nurture" (social context) or by "choice" (free will). Some researchers have argued that environmental or choice attributional frameworks decrease tolerance (Hibbing, Smith, & Alford, 2014; see especially chapter 9). The idea is that if ideology stems from a person's social environment, then he or she

[5] P-values are .09 (Model 2), .08 (Model 3), and .056 (Model 4). The entity scale (measuring the perceived immutability of people's characteristics) has the largest impact of the new scales, in terms of "predicting" the dependent variable and drawing variance away from Lay Biopolitics. This impact is *unique* to the Avoidance model, however, mirroring work showing a link between the perceived fixidity of negative characteristics and social avoidance (Haslam & Kvaale, 2015).

can change if exposed to "correct" political information; we should, thus, continue to pressure our political rivals to change. Or, if ideology is primarily based on a person's poor choices, then he or she is responsible and ought to be blamed for them. In sum, perhaps biological attributions are not *unique* in their association with political prejudice.

Study 2

Method

Each of the above limitations is addressed in Study 2. We employed Qualtrics Panels, which uses quota sampling to obtain samples that are approximately representative of the continental U.S. for age, gender, and census region. Given the importance of obtaining approximate representativeness for political views as well, we requested equal numbers of Democrats, Republicans, and Independents, roughly reflecting their actual distribution in the U.S. population (Gallup, 2015). The sample included 164 participants.[6] The mean age was 34.5 (SD = 16.4), with 46% male and 53% female (1% missing). Thirty-two percent were Democratic, 36.5% Independent, and 30.5% Republican. Further sample characteristics are in Online Appendix Table SA4.

Participants completed an abbreviated two-item Lay Theory of Biopolitics measure.[7] Answer choices ranged from 1 = strongly disagree to 7 = strongly agree.[8] Political intolerance was gauged with the following Likert-type measure: "When you have the right position on some issue, you should keep those with the wrong opinion from being heard." Two additional dependent variables were based on items described in a widely read report from Pew (2014) on

[6] The sample size in Study 2 aimed to have at least 80% power to detect $r = .22$, the smallest correlation between lay biopolitics and political prejudice observed in Study 1.
[7] Given the greater expense of the Qualtrics sample, the length of the questionnaire was substantially shorter, leaving us to abbreviate the longer scales. Despite these measurement differences, Study 2 results largely replicate Study 1.
[8] The two items correlate at .28. Note that patterns discussed in the Results section are similar if the two items are analyzed separately.

political polarization. We measured social avoidance of ideologically different others with the following item: "Imagine for a moment that you are moving to another community...In deciding where to live, how important would it be to you to live in a place where most people held political views similar to your own?" We also included a two-item Opposition to Compromise scale ($\alpha = .75$) allowing us to assess the association between Lay Biopolitics and the desire for one's representatives in Congress to resist compromising with the opposition. Wording for these measures is in the Online Appendix.

As in the previous study, we gathered additional information on participants. We measured political ideology, party identification, and religious attendance as well as demographic information, including education, income, gender, and race/ethnicity. As discussed above, lay beliefs regarding the extent to which the social environment and independent choices influence people's political views were assessed (e.g., "a person's political beliefs and opinions are determined largely by his or her social environment"). Finally, we added measures of participants' trust in science and self-assessed scientific knowledge to ensure that orientations toward science in general did not confound the relationships of interest.

Results

Prior to analyses, all measures were re-coded to range from 0 to 1. All dependent variables were re-coded such that prejudice (intolerance, social distance, and opposition to compromise) received higher values. We regressed our outcome measures on Lay Biopolitics (Model 1). We then added possible demographic covariates (Model 2), political, religious, and scientific knowledge/attitude covariates (Model 3), and alternate lay causal attribution frameworks (Model 4). Results for the three dependent variables are in Tables 3, 4, and 5 below. (Bivariate relationships among all variables can be found in the Appendix.)

Table 3

Association between Political Intolerance and Lay Biopolitics (Study 2)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	b	(SE)	*b*	(SE)	*b*	(SE)	*b*	(SE)	*b*	(SE)
Lay Biopolitics	0.64***	(0.08)	0.61***	(0.08)	0.62***	(0.08)	0.59***	(0.09)	0.93***	(0.15)
Income			0.02	(0.08)	0.00	(0.09)	-0.01	(0.09)	-0.02	(0.09)
Education			-0.02	(0.08)	-0.01	(0.08)	-0.02	(0.08)	-0.06	(0.08)
Age			-0.09	(0.07)	-0.03	(0.07)	-0.02	(0.07)	-0.03	(0.07)
Gender			-0.01	(0.03)	-0.03	(0.03)	-0.04	(0.04)	-0.05	(0.04)
Race			-0.07	(0.04)	-0.06	(0.05)	-0.06	(0.05)	-0.04	(0.05)
Ideology					-0.11	(0.09)	-0.10	(0.09)	0.18	(0.14)
Party Identification					0.03	(0.06)	0.03	(0.06)	-0.00	(0.06)
Religious Attendance					0.06	(0.05)	0.06	(0.05)	0.07	(0.05)
Trust in Science					-0.09	(0.08)	-0.09	(0.08)	-0.08	(0.08)
Scientific Knowledge					0.18+	(0.10)	0.19+	(0.10)	0.19*	(0.09)
Perceived Environment							0.08	(0.08)	0.09	(0.08)
Perceived Choice							-0.08	(0.10)	-0.11	(0.10)
Lay Biopolitics x Ideology									-0.74**	(0.28)
Constant	0.06+	(0.03)	0.18*	(0.08)	0.11	(0.11)	0.13	(0.14)	0.04	(0.14)
N	164		162		157		157		157	
R^2	0.281		0.310		0.367		0.374		0.403	

Note. OLS Regression. All variables re-coded to range from 0 to 1. Gender (0 = women, 1 = men), Race/Ethnicity (0 = non-White, 1 = White). Higher scores for ideology and party identification indicate more conservative and Republican responses.
+*p*<.10, **p*<.05, ***p*<.01, ****p*<.001 (all two-tailed)

Table 4

Association between Preference for Likeminded Community and Lay Biopolitics (Study 2)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	b	(SE)	*b*	(SE)	*b*	(SE)	*b*	(SE)	*b*	(SE)
Lay Biopolitics	0.37***	(0.11)	0.37***	(0.11)	0.36**	(0.11)	0.31**	(0.11)	0.75***	(0.20)
Income			-0.12	(0.11)	-0.15	(0.12)	-0.19	(0.12)	-0.19+	(0.11)
Education			0.13	(0.10)	0.10	(0.11)	0.07	(0.11)	0.02	(0.10)
Age			0.07	(0.09)	0.08	(0.09)	0.10	(0.09)	0.09	(0.09)
Gender			0.05	(0.04)	0.06	(0.05)	0.03	(0.05)	0.01	(0.05)
Race			-0.16**	(0.06)	-0.16**	(0.06)	-0.16*	(0.06)	-0.14*	(0.06)
Ideology					0.05	(0.11)	0.05	(0.11)	0.43*	(0.18)
Party Identification					-0.00	(0.08)	0.00	(0.08)	-0.04	(0.08)
Religious Attendance					-0.04	(0.07)	-0.05	(0.07)	-0.04	(0.06)
Trust in Science					0.13	(0.10)	0.15	(0.10)	0.16	(0.10)
Scientific Knowledge					0.08	(0.13)	0.11	(0.13)	0.11	(0.12)
Perceived Environment							0.12	(0.10)	0.13	(0.10)
Perceived Choice							-0.31*	(0.13)	-0.35**	(0.13)
Lay Biopolitics x Ideology									-0.96**	(0.37)
Constant	0.33***	(0.04)	0.36***	(0.11)	0.24+	(0.14)	0.41*	(0.18)	0.30+	(0.18)
N	164		162		157		157		157	
R^2	0.069		0.136		0.156		0.196		0.234	

Note. OLS Regression. All variables re-coded to range from 0 to 1. Gender (0 = women, 1 = men), Race/Ethnicity (0 = non-White, 1 = White). Higher scores for ideology and party identification indicate more conservative and Republican responses.
+*p*<.10, **p*<.05, ***p*<.01, ****p*<.001 (all two-tailed)

Table 5

Association between Opposition to Political Compromise and Lay Biopolitics (Study 2)

	Model 1		Model 2		Model 3		Model 4		Model 5	
	b	(SE)	*b*	(SE)	*b*	(SE)	*b*	(SE)	*b*	(SE)
Lay Biopolitics	0.28**	(0.10)	0.22*	(0.10)	0.22*	(0.11)	0.25*	(0.11)	0.58**	(0.20)
Income			-0.15	(0.11)	-0.17	(0.11)	-0.17	(0.11)	-0.18	(0.11)
Education			-0.03	(0.10)	-0.03	(0.10)	-0.02	(0.10)	-0.06	(0.10)
Age			-0.17*	(0.08)	-0.15+	(0.09)	-0.15+	(0.09)	-0.16+	(0.09)
Gender			0.02	(0.04)	-0.01	(0.04)	-0.02	(0.04)	-0.03	(0.04)
Race			0.00	(0.06)	0.01	(0.06)	-0.01	(0.06)	0.01	(0.06)
Ideology					-0.03	(0.11)	-0.05	(0.11)	0.24	(0.18)
Party Identification					0.07	(0.08)	0.08	(0.08)	0.05	(0.08)
Religious Attendance					0.08	(0.06)	0.08	(0.06)	0.09	(0.06)
Trust in Science					-0.16	(0.10)	-0.12	(0.10)	-0.11	(0.10)
Scientific Knowledge					0.09	(0.12)	0.10	(0.12)	0.09	(0.12)
Perceived Environment							-0.17	(0.10)	-0.16	(0.10)
Perceived Choice							-0.20	(0.13)	-0.24+	(0.13)
Lay Biopolitics x Ideology									-0.73*	(0.36)
Constant	0.42***	(0.04)	0.58***	(0.10)	0.60***	(0.14)	0.84***	(0.17)	0.75***	(0.18)
N	164		162		157		157		157	
R^2	0.047		0.085		0.132		0.161		0.185	

Note. OLS Regression. All variables re-coded to range from 0 to 1. Gender (0 = women, 1 = men), Race/Ethnicity (0 = non-White, 1 = White). Higher scores for ideology and party identification indicate more conservative and Republican responses.
+*p*<.10, **p*<.05, ***p*<.01, ****p*<.001 (two-tailed)

Overall, the coefficients on Lay Biopolitics for Models 1-4 are similar to Study 1, although they are somewhat larger in size. Focusing on the full models (Model 4): for Intolerance (Table 3), b=.59 (95%CI[.42, .77], p<.001); for Preference for Likeminded Community (Table 4), b=.31 (95%CI[.09, .53], p<.01); for Opposition to Compromise (Table 5), b=.25 (95%CI[.03, .47], p<.05). Note that coefficients on the alternative attributional frameworks—environment and choice—generally are not statistically significant, although in Table 4 (Likeminded Community) believing political ideology to be a choice appears to *decrease* intolerance b=-.31 (95%CI[-.56, -.05], p < .05).

In the final model (Model 5) for each dependent variable, we again interacted Lay Biopolitics with Political Ideology. Contrary to Study 1, in each case, we observe negative coefficients on the interaction variable that are significantly different from zero (b's range [-.96, -.72], all p's < .05). This interaction suggests that Lay Biopolitics predicts prejudice more strongly for liberals than for conservatives. Examining the marginal effects of Lay Biopolitics at each point of the ideology scale, we find the following: among liberals, the Lay Biopolitics effect is consistently positive and statistically significant (b's range [.93, .34], all p's<.01) whereas, among conservatives, the coefficient is smaller in size and frequently insignificant.[9]

Discussion

In Study 2, we repeated the investigations in Study 1 with some alterations. Due to the shorter questionnaire length, the intolerance and social avoidance dependent variables were each single items instead of scales. We also added a DV on opposition to political compromise. Independent variables were similar to Study 1, although we added some additional measures of

[9] Among those who are "conservative" or "extremely conservative": For the intolerance DV, b's range [.44, .31], all p's<.05; however, for the other two DV's, no b's are significant (all p's>.4).

interest, particularly environmental and choice attributions for political beliefs. Finally, we improved the sample, using a high quality, quasi-representative sample from Qualtrics Panels.

Despite these differences, our results are almost entirely consistent with the first study: the coefficients on Lay Biopolitics are consistently large, statistically significant and associated with various aspects of prejudice. Interestingly, the alternative lay theories (environment and choice) are generally not associated with the dependent variables; although, in one model, belief in choice is associated with *less* intolerance (i.e., more tolerance). This said, unlike Study 1, in Study 2, we observe a consistent negative interaction between Lay Biopolitics and Political Ideology, which indicates that greater belief in genetic explanations is more closely associated with intolerance among liberals than conservatives.

General Discussion

Our goal has been to assess whether ordinary people who tend to believe that political views are influenced by biology are more or less prejudiced against their political opposition than others. Across two studies, we find that a lay belief in biopolitics is moderately to strongly associated with political intolerance, avoidance of politically different others, and resistance to political compromise. These findings held up despite a wide range of controls, including demographic characteristics, political predispositions, and alternative causal attributions.

The Lay Theory of Biopolitics coefficient is also consistently the largest in the models. One counterargument we have not yet addressed is the possibility that Lay Biopolitics is highly correlated with other independent variables, perhaps depressing their predictive power. This is not the case, however. Lay Biopolitics is only correlated ($p < .05$) with one variable that is commonly included in studies of political prejudice or intolerance—age (its effect is slightly depressed when Lay Biopolitics is added). Changes in the R-squared coefficients reveal that Lay

Biopolitics is explaining *new* variance in the dependent variables when added to the models. In Study 1, when Lay Biopolitics is added to Model 3 (the full model without the interaction term), the R-squared statistic increases by approximately 50% for both outcome variables. In Study 2, when Lay Biopolitics is added to Model 4 (the full model without the interaction term), the R-squared statistic increases by approximately 25% in the avoidance and compromise models and by over 200% (from .17 to .37) in the intolerance model. These findings support the conclusion that Lay Biopolitics has a unique association with political prejudice.

Our study also included an exploratory component. Study 2 revealed a stronger relationship between Lay Biopolitics and intolerance among liberals compared to conservatives. The sign of the interaction coefficient was similar for one of the dependent variables in Study 1. One possible explanation for this result is that conservatives in general exhibit more prejudice than others (Hodson & Dhont, 2015; although for countervailing data see e.g., Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014; Pew, 2016), perhaps suppressing an interaction effect that is more easily obtained among liberals. However, note that bivariate correlations between Ideology (relative conservatism) and the various prejudice variables are inconsistent and do not emerge as significant in the regression models that do not include interactions. While the Ideology coefficient is more consistently positive and at times statistically significant in the regression models that do include the interaction terms, this coefficient is assessed when Lay Biopolitics = 0 (i.e., it is not a true "main effect"). Further, where the interaction effect is observed, the coefficient on Ideology becomes *negative* at the high end of the Lay Biopolitics scale. (E.g., Study 2, Model 5 in Tables 3, 4, and 5: add the (negative) *Lay Biopolitics x Ideology* coefficient to the *Ideology* coefficient.) In other words, among those who expressed the greatest belief in Lay Biopolitics, conservatives were less politically prejudiced than liberals on average.

We encourage future studies on Lay Biopolitics to test this interaction to help determine its robustness and underlying mechanisms.

We conclude that believing that biological differences underlie political ideology is associated with *in*tolerance of political rivals, a desire to avoid their company, and opposition to political compromise. While our data necessarily limit us to the U.S., we suspect the observed relationship would emerge in other nations, particularly where identity-based and acrimonious political polarization is common. We encourage other researchers to test this hypothesis. Future research may also be interested in phenomena that moderate or mediate the observed association, such as variation in viewing political opponents as out-group members (or, conversely, variation in viewing those with congenial political views as in-group members).[10]

Finally, note that we are *not* claiming that the dissemination of biopolitics research increases political prejudice. We cannot make any such claims with our cross-sectional data. Exposure to biopolitics research might increase political prejudice, particularly via simplistic renderings common in press releases and media reports. But it also may be that higher levels of political prejudice lead to greater belief in biopolitics via a motivated reasoning process. Future research should study this important question experimentally.[11] Further, we are in no way arguing that biopolitics research should not take place. Biopolitics is a sensible extension of current explorations into the role biology plays in human behavior. This said, our research does imply that biopolitics findings are unlikely—on their own and all else equal—to *improve* political tolerance.

[10] A somewhat related question worth examining more closely is whether a lay belief in biopolitics is, functionally, an attribution for opponents' beliefs only, or both opponents and allies.

[11] We know of only one article that examines the impact of biopolitics findings experimentally. Morin-Chassé (n.d.) tests their effect on perceived characteristics of political views (including immutability and personal responsibility). The effects of the experiment were null.

References

Appelbaum, P.S., & Scurich, N. (2013). Impact of behavioral genetic evidence on the adjudication of criminal behavior. *Journal of the American Academy of Psychiatry and the Law*, 42(1), 2014.

Arceneaux, K. (2003). The conditional impact of blame attribution on the relationship between economic adversity and turnout. *Political Research Quarterly*, *56*(1), 67-75.

Bastian, B., & Haslam, N. (2006). Psychological essentialism and stereotype endorsement. *Journal of Experimental Social Psychology*, *42*(2), 228-235.

Berinsky, A.J., Huber, G.A., & Lenz, G.S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis*, *20*, 351-368.

Biuso, E. (2008). Genopolitics. *The New York Times Magazine*, December 14.

Brandt, M. J., Reyna, C., Chambers, J. R., Crawford, J. T., & Wetherell, G. (2014). The ideological-conflict hypothesis intolerance among both liberals and conservatives. *Current Directions in Psychological Science*, *23*(1), 27-34.

Charney, E. (2008). Genes and ideologies. *Perspectives on Politics*, *6*(2), 299-319.

Cheung, B.Y., & Heine, S.J. (2015). The double-edged sword of genetic accounts of criminality: Causal attributions from genetic ascriptions affect legal decision making. *Personality and Social Psychology Bulletin*, *41*(12), 1723-1738.

Clifford, S., Jewell, R.M., & Waggoner, P.D. (2015). Are samples drawn from Mechanical Turk valid for research on political ideology? *Research and Politics* (Oct-Dec), 1-9.

Coleman, J.M., & Hong, Y. (2008). Beyond nature and nurture: The influence of lay gender theories on self-stereotyping. *Self and Identity*, *7*(1), 34-53.

Conover, P.J., & Feldman, S. (1981). The origins and meaning of liberal/conservative self-identifications. *American Journal of Political Science*, *25*, 617-645.

Dar-Nimrod, I., & Heine, S.J. (2011). Genetic essentialism: On the deceptive determinism of DNA. *Psychological Bulletin*, *137*(5), 800-818.

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.

Ellis, C., & Stimson, J.A. (2012). *Ideology in America*. New York: Cambridge.

Gallup. (2015). Party affiliation. http://www.gallup.com/poll/15370/party-affiliation.aspx. *Accessed August 24, 2015*.

Gelman, S.A. (2003). *The Essential Child: Origins of Essentialism in Everyday Thought*. New York: Oxford.

Gift, K., & Gift, T. (2015). Does politics influence hiring? Evidence from a randomized experiment. *Political Behavior*, *37*(3), 653-675.

Green, D., Palmquist, B., & Schickler, E. (2002). *Partisan hearts & minds: Political parties and the social identities of voters*. New Haven: Yale.

Haas, I. J., & Cunningham, W. A. (2014). The uncertainty paradox: Perceived threat moderates the effect of uncertainty on political tolerance. *Political Psychology*, *35*(2), 291-302

Haider-Markel, D.P., & Joslyn, M.R. (2008). Beliefs about the origins of homosexuality and support for gay rights: An empirical test of attribution theory. *Public Opinion Quarterly*, *72*(2), 291-310.

Haslam, N., Bastian, B., Bain, P., & Kashima, Y. (2006). Psychological essentialism, implicit theories, and intergroup relations. *Group Processes & Intergroup Relations*, *9*(1), 63-76.

Haslam, N., & Kvaale, E.P. (2015). Biogenetic explanations of mental disorder: The mixed-blessings model. *Current Directions in Psychological Science*, *24*(5), 399-404.

Haslam, N., & Levy, S. R. (2006). Essentialist beliefs about homosexuality: Structure and implications for prejudice. *Personality and Social Psychology Bulletin*, *32*(4), 471-485.

Hatemi, P.K., & McDermott, R., Eds. (2011). *Man is by nature a political animal: Evolution, biology, and politics*. Chicago: Chicago University Press.

Heider, F. (1958). *The psychology of interpersonal relations*. Hillsdale, NJ: Lawrence Erlbaum.

Heine, S.J., Dar-Nimrod, I., Cheung, B.Y., & Proulx, T. (In press). Essentially biased: Why people are fatalistic about genes. *Advances in Experimental Social Psychology*, *55*.

Hibbing, J.R. (2013). Ten misconceptions concerning neurobiology and politics. *Perspectives on Politics*, *11*(2), 475-489.

Hibbing, J.R., Smith, K.B., & Alford, J.R. (2014). *Predisposed: Liberals, conservatives, and the biology of political differences*. New York: Routledge.

Hodson, G., & Dhont, K. (2015). The person-based nature of prejudice: Individual difference predictors of intergroup negativity. *European Review of Social Psychology*, *26*(1), 1-42.

Hofstadter, R. 2006 [1944]. *Social Darwinism in American thought*. Boston: Beacon.

Hong, Y. Y., Coleman, J., Chan, G., Wong, R. Y., Chiu, C. Y., Hansen, I. G., ... & Fu, H. Y. (2004). Predicting intergroup bias: The interactive effects of implicit theory and social identity. *Personality and Social Psychology Bulletin*, *30*(8), 1035-1047.

Huddy, L., Mason, L., & Aaroe, L. (2015). Expressive partisanship: Campaign involvement, political emotion, and partisan identity. *American Political Science Review*, *109*(1), 1-17.

Iyengar, S. (1991). *Is anyone responsible? How television frames political issues*. Chicago: University of Chicago Press.

Iyengar, S., Sood, G., & Lelkes, Y. (2012). Affect, not ideology: A social identity perspective on polarization. *Public Opinion Quarterly*, *76*(3), 405-431.

Iyengar, S., & Westwood, S. J. (2015). Fear and loathing across party lines: New evidence on group polarization. *American Journal of Political Science*, *59*, 690-707.

Jayaratne, T.E., Ybarra, O., Sheldon, J.P., Brown, T.N., Feldbaum, M., Pfeffer, C.A., & Petty, E.M. (2006). White Americans' genetic lay theories of race differences and sexual orientation: Their relationship with prejudice toward blacks, and gay men and lesbians. *Group Processes & Intergroup Relations*, *9*(1), 77-94.

Keller, J. (2005). In genes we trust: the biological component of psychological essentialism and its relationship to mechanisms of motivated social cognition. *.Journal of Personality and Social Psychology*, *88*(4), 686.

Kvaale, E. P., Gottdiener, W. H., & Haslam, N. (2013). Biogenetic explanations and stigma: A meta-analytic review of associations among laypeople. *Social science & medicine*, *96*, 95-103.

Kvaale, E. P., Haslam, N., & Gottdiener, W. H. (2013). The 'side effects' of medicalization: A meta-analytic review of how biogenetic explanations affect stigma. *Clinical Psychology Review*, *33*, 782-794.

Levy, S. R., Stroessner, S. J., & Dweck, C. S. (1998). Stereotype formation and endorsement: The role of implicit theories. *Journal of Personality and Social Psychology*, *74*(6), 1421.

Lewontin, R.C., Rose, S., & Kamin, L.J. 1984. *Not in our genes: Biology, ideology, and human nature*. New York: Pantheon.

Mason, L. (2015). 'I disrespectfully agree': The differential effects of partisan sorting on social and issue polarization. *American Journal of Political Science*, *59*(1), 128-145.

Morin-Chassé, A. N.d. Does reading about genopolitics impact on people's views about the mutability of and the responsibility for political traits? Unpublished manuscript.

No, S., Hong, Y. Y., Liao, H. Y., Lee, K., Wood, D., & Chao, M. M. (2008). Lay theory of race affects and moderates Asian Americans' responses toward American culture. *Journal of Personality and Social Psychology*, *95*, 991-1004.

Pew. (2014). Political polarization in the American public: How increasing ideological uniformity and partisan antipathy affect politics, compromise and everyday life. Research report. Pew Research Center. June 12.

Pew. (2016). Partisanship and political animosity in 2016. Research report. Pew Research Center. June 22.

Plomin, R., DeFries, J.C., Knopik, V.S., & Neiderhiser, J.M. (2012). *Behavioral genetics*, *Sixth edition*. Worth Publishers.

Rattan, A., & Dweck, C. S. (2010). Who confronts prejudice? The role of implicit theories in the motivation to confront prejudice. *Psychological Science*, *21*(7), 952-959.

Rothbart, M., & Taylor, M. (1992). Category labels and social reality: Do we view social categories as natural kinds? In G.R.S. Semin & K. Fiedler (Eds.), *Language, interaction and social cognition* (pp. 11-36). Newbury Park, CA: Sage.

Rudolph, T.J. (2003). Who's responsible for the economy? The formation and consequences of responsibility attributions. *American Journal of Political Science*, *47*(4), 698-713.

Shariff, A.F., Greene, J.D., Karremans, J.C., Luguri, J.B., Clark, C.J., Schooler, J.W., Baumeister, R.F., & Vohs, K.D. (2014). Free will and punishment: A mechanistic view of human nature reduces retribution. *Psychological Science*, *25*(8), 1563-1570.

Sheldon, J.P., Pfeffer, C.A., Jayaratne, T.E., Feldbaum, M., & Petty, E.M. (2008). Beliefs about the etiology of homosexuality and about the ramifications of discovering its possible genetic origin. *Journal of Homosexuality*, *52*, 111-150.

Skitka, L. J., & Tetlock, P. E. (1993). Providing public assistance: Cognitive and motivational processes underlying liberal and conservative policy preferences. *Journal of Personality and Social Psychology*, *65*, 1205-1223.

Sullivan, J.L., Piereson, J., & Marcus, G.E. (1982). *Political Tolerance and American Democracy*. Chicago, IL: University of Chicago Press.

Suhay, E., & Jayaratne, T.E. (2013). Does biology justify ideology? The politics of genetic attribution. *Public Opinion Quarterly*, *77*(2), 497–521.

Turkheimer, E. (2000). Three laws of behavior genetics and what they mean. *Current Directions in Psychological Science*, *9*(5), 160-164.

Weiner, B. (1995). *Judgments of responsibility: A foundation for a theory of social conduct*. New York: Guilford.

Weiner, B., Osborne, D., & Rudolph, U. (2011). An attributional analysis of reactions to poverty: The political ideology of the giver and the perceived morality of the receiver. *Personality and Social Psychology Review*, *15*(2), 199-213.

Williams, M. J., & Eberhardt, J. L. (2008). Biological conceptions of race and the motivation to cross racial boundaries. *Journal of personality and social psychology*, *94*(6), 1033.

APPENDIX

Table A1: Pair-wise Correlations between Study 1 Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Lay Biopolitics																	
2. Political Intolerance	***0.27***																
3. Avoiding Ideological Outgroup	***0.22***	***0.45***															
4. Income	-0.09	-0.08	-0.09														
5. Education	-0.08	0.06	0.03	***0.28***													
6. Age	***-0.14***	***-0.13***	-0.04	0.08	***0.14***												
7. Gender (men)	-0.02	***0.13***	-0.05	-0.05	0.05	-0.09											
8. Race (white)	0.001	-0.05	***-0.16***	0.03	-0.07	0.08	0.01										
9. Ideology (conservative)	0.02	***0.12***	-0.01	0.002	0.01	***0.15***	***0.15***	0.04									
10. Party ID (Republican)	0.01	0.10	-0.05	0.04	-0.03	0.03	***0.19***	0.11	***0.66***								
11. Religious Attendance	0.08	***0.12***	-0.01	0.01	-0.002	0.05	***-0.12***	***-0.16***	***0.23***	***0.21***							
12. Political Knowledge	-0.08	-0.01	0.01	0.04	***0.24***	0.05	***0.17***	0.08	***-0.12***	-0.06	-0.03						
13. Entity Theory	***0.25***	0.05	***0.21***	0.02	-0.02	0.01	0.02	0.02	0.08	0.001	-0.04	-0.02					
14. Biological Basis of Essentialism	0.11	-0.06	-0.12	***0.17***	0.01	-0.05	-0.001	-0.06	0.06	0.13	0.01	-0.03	***0.31***				
15. Biological Gender Theory	***0.15***	0.04	-0.08	0.09	-0.14	0.01	-0.00	-0.01	***0.31***	***0.24***	0.10	-0.10	***0.32***	***0.38***			
16. Biological Basis of Homosexuality	-0.10	-0.03	-0.03	***0.24***	0.10	-0.05	-0.11	0.12	***-0.35***	***-0.18***	***-0.22***	0.10	0.14	0.14	***0.18***		
17. Biological Conception of Race	0.01	-0.05	-0.09	0.06	***-0.24***	***0.17***	0.02	0.11	***0.35***	***0.20***	0.03	***-0.17***	***0.29***	***0.25***	***0.44***	-0.06	
M	0.30	0.45	0.36	0.33	0.58	0.30	0.59	0.80	0.35	0.39	0.21	0.75	0.42	0.54	0.51	0.66	0.54
SD	0.17	0.16	0.19	0.23	0.19	0.22	0.49	0.40	0.32	0.29	0.31	0.24	0.21	0.16	0.20	0.23	0.16

Note: Bold and italicized = at least $p < .05$. Cell N's range between 179 and 283.

Table A2: Pair-wise Correlations between Study 2 Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Lay Biopolitics																
2. Political Intolerance	***0.53***															
3. Likeminded Community	***0.26***	***0.26***														
4. Opposition to Compromise	***0.22***	0.13	***0.16***													
5. Income	-0.07	-0.00	-0.07	-0.13												
6. Education	-0.11	-0.05	0.04	-0.08	***0.38***											
7. Age	***-0.19***	***-0.20***	-0.01	***-0.20***	-0.07	-0.10										
8. Gender (men)	0.08	0.02	0.11	0.05	-0.08	-0.03	0.04									
9. Race (white)	-0.07	***-0.16***	***-0.22***	-0.03	-0.06	-0.04	***0.16***	-0.00								
10. Ideology (conservative)	-0.13	-0.15	-0.03	0.05	-0.04	0.03	0.10	***0.16***	0.12							
11. Party ID (Republican)	-0.14	-0.11	-0.08	0.06	0.14	-0.02	-0.06	***0.16***	***0.20***	***0.61***						
12. Religious Attendance	0.09	0.14	0.03	0.15	0.08	0.08	-0.04	***0.16***	***-0.23***	***0.20***	***0.16***					
13. Trust in Science	-0.01	-0.04	***0.16***	***-0.16***	***0.18***	0.04	0.01	-0.10	-0.02	***-0.24***	-0.00	-0.15				
14. Scientific Knowledge	0.10	0.15	***0.17***	0.03	***0.22***	***0.17***	***-0.23***	0.05	-0.10	-0.09	0.09	0.10	***0.51***			
15. Perceived Environment	***0.22***	***0.23***	***0.18***	-0.08	***0.15***	0.12	-0.15	0.06	***-0.17***	-0.13	-0.05	0.04	0.12	0.14		
16. Perceived Choice	-0.11	-0.08	***-0.17***	-0.12	-0.04	-0.11	0.06	***-0.22***	-0.01	-0.04	-0.01	-0.10	***0.19***	0.11	-0.05	
M	.33	.27	.46	.52	.27	.62	.49	.46	.83	.52	.48	.38	.74	.61	.66	.76
SD	.21	.25	.29	.27	.21	.23	.26	.50	.38	.26	.37	.36	.28	.22	.22	.18

Note: Bold and italicized = at least $p < .05$. Cell N's range between 158 and 164.