

# Motivational Orientation Explains the Link between Political Ideology and Proenvironmental Behavior

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## Abstract

*Liberals and conservatives show consistent differences in attitudes toward proenvironmental behavior (or PEB); this research seeks to understand why. We investigated the role of political ideology in predicting self-reported PEB and assessed whether this association was mediated by environmental motivation. Survey respondents (N = 310) reported on their political ideology, type of motivation, and frequency of various PEBs. Results of structural equation modeling demonstrated that liberalism was positively associated with PEB and that this relationship was explained by autonomous motivation toward the environment. Conversely, liberalism was unrelated to external motivation and negatively related to amotivation, both of which were negatively associated with PEB. This research offers a deeper understanding of the mechanisms through which political ideology relates to PEB—that is, through the internalization of the motivation to perform these behaviors. To our knowledge, this study is the first to simultaneously examine the direct and indirect relationship between political ideology and proenvironmental efforts and*

*explicitly connect liberalism to autonomous motivation. We highlight important avenues for environmental communication and policy.*

**Key Words:** Proenvironmental behavior—Political ideology—Motivation—Autonomy—Liberalism.

Is there a consistent relationship between political ideology and efforts toward proenvironmental behavior (PEB)? Three decades of research show that liberals in the United States generally hold more positive attitudes toward PEB than do conservatives (Buttel & Flinn, 1978; Dietz et al., 1998; Dunlap, 1975; Feinberg & Willer, 2013); however, researchers have had limited success explaining why this is the case. We investigate the role of motivation as a possible mechanism through which political ideologies relate to PEB. We suggest that because modern American conservatives and liberals often hold different values within the environmental domain, they should also differ in the source of motivation underlying PEB. We extend past research to investigate whether liberal ideology is associated with greater effort toward PEB due to the internalization of the motivation to perform these activities.

## The Link between Political Ideology and PEB

It is well noted that political ideology is related to proenvironmental attitudes and behavior. For example, American liberals are more likely to increase their spending to purchase a more efficient product (Gromet et al., 2013) and more likely to recycle and attempt to conserve energy (Coffey & Joseph, 2013; Costa & Kahn, 2011). Studies within environmental psychology typically employ measures of right-wing authoritarianism or social dominance orientation—both of which often negatively predict PEB (Feygina, 2013; Milfont et al., 2013; Schultz & Stone, 1994). Others suggest, however, that this relationship is not as straightforward as has been suggested (Reese, 2012). Political ideology is a complex, multidimensional

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system of beliefs. Although there is still debate about which specific values form the basis for differences among political attitudes, many current conceptualizations characterize ideology along dimensions of *classic liberalism* and *economic egalitarianism* (Barnea & Schwartz, 1998; van der Waal et al., 2010). Classic liberalism refers to the belief that the “government should devote more time to guarding and cultivating individual freedoms and civil rights” as opposed to “protecting the societal status quo by controlling deviance from within or enemies from without” (Schwartz, 2004, p. 43). Economic egalitarianism refers to the belief that “government should devote itself more to promoting equality by redistributing resources” as opposed to “protecting citizens’ ability to retain the wealth they generate in order to foster economic growth and efficiency” (Schwartz, 2004, p. 44). It is important to note that while these two dimensions are mostly distinct, they are not completely independent. For instance, classic liberalism covers topics relative to both social and economic concerns (e.g., social values/civil rights and property rights).

Modern American ideologies are commonly classified along the *liberal/democratic* and *conservative/republican* continuums, where liberals are usually socially liberal but tend to take a more conservative stance on property and economic concerns (e.g., pro-choice and free speech, pro-regulation of business). Conservatives, however, are likely to have more traditional social views (e.g., value maintaining the status quo, restricting immigration) but liberal views on economic issues (pro-market, anti-regulation). For example, liberals tend to support the redistribution of resources through mechanisms like social welfare programs, whereas conservatives typically do not. This distinction may exist because conservatives, relative to liberals, tend to favor retaining hierarchical societal structures (Dunlap & Van Liere, 1984; Jost et al., 2003, 2009; Pratto et al., 1994; Schwartz, 1992; Schwartz et al., 2010).

These differences in attitudes toward tradition and equality may help to explain the modern American political divide in environmental attitudes—where liberalism is generally associated with a greater degree of environmental concern and PEB than is conservatism (Dunlap et al., 2001; Kohut et al., 2012). Early research suggests some of the conservative resistance to proenvironmental change is due to the endorsement of the dominant social paradigm, that is, environmental domination for economic gain (e.g., Dunlap & McCright, 2011; Van Liere & Dunlap, 1980). In contrast, American liberal views are associated with a greater willingness to self-sacrifice to improve the quality of the environment (Van Lange et al., 2012), and liberals are more likely than conservatives to be concerned about the rate of climate change (Leiserowitz et al., 2013, 2015; McCright & Dunlap, 2011). Recent experimental data shows that conservatives are significantly less likely to purchase a more expensive energy-

efficient light bulb when it is labeled with an environmental message compared to when it is unlabeled (Gromet et al., 2013). Some suggest that this is because environmental dialogue is usually framed in terms of harm and care—morals that resonate largely with liberal values (Feinberg & Willer, 2013).

Conservative opposition to environmental reform makes sense when considering that these reforms often involve an increase in government oversight and regulation and substantial change to common practices. Resistance to proenvironmental measures might simply be a product of pro-business interests coupled with a strong preference for limited government intervention. Conservatives tend to view the environment in more economic/utilitarian terms (rather than value it for its own sake or for the sake of others), whereas liberals are more likely to value the environment as a social good or something to which all people should have access (Costa & Kahn, 2011; Dunlap et al., 2001).

Despite this rationale, there is little psychological theory that clearly delineates *how* political ideology relates to PEB (Sears et al., 2003). Since there is evidence that conservatives and liberals have fundamentally different reasoning about rights within the environmental domain, it follows that they should differ in the source of motivation underlying PEB. We propose that the source or type of motivation is an important and overlooked mechanism through which political ideologies carry over into PEB.

### *Motivation to conserve: A self-determination theory framework*

Self-determination theory (SDT) describes the social and intrapersonal processes by which an individual internalizes behavior (Deci & Ryan, 1985; Deci et al., 1994; Sweeney et al., 2014; Williams & Deci, 1996). SDT suggests that motivation for any behavior lies on a continuum of self-determination (or internalization) ranging from *amotivated* to *externally driven/controlled* to *self-determined/autonomous*. Autonomously motivated individuals have internalized the regulation of behavior out of personal choice, value, or interest. Their motivation feels self-endorsed; thus behavior tends to remain stable without being provided external incentives and regardless of external barriers. For example, autonomously motivated individuals might engage in PEB because they believe it is important and personally worthwhile (Pelletier et al., 1998). In contrast, those with a controlled/external motivation act because they feel compelled by the expectations of others or because they are driven by the external consequence attached to inaction. An externally regulated behavior has not been fully internalized; ergo, the underlying motivation is not truly accepted as one’s own. Someone with external motivation, for instance, might perform PEBs simply to avoid being criticized by others.

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Finally, amotivated individuals do not see a benefit or reason for endorsing a behavior and consequently are more likely to give up. Amotivation is characterized by helplessness or a perceived lack of contingency between an action and its outcome. An amotivated individual might feel overwhelmed by the enormity of the environmental issues that need to be addressed and subsequently relinquish the effort to conserve simply because there seems to be no real value in these behaviors (Pelletier et al., 1999).

The source of motivation, broadly categorized as autonomous versus external versus amotivated, matters across a broad range of behavioral domains, including performance and satisfaction in school (Vallerand et al., 1993) and at work (Blais & Brière, 2002), better self-regulation of prejudice (Legault et al., 2007), and greater success in performing new motor tasks (Radel et al., 2009). In the environmental domain, a growing body of research indicates that an individual's motivational orientation predicts his or her level of environmental concern and PEB (Lavergne et al., 2010; Osbaldiston & Sheldon, 2003; Pelletier, 2002). Autonomous motivation toward the environment is a strong positive predictor of self-reported PEBs like recycling, conserving energy, purchasing biodegradable products, and reading about environmental issues (Pelletier & Sharp, 2008; Pelletier et al., 1998). Autonomously motivated individuals tend to be more proactive in seeking out information about the condition of their local environment (Pelletier et al., 2011) and engage in more effortful PEBs (Green-Demers et al., 1997).

Externally derived motivation has been shown to be unrelated to PEB, and amotivation has been shown to be negatively related to various behaviors like recycling, reusing clothing/objects, and buying biodegradable products (Pelletier et al., 1998). This highlights the ineffectiveness of external motivation in promoting PEB: Despite being motivated by external contingencies (e.g., money, pressure, expectation), there is no link to environmental action. Furthermore, recent evidence shows that providing an individual with an extrinsic incentive may actually undermine long-term PEB (Schwartz et al., 2015).

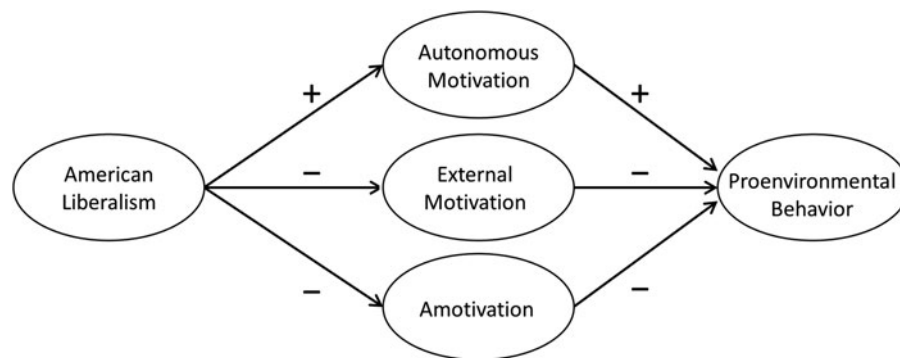
In sum, while some people may behave in proenvironmental ways because they believe it is inherently worthwhile, others might attempt PEB because they feel obligated or externally compelled to do so without really endorsing the value or utility. Others may be devoid of proenvironmental motivation altogether. These three categories of motivated reasoning underlying environmental behavior result in different qualities of self-regulation, where those with more internalized and autonomous motives are better at maintaining the behavior over sustained periods of time and in spite of barriers (Deci & Ryan, 1985; Pelletier & Sharp, 2008; Pelletier et al., 1998, 1999; Williams & Deci, 1996).

### *How might political ideology relate to differences in motivation toward the environment?*

The first major proposition we make is that liberalism will predict more autonomous proenvironmental motivation. This postulate rests on the notion that American liberals and conservatives tend to differ in how they construct their moral evaluative system (Bardi & Schwartz, 2010; Barnea & Schwartz, 1998; Caprara et al., 2006; Graham et al., 2009). Specifically, the liberal foci of equality, fairness, and compassion are likely to shape the valuing of PEB. For instance, global compassion (typically a liberal trait) has been shown to positively predict domain-specific compassion for the environment (Dietz et al., 1998; Pfattheicher et al., 2015). In contrast, individuals who endorse individualistic or materialistic values (which are associated with lower altruism and empathy for others) tend to have a conservative political stance (Van Lange et al., 2012; Zettler et al., 2011). Although not yet explicitly linked to political ideology, Kasser and Ryan (1993) identify two broad classifications of basic human values—*intrinsic* and *extrinsic*. Using the foundations of SDT, researchers demonstrated that extrinsic values (wealth, power, and image) tend to be materialistic in nature and are based in large part upon the conditional regard of others (which are promoted via social constraints and incentives; Kasser & Ryan, 1996). Conversely, intrinsic values—like autonomous motivations—are not contingent upon external standards of sanction or approval and are instead self-determined (e.g., valuing personal development and community affiliation). As Kasser (2002) notes, the pursuit of intrinsic values is inherently satisfying because such values work to fulfill basic psychological needs for autonomy, competence, and relatedness. Extrinsic values, in contrast, derive their regulation from external contingencies rather than from within the self.

What is particularly noteworthy about the SDT conceptualization is that intrinsic values tend to be—in general—more liberal in nature. Liberals generally base their values around individual autonomy and self-development, benevolence, openness to change, and acceptance of the differing viewpoints of others (Barnea & Schwartz, 1998; Schwartz et al., 2010)—all of which correspond to the contents of autonomous or intrinsic aspirations and goals (Kasser & Ryan, 1996). Conservatives, in contrast, tend to frame their values around features that map more strongly onto external motivations or extrinsic values (e.g., tradition, authority; Deci & Ryan, 2000; Kasser & Ryan, 1996). We suggest here that liberals (but not conservatives) tend to view the environment in terms of both personal meaningfulness and prosocial commitment (i.e., proenvironmentalism is a personal value that benefits the common good), so their environmental motivation should be, by definition, more autonomous and internally driven.

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**Fig. 1.** Proposed structural model of the mediating role of motivation in the link between ideology and PEB.

#### The current study

In this study, we examine how political ideology relates to PEB. In line with previous research (e.g., Dietz et al., 1998; Feinberg & Willer, 2013; Gromet et al., 2013), our proposed model expects that liberalism should predict greater self-reported PEB. In addition, we hypothesize that the link between liberalism and PEB will be mediated by autonomous motivation toward the environment. We expect that liberalism is positively related to PEB because the underlying motivation is autonomous in nature rather than external or amotivated. That is, liberals are expected to personally value and care about the environment, which should be associated with greater proenvironmental efforts. In contrast, we propose that conservatism should be positively related to both external motivation and amotivation toward the environment, which should be inversely related to PEB. We present our proposed model in Fig. 1.

## Method

### Participants and procedure

Our sample consisted of 310 participants (198 males and 111 females; 1 reported "Other") with a mean age of 28.9 years ( $SD = \pm 10.8$ ). Participants were recruited in two ways: (1) undergraduate students ( $n = 110$ ) attending a small university in the northeastern United States were selected randomly from students living on campus. These students were solicited by e-mail to complete a survey on environmental issues and university life; participation was voluntary<sup>1</sup>; (2) American adults from the general population were recruited using Amazon's Mechanical Turk ( $n = 200$ ), which is a Web-based crowd-

sourcing platform popularly used in social science research. Mechanical Turk participants were compensated 2 USD as a token of appreciation.<sup>2</sup> All participants responded to survey questions via a Web-based questionnaire. The questionnaire was designed to assess three main measures: political ideology (economic and social values), motivational orientation toward PEB, and self-reported frequency of PEB.

### Measures

**Political ideology.** A subset of questions from the Pew Research Center's American Values Survey (Kohut et al., 2012) was used to assess political ideology. Participants were asked to rate the extent to which they agreed with each statement on a 7-point Likert scale (1 = *strongly disagree*, 4 = *neutral*, 7 = *strongly agree*). A higher score on the *social* subscale indicated higher liberalism in this domain, or support for the government protecting individual freedoms and civil rights (as opposed to restricting freedoms, e.g., making abortion illegal). For example, the item "The growing number of newcomers from other countries threatens traditional American customs and values" was reverse-scored so that lower scores on this item indicated a higher liberalism score. The *economic* subscale can be equated with economic egalitarianism, where a higher score on the scale indicated higher support for government policies that promote economic equality by redistributing resources (i.e., through government regulation of business and/or social welfare programs).<sup>3</sup> An individual scoring low on this scale would likely agree with a statement like "Poor people have become too dependent on government assistance programs" and "Government regulation of business usually does more harm than good" (items both reverse-scored). To reflect and assess American liberalism, we combined the social and economic subscales. Together, these 11 items retained an acceptable level of internal consistency (Cronbach's  $\alpha = .77$ ).

**Motivational orientation.** The following five dimensions of the Motivation Toward the Environment Scale (MTES; Pelletier et al., 1998) were used: intrinsic motivation, integrated motivation,

<sup>1</sup>This research was approved by Clarkson University's Institutional Review Board (IRB#14-07).

<sup>2</sup>There were no statistical differences found between the responses of these two samples, therefore they were analyzed as one.

<sup>3</sup>"Economic egalitarianism" refers generally to concerns for the degree of government redistribution and economic inequality.

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identified motivation, external motivation, and amotivation. Participants were asked to rate the extent to which each item corresponded to their personal motives for engaging in environmental behaviors on a 7-point Likert scale (1 = *does not correspond at all*, 4 = *corresponds moderately*, 7 = *corresponds exactly*). Based on the formal conceptualization of autonomous motivation within SDT, the identified, integrated, and intrinsic dimensions composed our global “autonomous” dimension (Deci & Ryan, 2008; Ryan & Deci, 2000, 2002). We averaged across items within each subscale (4 items per subscale; 12 in total) to create three observed indicators of autonomous motivation toward the environment, representing each subtype of autonomous motivation (Green-Demers et al., 1997; Pelletier, 2002; Séguin et al., 1998). An example item reflecting autonomous motivation was, “because being environmentally conscious has become a fundamental part of who I am.” External motivation was measured using four separate items (e.g., “because other people will be upset if I don’t do things for the environment”). Finally, amotivation was measured using 3 items (e.g., “I don’t really know; I can’t see what I’m getting out of it”). The factor structure of the MTES has been validated by exploratory and confirmatory factor analyses (cf. Pelletier et al., 1998) and held a satisfactory level of internal consistency in the current study (Cronbach’s  $\alpha = .96$  for autonomous motivation,  $\alpha = .86$  for external motivation, and  $\alpha = .84$  for amotivation).

**Frequency of PEB.** Based on the Frequency of Conservation Behaviors measure developed by DeWaters and Powers (2011), participants were asked to indicate how often they currently perform various PEBs (10 items) on a 7-point Likert scale (1 = *never*, 4 = *sometimes, in about 50% of the chances when I could have*, 7 = *every time*). Behaviors ranged from daily activities—like recycling—to broader activities, such as purchasing high-efficiency lightbulbs and trying to save water. In line with previous studies, we grouped and averaged items to create three separate indicators of PEB (Kline, 2010) based on the conceptual premise that these items represent behaviorally different domains (see Dunlap et al., 2000; Karp, 1996; Stern, 2000). For instance, Green-Demers et al. (1997) found three distinct classes of behavior, including everyday activities like recycling, to purchasing environmentally friendly products, and more effortful behaviors, which map closely onto our clusters. One parcel described daily, frequent behaviors for energy conservation (e.g., turn off your computer when you are done with it; Cronbach’s  $\alpha = .78$ ). The second described recycling behavior (e.g., recycle or return glass bottles, cans, paper, and plastic containers; Cronbach’s  $\alpha = .59$ ), and the third described more effortful, but impactful behaviors (e.g., walk or bike to go short distances rather than driving or

asking for a ride in someone’s car; Cronbach’s  $\alpha = .50$  overall PEB Cronbach’s  $\alpha = .81$ )<sup>4</sup>.

### Analyses

Model assessment was performed using structural equation modeling (SEM) in EQS 6.2 (Bentler, 1990). The use of structural modeling techniques permitted the specification of a complex sequence of associations among the latently measured variables. We expected that American liberal ideology (individualistically oriented social values together with economic egalitarianism) would predict higher PEB—and that this relationship would be explained by autonomous motivation toward PEB rather than external motivation or amotivation.

The proposed ideological-motivational model was estimated (via maximum likelihood estimation) for our sample of American adults. The size and statistical significance of estimated path coefficients were assessed and the degree of model fit between the observed and model covariance matrices was ascertained using the following widely and currently recommended criteria (Hu & Bentler, 1999). We used the Satorra-Bentler  $\chi^2$  likelihood ratio statistic, the comparative fit index (CFI; Bentler, 1990), the root mean square error of approximation (RMSEA; Steiger, 1989), and the standardized root mean-squared residual (SRMR; Jöreskog & Sörbom, 1993).

## Results

### Correlations among latent factors

Correlations among our latent variables are presented in Table 1. In line with our expectations, we found that liberalism was positively associated with autonomous motivation and the frequency of reported PEB. Liberalism was negatively associated with amotivation and external motivation; however, the relationship with external motivation failed to reach statistical significance ( $p = .07$ ). Also following our expectations, autonomous motivation was positively associated with PEB and negatively related to amotivation. External motivation was negatively associated with the self-reported frequency of PEB, as was amotivation.

### Testing the measurement model

Before testing the structure among latent variables, the measurement model was assessed from several angles in order to correct any measurement misspecification. Confirmatory factor analyses (CFAs) were performed to determine the extent to which indicators loaded

<sup>4</sup>Although the internal consistency is mediocre for two of the behavioral dimensions, the factor loadings in the measurement model are acceptable. Moreover, the structural equation modeling itself takes into account measurement error, making it a more reliable measure of PEB overall.

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Table 1. Correlations among Latent Factors

DIMENSION	LIBERALISM	AUTONOMOUS MOTIVATION	EXTERNAL MOTIVATION	AMOTIVATION	PEB
Liberalism	—	.35*	-.09	-.28*	.33*
Autonomous Motivation		—	.08	-.38*	.65*
External Motivation			—	.52*	-.17*
Amotivation				—	-.42*
PEB					—

\*Correlation is significant at the .05 level (two-tailed).

onto their target latent variables. The factor loadings were of acceptably high magnitude for each of the six latent factors in our model (i.e., all over .50, see Table 2). Results of the CFA yielded the following fit indices: S-B  $\chi^2(108)=231.989$ ,  $p<.001$ , CFI=.945; RMSEA=.061 (90% confidence intervals: .050–.072); and SRMR=.056. These fit indices indicated that the measurement model fit the data well.

#### Testing the structural model

We tested the proposed model specified in Fig. 1 using SEM. Results yielded the following fit indices: S-B  $\chi^2(110)=272.701$ ,  $p<.001$ , CFI=.928; RMSEA=.069 (confidence intervals: .059–.079); and SRMR=.078. Testing an alternate model with social liberalism and economic egalitarianism as separate factors yielded a CFI of .92. While this is an adequate fit, post hoc model specification indicated multiple cross-loadings between the two factors. Therefore these factors were converged to avoid multicollinearity. Our results indicate that American liberalism positively predicts PEB, and this relationship is explained by autonomous motivation toward PEB. In contrast, liberalism was negatively associated with external motivation and amotivation, which in turn were also negatively associated with PEB. These results offer evidence that autonomous motivation explains the relationship between political ideology and PEB, while external motivation does not. The final model is shown in Fig. 2.

## Discussion

In this study, we analyzed the link between political ideology and PEB and found that liberalism positively predicts PEB and that this relationship is explained by autonomous motivation. The results of

our modeling highlight the important mediating role of motivation—that is, political liberalism is associated with greater behavioral intentions because these behaviors stem from autonomous (not external) motivation. To our knowledge, this study is the first to simultaneously examine the direct and indirect relationship between political ideology and proenvironmental efforts and explicitly connect liberalism to autonomous motivation.

Our findings support the established relationship between political ideology and attitudes toward energy conservation that has been confirmed in previous research (Buttel & Flinn, 1978; Dietz et al., 1998; Kohut et al., 2012; Gromet et al., 2013).<sup>5</sup> Importantly, however, we also go beyond previous research by testing the motivational mechanism

through which these variables are related. That is, we suggest that because liberalism invokes autonomous and intrinsic personal values, it predicts self-determined motivation to engage in PEB—which is a more effective motivator. In contrast, conservatives' motivation toward the environment is more likely to be external or amotivated—which are ineffectual behavioral motives in the environmental domain. In fact, it should be noted that external motivation was actually *negatively* related to self-reported environmental behavior. This is a noteworthy finding, as it suggests that being motivated to help the environment for the wrong reasons may actually have a deleterious effect. Overall, the current findings provide a deeper and clearer understanding of the link between political ideology and PEB by highlighting the role of motivation.

We also offer a conceptual and empirical integration of SDT and political ideology. Indeed, the observed association between modern liberal ideology and autonomous forms of motivation underlying PEB is likely to provide a fruitful basis for future work examining the motivational implications of political values. Although readers should be cautious about generalizing this work to other spheres (i.e., it is possible that modern conservatives are highly self-determined in other behavioral domains separate from the environment), future

<sup>5</sup>Some might argue that “party sorting” can explain the results of this study. Party sorting and political polarization generally explain the development of an individual’s political ideology and the degree of ideological cohesion (or the depth of the individual’s stance). Our model explains why political ideology is related to PEB, rather than explaining the development of the ideology itself; therefore it does *not* provide evidence against and can happily coexist with our model.

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**Table 2. Factor Loadings and Error Variances for the Observed Variables in the Measurement Model**

OBSERVED INDICATORS	FACTOR				
	LIBERALISM	AUTONOMOUS MOTIVATION	EXTERNAL MOTIVATION	AMOTIVATION	PEB
<b>Econ1</b> The government should help more needy people even if it means going deeper in debt	.89 (.47)				
<b>Econ2</b> Government regulation of business usually does more harm than good*	.72 (.69)				
<b>Soc1</b> The growing number of newcomers from other countries threatens traditional American customs and values*	.53 (.85)				
<b>Soc2</b> Gays and lesbians should be allowed to marry legally	.51 (.86)				
<b>Aut1</b> Because I experience pleasure while improving the quality of the environment		.82 (.57)			
<b>Aut2</b> Because taking care of the environment is an integral part of my life		.88 (.47)			
<b>Aut3</b> Because I think it's a good idea to do something about the environment		.79 (.45)			
<b>Ext1</b> Because other people will be upset if I don't			.80 (.60)		
<b>Ext2</b> For the recognition I get from others			.69 (.73)		
<b>Ext3</b> Because my friends insist that I do it			.77 (.63)		
<b>Ext4</b> To avoid being criticized			.86 (.52)		
<b>Amot1</b> Honestly, I don't know; I truly have the impression that I'm wasting my time doing things for the environment				.83 (.56)	
<b>Amot2</b> I don't really know; I can't see what I'm getting out of it				.81 (.59)	
<b>Amot3</b> I don't know; I can't see how my efforts to be environmentally conscious are helping the environmental situation				.75 (.66)	
<b>Beh1</b> Turn off your computer when you are done with it					.70 (.71)
<b>Beh2</b> Recycle or return glass bottles, cans, paper, and plastic containers					.68 (.73)
<b>Beh3</b> Walk or bike to go short distances, rather than driving or asking for a ride in someone's car					.75 (.66)

*Note:* Error variances are in parentheses; all parameters are significant at the .001 level. Econ=Economic Egalitarianism; Soc=Social Liberalism; Aut=Autonomous Motivation; Ext=External Regulation; Amot=Amotivation; Beh=Proenvironmental Behavior.  
\*Example item was reverse-scored.

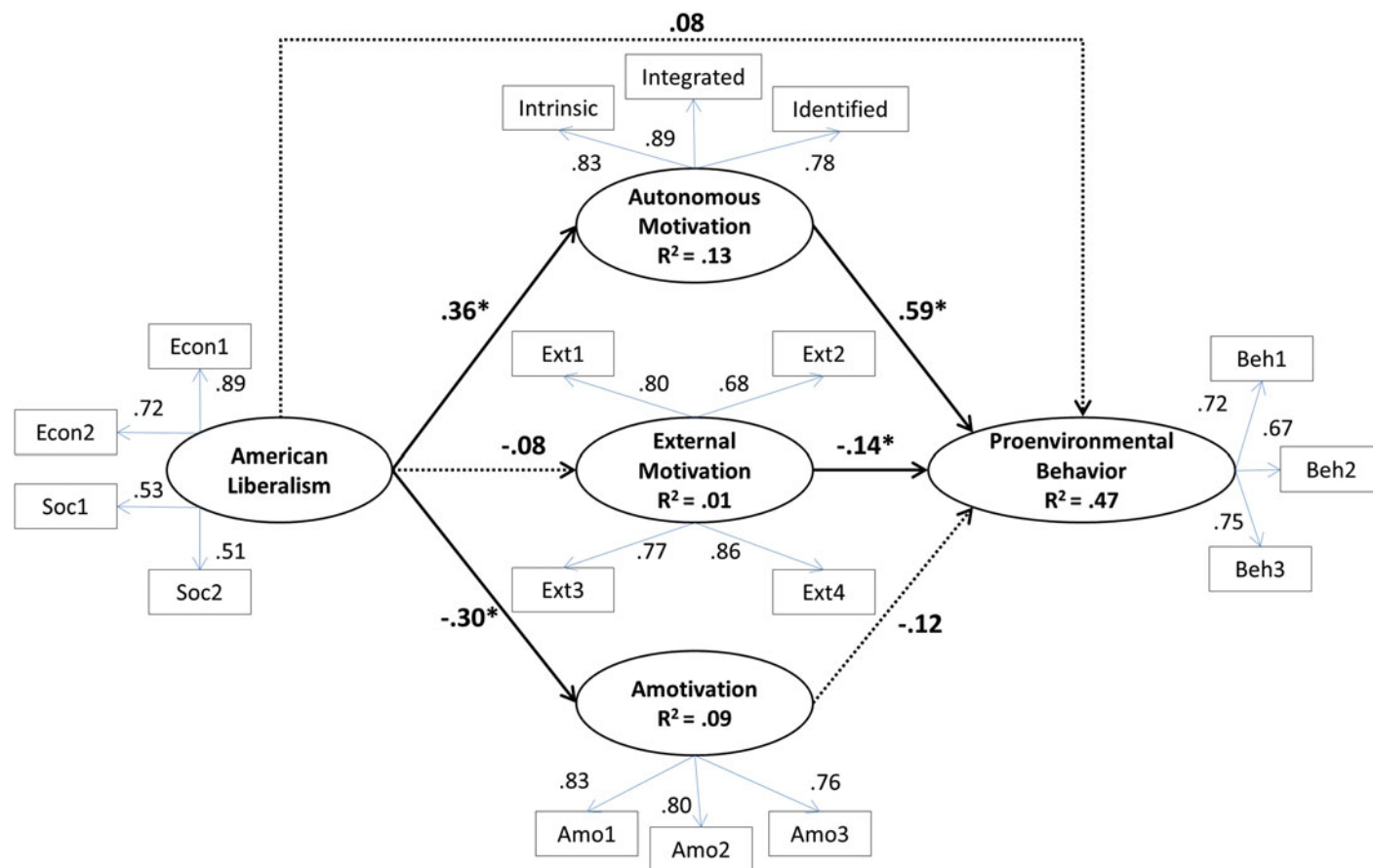
research could consider how political ideology and self-determined motivation intersect to affect attitudes and behavior in different domains (e.g., stereotyping and prejudice).

### Practical applications

This work may bear implications for the development of interventions designed to increase PEB. Given the positive association

between autonomous motivation and PEB, future research and applications might focus on targeting and magnifying internal, self-determined motivation specifically, rather than more external forms of motivation. Indeed, the current results suggest that targeting external controls (e.g., governmental) over environmental behavior may be counterproductive. Perceiving the government as controlling actually has a negative effect on an individual's autonomy (as it

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**Fig. 2.** Structural model of the mediating role of motivation in the link between ideology and PEB. Factor coefficients are shown in regular font; standardized path coefficients are displayed in bold. *Parcel labels:* Econ = Economic Egalitarianism; Soc = Social Liberalism; Ext = External Regulation; Amo = Amotivation; Beh = Proenvironmental Behavior.

positively influences levels of controlled motivation and amotivation; Lavergne et al., 2010). Thus, rather than focusing on external incentives, coercion, punishers, or reward, intervention programs and public messaging platforms should instead focus on internal reasons, such as the utility, importance, and value of proenvironmental action. A critical tenet of SDT is that self-determined motivation can be harnessed in a number of ways (e.g., by providing useful information and rationale regarding the importance of PEB, by increasing competence in behavior, by giving people the freedom to choose behaviors they care about most; Reeve, 2015). Studies that incorporate SDT in understanding PEB indicate that behaviors performed for internal (or self-determined) reasons have a higher probability of becoming incorporated into the individual's

lifestyle and are more likely to be maintained (Gagne, 2014). Moreover, self-determined motivation is more likely to provide long-term behavioral effects and increase the degree of behavior change persistence or latency (Gagne, 2014; Teixeira et al., 2012). Given that self-determined motivation is related to PEB, whereas external motivation appears to actually undermine proenvironmental action, policy makers at the educational, organizational, and community level should take these findings into account when attempting to develop ways to increase positive attitudes toward PEB.

Although the current findings (and SDT research more generally) indicate that increasing autonomous motivation toward the environment is an advisable intervention strategy overall, an interesting



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contribution of the current work is the possibility that targeting autonomous motivation is more germane for liberals than conservatives. Accordingly, some researchers have suggested that, when it comes to promoting PEB, it may be advisable to implement different types of messaging for different groups of individuals (e.g., Pelletier & Sharp, 2008). More specifically, it has been shown that liberals are more likely to respond positively to energy conservation and efficiency-related behavioral change than are conservatives (Costa & Kahn, 2011; Feinberg & Willer, 2013; Gromet et al., 2013). This is an important area for future research, as dialogue surrounding PEB is often framed in terms of self-sacrifice, which suggests a fundamental conflict between PEB and personal (human) well-being and comfort. These ideological and framing issues deserve special attention when attempting to promote PEB, as the environmental divide between political coalitions will likely remain if environmental messages continue to be proposed this (i.e., “liberal”) way. Indeed, the need for different forms of communication and relevant framing may go beyond a simple liberal-conservative ideological framework and may require specific areas of messaging that are even more detailed. The bottom line is that messages aimed at encouraging PEB will likely only be effective if they target the personal values held by the individual energy consumer (Pelletier & Sharp, 2008).

### Limitations and future directions

An important concern for our study is that our dependent variable was calculated from self-reported PEB, rather than measured from actual behavior in a real-world setting. We acknowledge this constraint and note that future research should test this model on behavioral data in a real-world setting. Additionally, our sample consisted of American adults; therefore, we urge caution in generalizing our results to other cultures. Personal values and motivations might predict PEB in Western cultures such as those in Europe or the United States but might not necessarily predict an individual's behavior the same way within a non-Western society such as Japan—where adherence to the status quo (i.e., external regulation) is strongly endorsed (see Haidt & Joseph, 2004, 2007; Leung & Cohen, 2011; Thorisdottir et al., 2007). However, despite these cultural differences, the positive relationship between self-transcendence (or a concern for the welfare of others) and environmental concern has indeed shown generalizability across Brazil, India, Czech Republic, New Zealand, Germany, and Russia (Schultz et al., 2005). Since our model takes both value and motivation into consideration when predicting PEB, we expect that our results may, in fact, generalize to other cultures, but cross-cultural testing is necessary to substantiate this claim.

### Conclusion

To expand the adoption of energy-efficient actions, we need to better understand the psychological antecedents of PEB. We provide evidence that political liberals report a higher frequency of performing proenvironmental activities *because* these behaviors stem from internal, self-determined motivation. As such, we provide a platform for better understanding political ideology and the environment through a SDT lens.

### Acknowledgments

This research was supported in part by funding from the New York State Energy Research & Development Authority PON 2631. Undergraduate research was partially sponsored by ASSETs to Serve Humanity (Research Experience for Undergraduates Site Program) through National Science Foundation (NSF) Grant No. EEC-1359256.

### Author Disclosure Statement

This is an original research project. The ethical standards of APA were respected during the course of this research, and my coauthors and I have no external interests that might be seen as influencing the outcome of the research.

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Received: June 20, 2016  
 Accepted: September 12, 2016

AU1: Sentence ok with changes?

AU2: What does “are” refer to in “which are promoted”?

AU3: Deci & Ryan (2000) and Deci & Ryan (2008) are in the text, but they are not found in the references. Please reconcile.

AU4: Dunlap & McCright (2008) is found in the references but is not found in the text. Please reconcile.