

Getting Liberals and Conservatives to Go Green: Political Ideology and Congruent Appeals

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The authors develop a conceptual model of how the congruence of political ideology and persuasive appeals enhances sustainable behaviors. In study 1, persuasive appeals consistent with individualizing and binding moral foundations were developed to enhance liberal and conservative recycling. In study 2, individualizing and binding appeals were tested on actual recycling behavior using a longitudinal field study to demonstrate the effectiveness of messages congruent with the moral foundations of liberals and conservatives. Study 3 demonstrated that enhanced fluency represents the underlying psychological process that mediates the relationship between message congruence and intentions. Moreover, study 3 established that spillover effects resulting from increased intentions to engage in sustainable disposition behavior enhance intentions to engage in sustainable acquisition and consumption behaviors. Finally, study 4 ruled out potential message confounds to demonstrate the robustness of the findings. Practical implications for marketers and public policy officials interested in increasing sustainable behaviors are offered.

At the forefront of the sustainability movement are efforts to increase environmental consciousness and promote sustainable consumption and disposition (Hanas 2007; McDonagh, Dobscha, and Prothero 2012). Yet, many consumers are either skeptical of or reluctant to embrace green marketing efforts (Luchs et al. 2010). Considerable research

has been devoted to understanding and overcoming this reluctance through policy, regulatory, market, and technological innovations (Crittenden et al. 2011). While some progress has been made in this area (Polonsky 2011; Prothero et al. 2011), much work remains to be done to uncover new approaches for increasing sustainable behavior.

Given the sharp divide in attitudes toward many sustainability issues (e.g., climate change), particularly on opposite sides of the political aisle (Baumgartner and Jones 2009; Kim, Rao, and Lee 2009), it is surprising that little attention has been paid to understanding consumer differences in political ideology and how to appeal to these differences in order to influence sustainable behaviors. Might unique appeals targeted to liberals and conservatives, based on their underlying ideological differences, be more effective at persuading them to adopt environmentally conscious behaviors? If so, what process can inform us about how these consumers are influenced?

In this research, we investigate how persuasive appeals, congruent with underlying moral foundations, influence sustainable practices. Further, a mechanism by which targeted political appeals influence consumers' ease of processing and ultimately influence sustainable intentions and behavior

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is uncovered. Several alternative explanations are ruled out, and message confounds are attenuated.

Next, recent research on political ideology is discussed, and the moral foundations of liberals and conservatives that underlie these ideologies are described. Then, we discuss how different persuasive appeals can tap the unique foundations of each ideology and how they can be used to increase sustainable behaviors. Finally, the mediating role of fluency is introduced, and how our appeals exhibit a spill-over effect onto acquisition and usage-sustainable behaviors is described. Our conceptual model is displayed in figure 1.

THEORETICAL DEVELOPMENT

Political Ideology

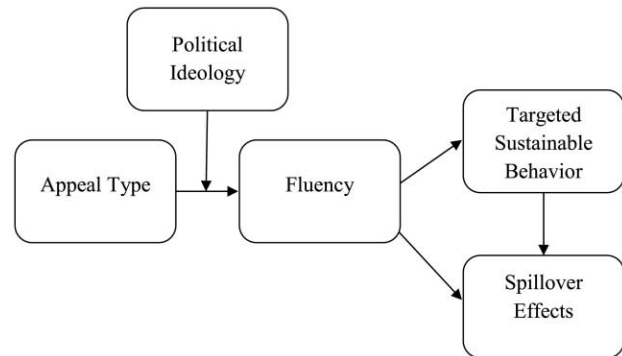
We define political ideology as the set of attitudes, which contain cognitive, affective, and motivational components, that explains how society should function in order to achieve social justice and social order (Jost 2006). Consistent with the work of Kruglanski (1996, 1999) and colleagues (Jost et al. 2003; Kruglanski and Webster 1991, 1996), we view liberal and conservative orientations as generalized personality orientations. Since the 1800s, the left-right distinction has been used to describe differences in political ideology, which originated from the way the French parliament was seated (Bobbio 1996). While abstract, this differentiation has been classified as the most parsimonious and useful way to characterize political views and has proven useful among virtually all cultural contexts (Jost 2006). Research also suggests that employing this continuum is valid for predicting individuals' behavior (Graham, Haidt, and Nosek 2009).

While scholars outside of marketing have conducted notable research, there has been little research focusing on political ideology in marketing. In psychology, Jost et al. (2003) identified several predictors of one's political ideology. Those with a conservative mind-set reported higher death anxiety, dogmatism, fear of threat and loss, need for order, structure, and closure, whereas liberally minded individuals reported higher openness to experience, integrative complexity, and self-esteem. Recently, research has been extended to understanding the moral foundations of liberals and conservatives. We define "moral foundations" as the manner in which foundational moral values vary between groups of people. For example, McAdams et al. (2008) used life-narrative interviews of self-labeled conservatives and liberals and found that liberals recalled stories of lessons learned regarding openness and empathy that taught them to avoid harm and value fairness. In contrast, conservatives were more likely to recall lessons learned about strict rules and self-discipline that taught them to value purity, authority, and in-group conformity.

Graham et al. (2009) found that conservatives strongly favor in-group loyalty, authority, and purity driving them toward a "binding" foundation for moral judgments where they tend to adhere to the social norms of their in-group, strive for a high degree of self-control, and uphold a strong sense of duty. For a binding foundation, the group itself

FIGURE 1

CONCEPTUAL MODEL OF THE CONGRUENCY OF APPEAL AND POLITICAL IDEOLOGY ON SUSTAINABILITY EFFECTS



serves as the reference for what is deemed moral. Tightly knit communities serve to maintain social order, where social structures are responsible for prescribing the appropriate moral beliefs and actions of the community. The reason conservative and religious institutions are so appealing to many is their focus on the principles of loyalty, obligation, and sanctity contained in the binding moral foundation, which focuses on bringing people together and forming larger groups (Graham et al. 2011).

Conversely, liberals are more focused on the moral foundations of caring and fairness, which build toward an "individualizing" moral foundation based on their inner feelings about moral behavior with specific regard to individual rights and welfare (Graham et al. 2009). An individualizing moral foundation uses the individual as the reference for morality and seeks to protect one from potential harm and being mistreated by others for the pursuit of social justice (Graham et al. 2011). Here, social justice describes a focus on the equitable treatment of all individuals in order to maximize everyone's autonomy and welfare. The attention toward the principles of the rights and the welfare of the individual contained in the individualizing foundation is what makes liberalism attractive to many.

Given the growing body of research on political ideology and its chronic, dispositional, and relatively stable nature, we seek to develop ways in which appeals designed to be congruent with moral foundations can be used to influence behavior, specifically related to increasing sustainable behaviors. These foundations provided the basis for developing our persuasive appeals.

Matching Persuasion to Moral Foundations

Consistent with past research suggesting the powerful effects of messages that are congruent with individual differences (Chandon, Wansink, and Laurent 2000; Kivetz 2005; Mitchell, Kahn, and Knasko 1995), we propose that persuasive appeals congruent with underlying moral founda-

tions will significantly increase sustainable intentions and behavior. That is, we expect that messages appealing to binding (individualizing) moral foundations will have the greatest positive impact on conservatives (liberals).

Therefore, we have developed persuasive appeals that are congruent with conservative and liberal moral foundations to promote sustainable behaviors. Given that conservatives value duty, authority, self-discipline, and actions consistent with their in-group's social norms (Graham et al. 2009; McAdams et al. 2008), we created a persuasive appeal including information consistent with their binding moral foundation. This type of messaging incorporates adherence to social norms and in-group effects while promoting actions that will strengthen the social order (Janoff-Bulman, Sheikh, and Hepp 2009). This is also consistent with a binding moral foundation in that this appeal uses terms like "we," "citizens," "duty," and "our," as well as images of patriotism.

Conversely, liberals value empathy, fairness, and individuality (McAdams et al. 2008; Morrison and Miller 2008). We developed a message designed to appeal to liberals' underlying individualizing moral foundation in an effort to make them feel good. This type of messaging sets the individual apart as one who helps others while promoting behaviors or actions that improve overall social justice (Janoff-Bulman et al. 2009). This is consistent with an individualizing appeal through a call to individual action, as well as images of helping and fairness, and relies on a caring nature. We therefore predict:

- H1:** The congruence between political ideology and persuasive appeal will increase intentions to recycle, such that liberals (conservatives) will have greater intentions to recycle when exposed to an individualizing (binding) appeal.

Fluency

A considerable amount of research indicates that the persuasiveness of a message is enhanced when it fits with the observer's mental representational state (Schwarz and Clore 1983). When encountering information that is consistent with their beliefs, values, and opinions, individuals are likely to experience a feeling of fluency or ease of comprehension, generating a "feels right" experience (Reber, Schwarz, and Winkielman 2004). Similar to positive affect (Cesario, Grant, and Higgins 2004), in which individuals feel a generalized state of emotional arousal, fluency additionally engenders a feeling that something "just fits" by feeling genuine and desirable (Lee and Aaker 2004). Moreover, Kim et al. (2009) suggest that this feeling "right" elicits more favorable evaluations of a message because individuals misattribute their feeling-right experience to the quality of the persuasive message. Consumers often evaluate messages or even objects on the basis of the subjective feelings of ease of comprehension experienced at the time of exposure (Schwarz 2004). For example, consumers are better able to comprehend product information if it is presented in colors

that are easy to read relative to the background (Reber and Schwarz 1999) or if they have been exposed to the same or related information previously (Labroo and Lee 2006; Lee and Labroo 2004). Other research has shown this effect across various contexts including healthy eating behavior (Cesario et al. 2004) and compliance to health-care recommendations (Lee and Aaker 2004). We suggest that when persuasive appeals are congruent with people's ideology, the message will resonate with the observer, who will experience a "feels right" moment. The fluency experienced will be persuasive and compelling, likely leading to the desired behavior. Therefore, we predict:

- H2:** The effects of congruence between political ideology and persuasive appeal onto recycling intentions will be mediated by fluency such that individualizing (binding) appeals will have greater fluency for liberals (conservatives).

Spillover Effects

Spillover describes the extent to which a message influences behaviors related to aspects not contained in the message (Ahluwalia, Unnava, and Burnkrant 2001). The effects of positive spillover have been explored on perceptions of quality (Ahluwalia et al. 2001), brand attitudes (Rao, Qu, and Ruekert 1999), purchasing behavior (Janakiraman, Meyer, and Morales 2006), expressions of gratitude (Raggio and Folse 2011), and proenvironmental messages (Thøgersen and Crompton 2009; Verplanken and Holland 2002).

Understanding sustainability spillover effects and when they occur has important implications for influencing consumer behavior. For example, when individuals view a congruent, proenvironmental message about recycling, it is likely that their increased intentions to recycle will initiate other proenvironmental behaviors such as purchasing green products and conserving resources. Invoking moral foundations through persuasive appeals congruent with a consumer's political ideology is likely to result in a generalized feeling that one should engage in sustainable behaviors at a broader level, not just the specific behaviors mentioned in the appeal. Thus, we predict that the positive impact of congruent appeals on their targeted disposition behavior (i.e., recycling behavior) will elicit a spillover effect by transferring to other sustainable nondisposition-related behaviors such as the acquisition of sustainable products (e.g., compact fluorescent light bulbs) and sustainable usage behaviors (e.g., water conservation). Thus, we predict:

- H3:** The effects of fluency onto green product acquisition intentions and sustainable usage intentions will be mediated by recycling intentions.

Plan of Studies

In study 1, persuasive recycling appeals are developed to invoke binding and individualizing moral foundations and are tested against a control group that received a neutral

recycling appeal. Several manipulation and confound checks are assessed. Next, in study 2, we demonstrate that appeals congruent with a consumer's political ideology are effective at enhancing actual recycling behavior in a 14-week longitudinal field experiment across 113 households. Study 3 then extends these findings by uncovering the underlying mechanism associated with congruent appeals and investigates whether spillover effects influence acquisition and usage disposition intentions. Finally, in study 4, we rule out potential confounds in the ideological appeals and demonstrate the robustness of our conceptual model.

STUDY 1

Overview

Recycling appeals consistent with individualizing and binding moral foundations were developed and used to investigate hypothesis 1. Specifically, recycling intentions should be increased when liberals are exposed to an individualizing moral appeal and when conservatives are exposed to a binding moral appeal. We examine these appeals using a thought-listing task as well as manipulation check items to demonstrate that each is tapping the intended moral foundation.

Procedure

Participating for partial course credit, 82 undergraduate business students from the University of Kentucky completed a measure of political ideology adapted from Nail et al. (2009), as well as the 30-item moral foundation questionnaire (MFQ; Graham et al. 2011). The MFQ was included to replicate previous findings that liberals follow an individualizing moral foundation and conservatives follow a binding moral foundation. The items for political ideology and the MFQ are provided in appendix B, available online. Next, participants were given a cover story and asked to complete a set of items for a separate study related to personality and decision making in which they were exposed to one of two recycling appeals manipulating either an individualizing or binding moral foundation. Specifically, 40 participants saw the binding appeal, while 42 participants saw the individualizing appeal. These appeals are provided in appendix B, available online. Participants then completed two manipulation check measures. First, a thought-listing task was assessed in which participants were asked to list up to five personal thoughts or phrases they had in response to the recycling appeals. This task was used as a secondary embedded qualitative check to demonstrate that both ideologies were indeed underscored by deeper binding or individualizing moral foundations. Next, 11 items were adapted from the MFQ that were used as the primary manipulation check assessing whether each recycling message appealed to its respective moral foundation. Specifically, five items were used for the individualizing appeal check, and six were used for the binding appeal check (see app. B,

available online). Finally, the dependent variable, recycling intentions, was collected.

Measures and Manipulation

Political Ideology. A seven-item scale adapted from Nail et al. (2009) was used to measure political ideology and is included in appendix B, available online. This scale assessed perceptions of capital punishment, abortion (prolife), gun control, socialized health care, same-sex marriage, illegal immigration, and democrats ($\alpha = .70$). These seven items were measured on a 7-point scale: 1 = strongly against, 7 = strongly favor, where lower numbers represent a liberal ideology and higher numbers represent a conservative ideology.

Moral Foundations. The MFQ (Graham et al. 2011) was used to assess whether conservatives and liberals scored higher on their respective foundations. The full 30-item MFQ is provided in appendix B, available online. The individualizing moral foundation ($\alpha = .81$) was measured with 12 items while the binding moral foundation measure ($\alpha = .85$) used 18 items. Half of the items were scored on a 7-point scale with endpoints: 1 = very irrelevant, 7 = very relevant, while the remaining items were scored on a 7-point scale with endpoints: 1 = strongly disagree, 7 = strongly agree.

Persuasive Appeals. Two appeals (provided in app. B, available online) were developed to reflect either an individualizing moral foundation or a binding moral foundation. The individualizing appeal for liberals focused on fairness and reducing harm to others to create a sense of feeling good, consistent with an individualizing foundation. For example, this appeal featured a reference to Habitat for Humanity's "Cans for Keys" program and showed a picture of people working together to help others and the environment. Conversely, the binding appeal for conservatives was grounded in information related to the theme of being part of a group as well as a duty and obligation to adhere to authority. For example, this appeal featured information about the state's increase in recycling participation over the past year.

Persuasive Appeal Manipulation. First, using a thought-listing procedure, participants were asked to list as many specific thoughts and feelings they had with respect to the appeal they had previously viewed. In addition to the thought-listing task, items adapted from the MFQ (Graham et al. 2011) were used as the primary check on the manipulation of the ads to demonstrate that they appealed to the underlying moral foundations. Five items made up the individualizing foundation check ($\alpha = .78$) and six items were used for the binding foundation check ($\alpha = .72$). All items used a 7-point scale: 1 = strongly disagree, 7 = strongly agree. These items are included in appendix B, available online.

Recycling Intentions. Recycling intentions ($\alpha = .91$) were measured using a three-item semantic differential scale

from White, MacDonnell, and Dahl (2011). Each item was assessed on a 7-point scale: 1 = highly unlikely, not very inclined, very unwilling; 7 = highly likely, very inclined, very willing.

Results

Political Ideology and Moral Foundations. Consistent with prior research, political ideology was shown to be closely associated with moral foundations assessed using the MFQ measure. Specifically, conservatives aligned with a binding moral foundation ($r = .31, p < .01$), and liberals aligned with an individualizing foundation ($r = -.26, p < .05$).

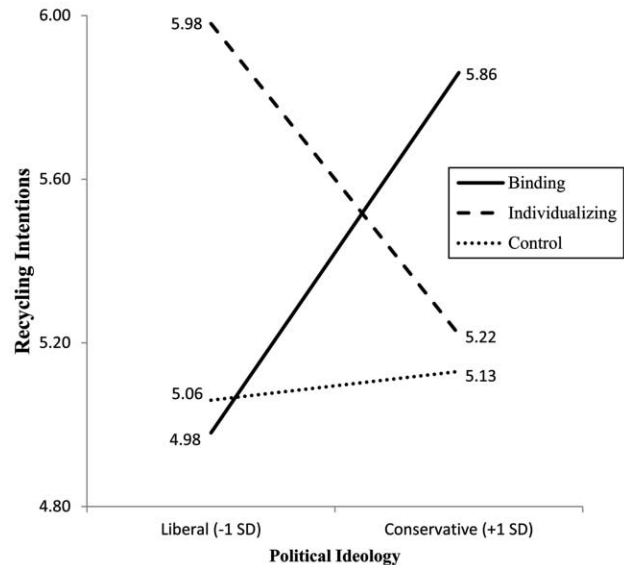
Persuasive Appeal Manipulation. Two independent raters were provided with definitions of both a binding and individualizing moral foundation and were asked to code each thought as following an individualizing moral foundation (e.g., “recycling helps the less fortunate,” “sympathetic,” “take care of nature”), a binding moral foundation (e.g., “I feel patriotic,” “do my duty,” “obliged to help”), or being unrelated (e.g., “neither right or wrong”). All unrelated statements agreed upon by both raters were excluded from the analysis. Interrater agreement was 94%, and all disputes were settled by an independent third rater, each of which was unaware of the research purpose (Perrault and Leigh 1989). A chi-square test of independence revealed a significant difference in the number of foundational thoughts generated by the different appeals ($\chi^2 = 47.68, p < .01$). As expected, the binding appeal elicited a significantly greater number of binding thoughts per person ($M = 2.63$) than individualizing thoughts per person ($M = 1.13; t(149) = 5.35, p < .01$). Moreover, the individualizing appeal generated a significantly greater number of individualizing thoughts per person ($M = 2.38$) than binding thoughts per person ($M = 1.00; t(141) = 5.33, p < .01$).

In addition, the manipulation check items indicated that the individualizing appeal ($M = 4.32$) scored higher on the individualizing moral foundation than the binding appeal ($M = 3.93; t(80) = 2.09, p < .05$). The binding appeal ($M = 4.31$) also scored higher on the binding moral foundation measure than the individualizing appeal ($M = 3.91; t(80) = -2.14, p < .05$).

Effectiveness of Congruent Persuasive Appeals. The continuous political ideology measure was mean-centered before creating the interaction of political ideology by appeal. Political ideology, appeal, and the appeal type by political ideology interaction were regressed onto recycling intentions. The full model was significant ($F(3, 78) = 2.98, p < .05$). The results revealed a significant interaction of political ideology by appeal ($\beta = .82; t(78) = 2.37, p < .05$; all betas reported are unstandardized). Neither the main effect of political ideology ($\beta = -.38; t(78) = -1.29, p > .05$) nor appeal ($\beta = -.18; t(78) = -.89, p > .05$) were found to significantly predict recycling intentions. A simple slopes analysis, presented in figure 2, was conducted to

FIGURE 2

STUDY 1: SIMPLE SLOPES OF APPEAL TYPE BY POLITICAL IDEOLOGY ON RECYCLING INTENTIONS



examine the slopes of the interaction between appeal type and political ideology at one standard deviation above (conservatives) and below (liberals) the mean (Aiken and West 1991). Results revealed that the individualizing appeal enhanced intentions to recycle for liberals ($\beta = -.38; t(78) = -2.96, p < .01$), while the binding appeal generated greater intentions to recycle for conservatives ($\beta = .44; t(78) = 4.02, p < .01$). These results support hypothesis 1.

Discussion

While the evidence in study 1 supports our predictions, it could be argued that our appeals might have inadvertently manipulated guilt and perceived environmental benefits rather than different moral foundations. Thus, to rule out these potential confounds, an additional sample of 62 undergraduate business students was collected to ensure that our persuasive appeals were not yielding differences in guilt perceptions or perceived environmental benefits. To do so, guilt was measured by asking participants to indicate “how the message made you feel” for five items ($\alpha = .97$). Perceived environmental benefits were also assessed using five items ($\alpha = .95$). These items are included in appendix B, available online. Results of this posttest revealed no significant differences in guilt perceptions between the binding ($M = 2.88$) and individualizing appeals ($M = 2.86; t(60) = -0.07, p > .05$). There were also no differences in perceived environmental benefits across the binding ($M = 5.24$) and individualizing appeals ($M = 4.93; t(60) = -0.95, p > .05$).

Furthermore, a second additional sample of 51 under-

graduate business students was collected as a posttest to further assess the validity of the persuasive appeals. New posttest checks were developed to improve upon the original manipulation checks by making the items more specific to the appeals themselves, instead of recycling as a whole. Participants were asked to indicate the extent to which they agreed with the items regarding the recycling appeal. Four items made up the new individualizing foundation posttest check ($\alpha = .71$) while five items made up the new binding foundation posttest check ($\alpha = .82$), all of which used a 7-point scale: 1 = strongly disagree, 7 = strongly agree. These items are included in appendix B, available online. These new moral foundation posttest check items supported our earlier findings and indicated that the individualizing appeal ($M = 4.77$) scored higher on the new individualizing foundation posttest check measure than the binding appeal ($M = 4.14$; $t(49) = -2.17, p < .05$). The binding appeal ($M = 4.60$) also scored higher on the new binding foundation posttest check measure than the individualizing appeal ($M = 3.81$; $t(49) = 2.09, p < .05$).

Finally, it should be noted that we did not collect a control group. However, we felt that adding a post hoc control group would provide some evidence that our appeals were having the intended impact beyond a baseline level of recycling when viewing an appeal, but one that did not reference moral foundations. Thus, in a third additional posttest sample ($n = 28$), participants viewed only a neutral control recycling appeal that did not reference moral foundations and then completed the nine MFQ manipulation check and recycling intentions items. The control appeal is provided in appendix B, available online. Results indicated, as displayed in figure 2, no effect of the control appeal onto intentions to recycle across ideology ($\beta = .04$; $t(26) = 0.15, p > .05$). The congruent appeals resulted in greater intentions to recycle than the control appeal (all $p < .05$). Overall, these additional samples provided further confidence in our persuasive appeals and helped rule out potential confounds associated with our appeals.

The results of study 1 provide support for hypothesis 1 that congruent appeals affect intentions to recycle depending on one's political ideology. Specifically, conservatives are shown to have heightened intentions to recycle when exposed to a binding moral appeal, while liberals are shown to have heightened intentions to recycle when exposed to an individualizing appeal. Importantly, these congruent appeals resulted in greater intentions to recycle than a general appeal to recycle (i.e., the control appeal).

STUDY 2

Overview

Study 1 provided initial support for the conceptual model demonstrating that distinct messages designed for liberals and conservatives based on moral foundations successfully enhanced recycling intentions. Study 2 was conducted to test the effectiveness of congruent persuasive appeals on actual recycling behavior in a longitudinal field setting. Specifically,

a 14-week field study was conducted to assess the effects of appeals on recycling behaviors of households from Lexington, Kentucky.

Procedure

The sample comprised 500 households from a neighborhood in Lexington, Kentucky, which was selected because it closely represents the demographic breakdown of the city where the data were collected, a city often chosen as a test market because it is considered generally representative of the United States. Collaborating with the local government, we sent mailers to each household asking them to put their recycling bins at the curb on designated dates for the placement of RFID (radio frequency identification) tags. Of the 500 contacted, 348 households complied and were fitted with RFID tags that allowed us to measure household-level recycling. Weekly, for 14 weeks, a truck retrofitted to weigh the recycling content of each household was used to gather recycling weights. The initial 5 weeks of data collection served as a baseline of recycling behavior for each household, and the latter 9 weeks provided experimental data.

After the initial baseline period, we manipulated the persuasive appeal at three levels (individualizing vs. binding vs. no appeal) and measured political ideology. At the beginning of each month, households received the same appeal. After the data collection period, each received a survey assessing various topics related to recycling (of interest to the local government but not the focus of this study) and a request for the political ideology of the household head. Political ideology was assessed using a single-item scale used in past research (Nail et al. 2009), with endpoints of 0 for liberals and 100 for conservatives. The single-item scale was significantly correlated with the seven-item scale ($r = .71, p < .01$) used in study 1. Of participating households, 113 completed the survey and indicated their political ideology (response rate = 32.5%). ANCOVA results, controlling for baseline recycling, indicated that average recycling weights for respondents were not significantly different from weights for nonrespondents ($F(1, 345) = .01, p > .05$).

Each week, the recycling truck driver weighed the recycling bins before and after collection. Calculated as the weight before content removal minus the bin weight, weights were sent via the RFID tag to a computer where they were recorded. Recycling data collected during the initial 5-week period were averaged to create a baseline household-recycling weekly average.

Results

A conditional linear growth model was used to assess longitudinal recycling behavior via maximum likelihood estimation. This approach allows the data to be modeled at two levels to take into account the correlated nature of recycling behavior across time within households while maintaining the independence of political ideology, appeal, and their interaction between households. Two dummy codes

TABLE 1

STUDY 2 RESULTS: LONGITUDINAL MODEL RESULTS

| | Beta | SE | <i>t</i> (1,017) | <i>p</i> |
|--|-------|------|------------------|----------|
| Baseline recycling weight | .55 | .05 | 12.00 | <.01 |
| Time | -.71 | .16 | -4.42 | <.01 |
| Political ideology | -1.62 | .80 | 2.03 | <.05 |
| Binding appeal ^a | -.01 | 1.49 | -.01 | .99 |
| No appeal ^a | -1.47 | 1.60 | -.91 | .36 |
| Time × political ideology | .10 | .13 | .74 | .46 |
| Time × binding appeal ^a | .07 | .26 | .27 | .79 |
| Time × no appeal ^a | .24 | .28 | .88 | .38 |
| Political ideology × binding appeal ^a | 4.54 | 1.43 | 3.18 | <.01 |
| Political ideology × no appeal ^a | 1.91 | .77 | 2.47 | <.05 |

^aCompared to the *individualizing* appeal (reference group).

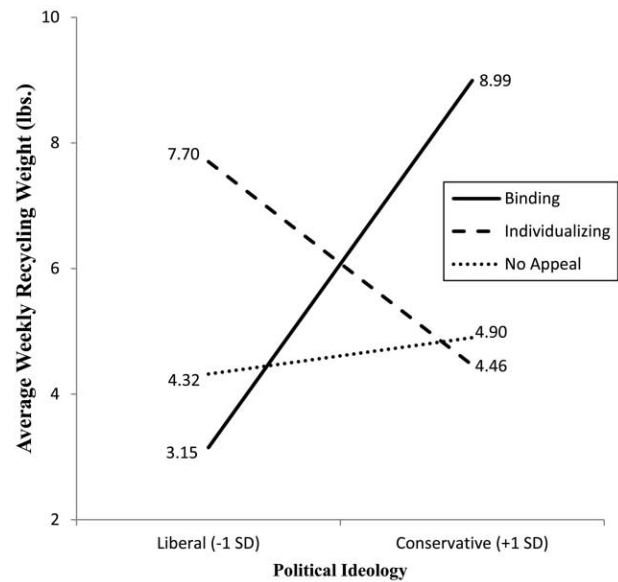
were created for the appeals in order to compare the effects of the three appeal types where the individualizing appeal was used as the reference group.

Specifically, the model included baseline recycling weights, mean-centered political ideology, appeal dummy codes, and time as fixed effects. Time was also included as a random effect, along with specific household. After running the initial analysis, the two three-way interactions involving appeal type, political ideology, and time were removed from the analysis, as they were nonsignificant. All estimates for the model can be found in table 1. The model revealed a significant interaction between political ideology and both appeal-type codes.

The model results were further examined using simple slopes analysis (Aiken and West 1991). As displayed in figure 3, the slope of the individualizing appeal was significant such that liberals recycled more than conservatives when shown this appeal ($\beta = -1.62$; $t = -2.04$, $p < .05$).

FIGURE 3

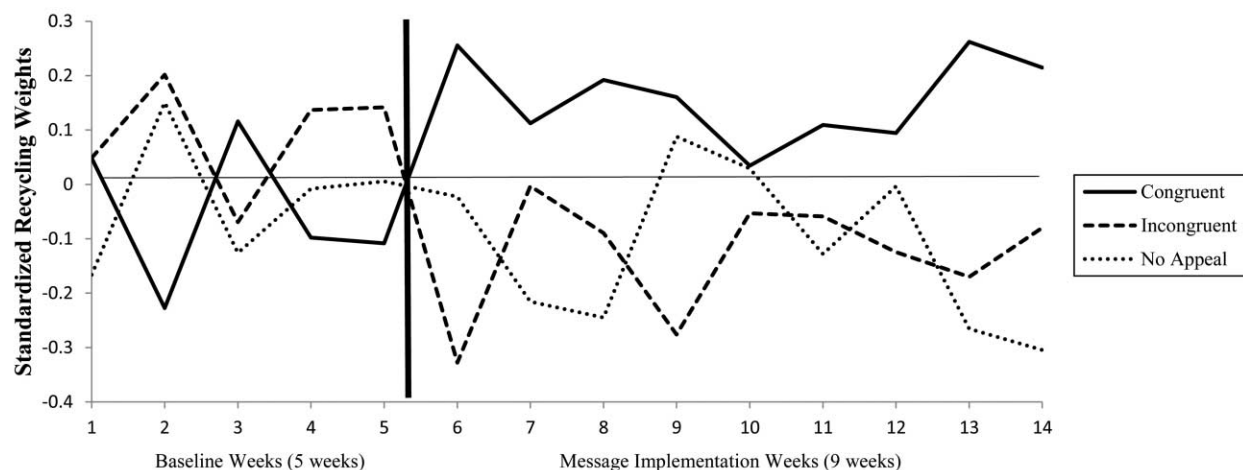
STUDY 2: SIMPLE SLOPES OF APPEAL TYPE BY POLITICAL IDEOLOGY ON WEEKLY RECYCLING



The slope of the binding appeal was also significant such that conservatives recycled more than liberals when shown this appeal ($\beta = 2.92$; $t = 2.48$, $p < .05$). The slope of the no-appeal condition was nonsignificant ($\beta = .29$; $t = .03$, $p > .05$). Moreover, the congruent appeals resulted in greater recycling than the no-appeal condition ($t = 2.04$, $p < .05$ and $t = 2.47$, $p < .05$).

FIGURE 4

STUDY 2: APPEAL TYPE BY POLITICAL IDEOLOGY OVER TIME



For illustrative purposes, as displayed in figure 4, three groups were created based on the appeals as well as a median split of political ideology where recycling weight was standardized across time. These groups were for households that received appeals congruent to their political ideology, incongruent to their political ideology, and for those that received no appeal. Not only did the mean recycling weights of the congruent groups exceed those of the other two, they did so consistently throughout the data collection. These results provide support consistent with hypothesis 1 for actual recycling behavior.

Discussion

In study 2, we provided an examination of persuasive appeals designed to initiate recycling behavior across 113 households. Appeals congruent with underlying moral foundations were found to influence actual recycling behavior for both liberals and conservatives over a 14-week period. Few studies have attempted to examine sustainable behavior in a field setting and across time. Our findings provide a means to significantly increase environmental consciousness and promote sustainable behaviors that have, thus far, been difficult to change (Crittenden et al. 2011; Luchs et al. 2010; Polonsky 2011). To further develop our conceptual model, study 3 was designed to determine the underlying mechanism by which ideologically congruent ads enhance intentions to recycle. Moreover, the potential for spillover effects is investigated.

STUDY 3

Overview

Study 3 was conducted to examine the mediating effect of fluency on the relationship between the interaction of political ideology and appeal on recycling intentions. We also rule out two alternative possibilities that might reasonably result from message congruence. First, instead of fluency (ease of comprehension), it is possible that individuals process information more analytically because they feel increased levels of involvement toward the message itself. For example, Thompson and Hamilton (2006) found that observers who viewed comparative (vs. noncomparative) ads employed greater analytic processing, suggesting that when a message is consistent with an observer's processing mode, information processing can be enhanced. Second, it is possible that the congruent appeal might make individuals feel as though they possess greater ability or self-efficacy to recycle as a result of viewing the message. By appealing to moral foundations, individuals may feel a sense of empowerment and, thus, more capable of recycling. We test each of these alternative mechanisms to further demonstrate that fluency underlies the message effectiveness as opposed to involvement or recycling efficacy. Overall, study 3 provides additional support for our hypotheses while also assessing the full conceptual model of the congruency of political ideology and appeal on sustainability intentions.

Procedure

Participating for partial course credit, 142 undergraduate business students from the University of Kentucky were informed that the current study would assess personality and decision making. Participants completed a political ideology measure and then saw one of the two persuasive appeals developed in the first study using the same cover story. Specifically, 73 participants saw the binding appeal while 69 participants saw the individualizing appeal. Next, participants completed process measures pertaining to fluency, involvement, and recycling efficacy related to the appeals, and finally their intentions to recycle, purchase compact fluorescent light (CFL) bulbs, and conserve water.

Political Ideology. The same seven-item measure from study 1 was used to measure political ideology ($\alpha = .73$). Once again, lower numbers correspond to a liberal ideology while higher numbers represent a conservative ideology.

Process Measures. The fluency measure was adapted from Lee and Labroo (2004) and White et al. (2011) using a seven-item scale ($\alpha = .86$) anchored from 1 = strongly disagree to 7 = strongly agree. Items included *clear, compelling, credible, flowed, easy to follow, plausible, and easy to relate to*. Involvement ($\alpha = .85$) was measured with a three-item semantic differential scale, which assessed each item on a 7-point scale: 1 = not at all involved, skimmed it quickly, paid little attention; 7 = very involved, read it carefully, paid a lot of attention. Recycling efficacy was measured using a two-item scale ($r = .82$) anchored from 1 = strongly disagree to 7 = strongly agree. Items included *I feel that I know how to go about recycling* and *I believe that I know what steps I will take to recycle*.

Recycling and Spillover Intentions. Recycling intentions ($\alpha = .94$) were measured using the same three-item semantic differential scale from study 1. These items were also adapted to reflect acquisition (intentions to purchase CFL bulbs; $\alpha = .97$) and usage behavior (water conservation; $\alpha = .95$).

Results

Effectiveness of Congruent Persuasive Appeals. The continuous political ideology measure was mean-centered before creating the interaction between appeal type and political ideology. Since our prediction involves a mediated moderation model, we estimated the main effects of political ideology and appeal along with the interaction of these factors on recycling intentions. Importantly, hypothesis 1 was replicated, as the interaction of political ideology by appeal significantly predicted recycling intentions ($\beta = .41$; $t(138) = 1.98$, $p < .05$).

Mediation Analyses. Bootstrapping analysis was used to test hypothesis 2. The effect of the political ideology by appeal interaction on recycling intentions was mediated by fluency while controlling for the main effects of political ideology and appeal type. There was a significant interaction

between political ideology and appeal type onto fluency ($\beta = .46$; $t(138) = 2.20$, $p < .05$; all reported betas are unstandardized). Furthermore, the model demonstrates a positive effect of fluency on recycling intentions ($\beta = .35$; $t(138) = 3.98$, $p < .01$).

As displayed in figure 5, simple slopes analysis was used to further investigate the relationship of the interaction onto fluency (Aiken and West 1991). This was done through a separate analysis-regressing political ideology, appeal, and the interaction between political ideology and appeal onto fluency. Specifically, the individualizing appeal resulted in greater fluency for liberals than conservatives ($\beta = -.24$; $t(138) = -2.34$, $p < .05$) while the binding appeal resulted in greater fluency for conservatives than liberals ($\beta = .23$; $t(138) = 3.40$, $p < .01$).

Following the method outlined in Zhao, Lynch, and Chen (2010), our complete model included estimates of the indirect effects present in the model. This analysis used the Preacher and Hayes (2008) macro, as this method is capable of estimating and comparing the indirect effects of multiple mediators. All indirect effects were estimated using 1,000 bias-corrected bootstrap samples.

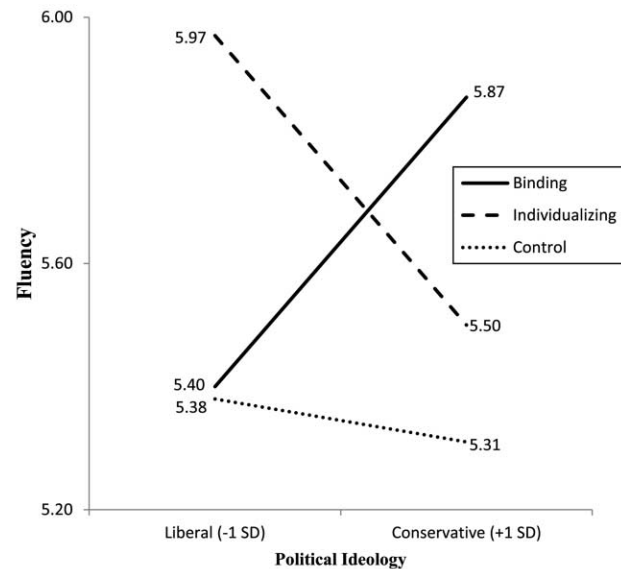
First, the indirect effect of the interaction onto recycling intentions through fluency was examined. This revealed a positive and significant indirect effect ($\beta = .16$) as the 95% confidence interval did not include zero (CI: .02 to .26). The direct effect of the interaction onto recycling intentions was not significant ($\beta = .23$; $t(138) = 1.21$, $p > .05$). As displayed in figure 6, these findings suggest that the effect of the interaction onto recycling intentions was mediated by fluency, consistent with our conceptual model and providing support for hypothesis 2 (e.g., indirect-only mediation; Zhao et al. 2010).

Control Variables. Including involvement and recycling efficacy at the level of the fluency mediator helped to exclude the possibility that the congruent appeals were leading to something other than increased fluency. First, the interaction of political ideology and appeal was not significantly related to involvement ($\beta = -.19$; $t(138) = -.87$, $p > .05$). In addition, involvement was significantly related to an increase in recycling intentions ($\beta = .20$; $t(138) = 2.47$, $p < .05$). However, the 95% confidence interval obtained from bootstrap mediation analysis of the path from the interaction to recycling intentions ($\beta = -.04$) was not significant, as the confidence interval included 0 (CI: $-.19$ to $.04$), suggesting that involvement does not mediate this relationship.

Similarly, the interaction was not significantly related to recycling efficacy ($\beta = .29$; $t(138) = 1.42$, $p > .05$). Recycling efficacy was related to recycling intentions ($\beta = .18$; $t(138) = 2.12$, $p < .05$). Once again, bootstrapping analysis failed to find an indirect relationship between the interaction and intentions to recycle through recycling efficacy, as the 95% confidence interval included 0 ($\beta = .05$; CI: $-.02$ to $.22$). These results rule out recycling efficacy as a potential alternative explanation.

FIGURE 5

STUDY 3: SIMPLE SLOPES OF APPEAL TYPE BY POLITICAL IDEOLOGY ON FLUENCY

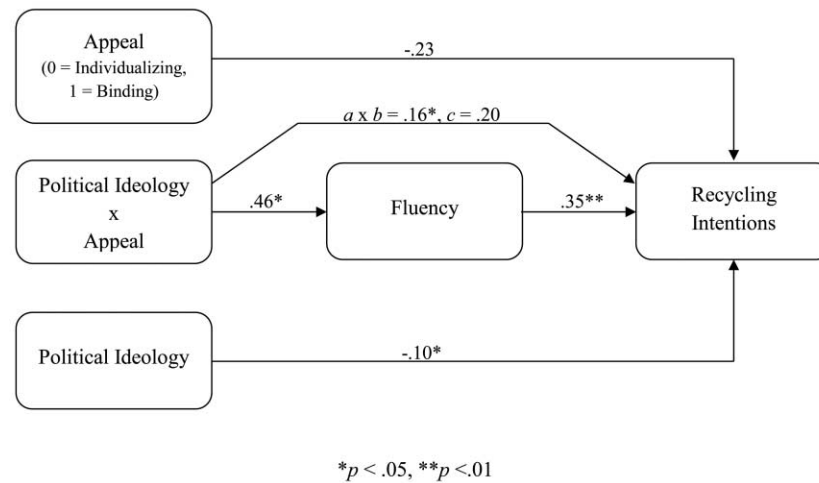


Spillover Analysis. We also estimated the full conceptual model using structural equation modeling (SEM) in an effort to evaluate all three elements of sustainable behavior in addition to disposition. SEM was used because it allows for evaluating the indirect effects in this complex model, which run through a series of mediators (e.g., the link from fluency to recycling intentions). The indirect effect confidence intervals were obtained using bootstrap analyses with 1,000 bootstrap samples. The model predicts intentions to acquire (purchase CFL bulbs) and use resources (conserve water) in a more sustainable manner as a result of increased recycling intentions while accounting for the effects of involvement and recycling efficacy. The model demonstrated excellent fit (comparative fit index [CFI] = .98, goodness of fit [GFI] = .97, root mean square error of approximation [RMSEA] = .07).

Specifically, the model was specified to estimate the effects of the interaction between appeal type and political ideology onto intentions to acquire sustainable resources (e.g., purchase CFLs) and use resources in a sustainable manner (e.g., conserve water), mediated by the link between fluency and recycling intentions while controlling for the main effects of appeal type and political ideology. The mediation results above were replicated such that the interaction was found to predict fluency ($\gamma = .46$; $t = 2.23$, $p < .05$; gammas are similar to betas and used when expressing estimates from an exogenous variable to an endogenous variable), which predicted intentions to recycle ($\beta = .47$; $t = 5.53$, $p < .01$). Once again, the indirect effect was significant, as the 95% confidence interval did not include 0 ($\gamma = .21$;

FIGURE 6

STUDY 3: MEDIATION MODEL OF APPEAL TYPE BY POLITICAL IDEOLOGY TO RECYCLING INTENTIONS THROUGH FLUENCY



CI: .05 to .45) and the direct effect was nonsignificant ($\gamma = .20$; $t = .94$, $p > .05$), suggesting indirect-only mediation (Zhao et al. 2010).

The effects from recycling intentions onto intentions to acquire CFLs ($\beta = .40$; $t = 4.48$, $p < .01$) and to conserve water ($\beta = .35$; $t = 4.10$, $p < .01$) were also significant. Positive indirect effects of fluency onto intentions to acquire CFLs ($\beta = .19$; CI: .10 to .31) and to conserve water ($\beta = .17$; CI: .07 to .33) through fluency were also revealed, while their respective direct effects were nonsignificant ($\beta_{\text{CFL}} = .13$, $t_{\text{CFL}} = 1.26$, $p_{\text{CFL}} > .05$; $\beta_{\text{Water}} = .17$, $t_{\text{Water}} = 1.66$, $p_{\text{Water}} > .05$). Thus, the effect of fluency onto spillover was mediated by recycling intentions, supporting hypothesis 3.

Additional analyses reveal a significant, positive indirect effect of the interaction onto intentions to acquire CFLs through the link from fluency onto recycling intentions ($\gamma = .23$; CI: .01 to .53), while the direct effect was nonsignificant ($\gamma = -.20$; $t = -1.32$, $p > .05$). Similarly, the indirect effect from the interaction onto intentions to conserve water through the link between fluency and recycling intentions was positive and significant ($\gamma = .24$; CI: .02 to .50), and the direct effect was nonsignificant ($\gamma = -.21$; $t = -1.45$, $p > .05$). Taken together, these results support our hypotheses and conceptual model.

Discussion

In an additional effort to ensure that congruent appeals result in greater fluency and intentions to recycle than a control appeal, 31 individuals received a neutral control appeal collected as a posttest. As displayed in figure 5, there was no effect of the control appeal onto fluency across ideology ($\beta = -.04$; $t(29) = -0.19$, $p > .05$). The effect of the control appeal was also nonsignificant onto intentions

($\beta = -.03$; $t(29) = -0.12$, $p > .05$). Importantly, the congruent appeals resulted in greater fluency and intentions to recycle than the control appeal (all $p < .05$).

Study 3 demonstrates that appeals congruent with conservative and liberal moral foundations are more effective, due to fluency, than incongruent appeals. Fluency is then shown to positively affect intentions to recycle as well as have spillover effects on acquisition and usage intentions. Importantly, fluency was shown to be the underlying mechanism for these persuasive effects, and both involvement and recycling efficacy were ruled out as alternative explanations.

STUDY 4

Overview

Our original ideological messages were developed to be consistent with the underlying moral foundations of conservatives and liberals. However, the “binding” conservative appeal displayed a patriotic image while the “individualizing” liberal appeal displayed a well-known charity (Habitat for Humanity). While these factors are persuasive relative to their targeted ideological group, they invoke potential confounds that are necessary to rule out. As such, in study 4, we have developed new appeals that were designed to demonstrate the robustness of moral foundations by removing all potential confounds inherent in the appeals that might account for the effects of the congruency between political ideology and appeal type on recycling. Thus, in the new appeals, we removed all extraneous material and control for factors that might influence behavior beyond the moral foundations alone. Our new appeals are identical in their graphics, structure, tone, and wording, with the exception of re-

placing select phrases in each that are specific to a binding or individualizing moral foundation (see app. A). Below, specific ad content and justification of the essential elements of each appeal are provided. Overall, study 4 assesses the full conceptual model of the congruency of political ideology and persuasive appeal onto both targeted and spillover sustainability intentions using new persuasive appeals.

Procedure

Participating for monetary compensation, 154 undergraduate students were informed that the current study would assess personality and decision making. These students were recruited through Amazon's Mechanical Turk. Participants completed the political ideology measure and then saw one of three persuasive appeals. Importantly, the new appeals still focused on the central themes of binding and individualizing moral foundations, with the third being a control appeal simply asking participants to recycle. Specifically, 47 participants saw the binding appeal, 54 saw the individualizing appeal, and 48 saw the control appeal. Next, participants completed the fluency, involvement, and recycling efficacy process measures and guilt and perceived environmental benefit measures. Finally, their intentions to recycle, purchase CFL bulbs, and conserve water were collected.

Political Ideology. The same seven-item measure was used to measure political ideology ($\alpha = .76$). Once again, lower numbers correspond to a liberal ideology while higher numbers represent a conservative ideology.

Persuasive Appeals. New persuasive appeals were developed in order to rule out potential confounds associated with the original appeals (see app. A). With the exception of the following phrases, all other information in the new appeals was held constant. The manipulated textual changes varied for both ideological conditions. Specifically, the binding moral foundation consisted of appealing to conservative's sense of in-group affiliation ("with those like you in your community"), sense of duty ("do our civic duty because recycling is the responsible thing to do in our society"), and sense of authority ("follow the advice of important leaders"). In contrast, the individualizing moral foundation consisted of appealing to liberals' sense of doing what they alone feel is best ("because you know it's the right thing to do"), sense of fairness ("care for others and allow the greatest good to come to our society"), and sense of reducing harm and suffering of others ("reduce the harm to others and to the environment").

Process Measures. The fluency measure from study 3 was used once again ($\alpha = .74$). Involvement ($\alpha = .89$) and recycling efficacy ($\alpha = .83$) were also collected using the measures from study 3, as it is possible that either of these could provide an alternative explanation for the congruency effects with the new persuasive appeals.

Persuasion Appeal Manipulation and Confound Checks. The individualizing ($\alpha = .84$) and binding ma-

nipulation checks ($\alpha = .86$) from study 1 were again used to assess whether the new persuasive appeals influenced their respective underlying moral foundations. In addition, the new appeals were tested to ensure that they did not evoke differences in perceptions of guilt ($\alpha = .94$) or perceived environmental benefits ($\alpha = .96$).

Recycling and Spillover Intentions. Recycling intentions ($\alpha = .90$) were measured using the same three-item semantic differential scale from studies 1 and 3. In addition, the acquisition ($\alpha = .86$) and usage behavior items ($\alpha = .90$) from studies 1 and 3 were also used.

Results

Manipulation and Confound Checks. The new binding and individualizing persuasive appeals were intended to manipulate a binding or an individualizing moral foundation, respectively. A one-way ANOVA was conducted for the three new persuasive appeals and demonstrated differences for the binding ($F(2, 150) = 4.37, p < .05$) and individualizing manipulation checks ($F(2, 150) = 5.64, p < .01$). Specifically, the binding appeal ($M = 5.24$) scored higher on the binding manipulation check items than the individualizing appeal ($M = 4.63; t(99) = 2.66, p < .01$) as well as the control appeal ($M = 4.76; t(97) = 2.24, p < .05$), while there was no difference between the individualizing appeal and the control appeal ($t(104) = .65, p > .05$). In addition, the individualizing appeal ($M = 5.47$) scored higher on the individualizing manipulation check than the binding appeal ($M = 4.97; t(99) = 3.40, p < .01$) and the control appeal ($M = 5.11; t(104) = 2.47, p < .05$), while there was no difference between the binding appeal and the control appeal ($t(97) = .82, p > .01$).

One-way ANOVAs were also conducted for the confound checks—guilt and perceived environmental benefits. The effect of appeal onto guilt was nonsignificant ($F(2, 150) = 1.10, p > .05$), as was the effect of perceived environmental benefits ($F(2, 150) = 1.03, p > .05$). Thus, the new persuasive appeals were not different in the amount of guilt elicited or the perceived environmental benefits of recycling.

Effectiveness of Congruent Persuasive Appeals. As in our prior studies, the continuous political ideology measure was mean-centered before creating the interaction between political ideology and appeal. We estimated the main effects of political ideology and appeal type along with the interaction of these factors on recycling intentions the same as in study 3. Once again, hypothesis 1 was replicated in that the interaction of appeal type by political ideology significantly predicted recycling intentions ($\beta = .45; t(97) = 1.99, p < .05$).

Mediation Analyses. SEM was used to test the complete conceptual model and was specified in a similar way as study 3, with one notable exception, as the control appeal was now included in the complete model, since it was collected at the same time as the experimental appeals. Here, the control group served as the reference group, while the

new binding and individualizing appeals were represented by distinct variables. Each of these variables was then multiplied by the mean-centered political ideology measure to create two interaction variables. The model demonstrated excellent fit ($CFI = .95$, $GFI = .98$, $RMSEA = .07$).

There was a significant interaction between political ideology and appeal onto fluency ($\gamma = .37$; $t = 2.27$, $p < .05$) for the binding appeal and a significant interaction for the individualizing appeal ($\gamma = -.35$; $t = -2.25$, $p < .05$). In addition, the model demonstrates a positive effect of fluency onto recycling intentions ($\beta = .64$; $t = 9.96$, $p < .01$).

As displayed in figure 7, simple slopes analysis was used to further investigate the relationship of the interaction onto fluency (Aiken and West 1991). Specifically, the individualizing appeal resulted in greater fluency for liberals than conservatives ($\beta = -.36$; $t(147) = -2.32$, $p < .05$) while the binding appeal resulted in greater fluency for conservatives than liberals ($\beta = .39$; $t(147) = 2.38$, $p < .05$). As expected, there was no effect for the control appeal onto fluency ($\beta = -.06$; $t(147) = -.33$, $p > .05$). In addition, the congruent appeals resulted in greater fluency than the control appeals (all $p < .05$).

Bootstrapping analyses were used to estimate the indirect effects present in the model. All indirect effects were estimated using 1,000 bias-corrected bootstrap samples and were estimated within the same SEM analysis. For the binding appeal, the indirect effect between the interaction of political ideology and appeal through fluency onto recycling intentions was significant ($\gamma = .23$), as the 95% confidence interval did not include zero (CI: .06 to .39). The indirect

effect of the interaction onto recycling intentions through fluency was also significant for the individualizing appeal ($\gamma = -.22$; CI: $-.44$ to $-.04$). The direct effects for each interaction onto recycling intentions were nonsignificant ($\gamma_{JTF} = .09$, $p_{JTF} > .05$; $\gamma_{MAD} = -.14$, $p_{MAD} > .05$), suggesting indirect-only mediation for the new persuasive appeals and replicating hypothesis 2.

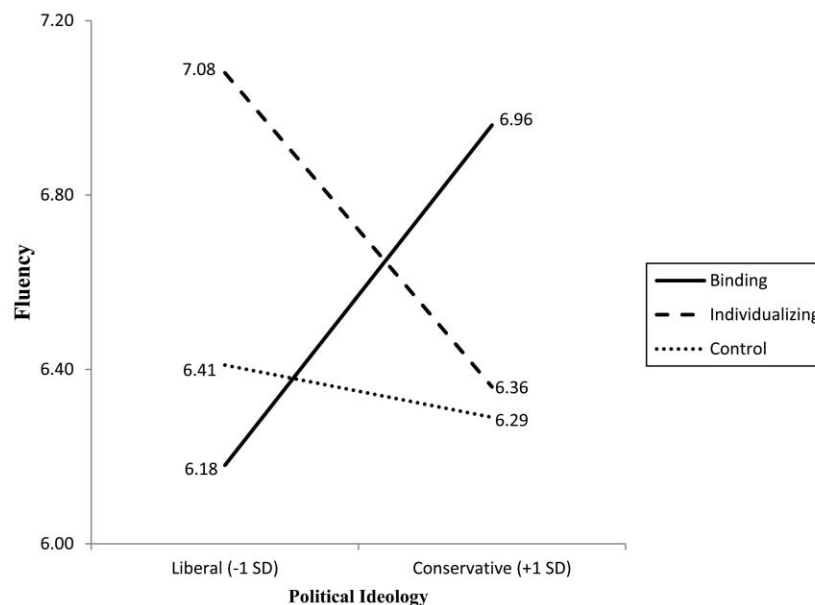
Control Variables. It is possible that the effects of the new persuasive appeals could be explained by the effects of involvement or recycling efficacy and not fluency. Including involvement and recycling efficacy at the level of the fluency mediator helps to exclude the possibility that the congruent appeals were leading to something other than increased fluency.

For the binding appeal, the interaction between political ideology and appeal type was not significantly related to involvement ($\gamma = .36$; $t = 1.71$, $p > .05$) or recycling efficacy ($\gamma = .19$; $t = .87$, $p > .05$). Here, recycling efficacy ($\beta = .50$; $t = 7.97$, $p < .05$) was significantly related to recycling intentions while involvement was not ($\beta = .12$; $t = 1.61$, $p > .05$). However, the indirect effect of the interaction on recycling intentions through recycling efficacy ($\gamma = .10$; CI = $-.09$ to $.31$) or involvement ($\gamma = .04$; CI = $-.02$ to $.20$) was not significant.

Results were similar for the individualizing appeal. The interaction of political ideology and appeal type was not predictive of recycling efficacy ($\gamma = -.09$; $t = -.42$, $p > .05$) while recycling efficacy was significantly related to recycling intentions ($\beta = .53$; $t = 8.27$, $p < .01$). The

FIGURE 7

STUDY 4: SIMPLE SLOPES OF APPEAL TYPE BY POLITICAL IDEOLOGY ON FLUENCY



indirect effect through recycling efficacy was nonsignificant ($\gamma = -.05$; CI = $-.24$ to $.14$). The interaction was significantly related to involvement ($\gamma = -.56$; $t = -2.80$, $p < .01$), but involvement did not significantly predict recycling intentions ($\beta = .09$; $t = .23$, $p > .05$). The indirect effect through involvement was also nonsignificant ($\gamma = -.06$; CI = $-.21$ to $.04$). These results replicate study 3 and provide further evidence that fluency is the mechanism driving the congruency effect.

Spillover Analysis. Results above revealed a link between fluency and recycling intentions. The effects from recycling intentions to intentions to acquire CFLs ($\beta = .37$; $t = 4.61$, $p < .01$) and conserve water ($\beta = .37$; $t = 4.27$, $p < .01$) were also significant. The indirect effects from fluency through recycling intentions onto both intentions to acquire CFLs ($\beta = .24$; CI: $.12$ to $.40$) and conserve water ($\beta = .24$; CI: $.10$ to $.39$) were also significant. The direct effects from fluency onto intentions to acquire CFLs ($\beta = .30$; $t = 3.51$, $p < .01$) and conserve water ($\beta = .20$; $t = 2.15$, $p < .05$) were significant but reduced relative to when recycling intentions was not included as a mediator.

Discussion

It should be noted that study 4 also had one additional posttest sample collected. Similar to study 1, we employed an improved posttest check to demonstrate the validity of the new persuasive appeals. We used the same posttest measure used in the discussion section in study 1, which is provided in appendix B, available online. These items were more specific to the appeals themselves, instead of recycling as a whole. Thus, we collected a sample of 94 undergraduate students across the two persuasive appeals and the control group. The new individualizing ($\alpha = .74$) and binding ($\alpha = .91$) posttest checks supported our earlier findings and indicated differences, using a one-way ANOVA, for the new binding ($F(2, 91) = 3.19$, $p < .05$) and individualizing posttest checks ($F(2, 91) = 4.30$, $p < .05$). Specifically, the binding appeal ($M = 4.70$) scored higher on the new binding check items than the individualizing appeal ($M = 3.81$; $t(61) = 2.06$, $p < .05$) and control appeal ($M = 3.94$; $t(60) = -2.12$, $p < .05$). The individualizing appeal ($M = 4.94$) scored higher on the new individualizing check than the binding appeal ($M = 4.33$; $t(61) = -2.42$, $p < .05$) and the control appeal ($M = 4.27$; $t(61) = 2.66$, $p < .05$), while there was no difference between the binding appeal and the control appeal ($t(60) = -0.19$, $p > .05$). These new posttest checks provided further confidence that our new persuasive appeals were tapping their intended moral foundation.

Study 4 replicates the results of study 3 using newly created persuasive appeals following the moral foundations framework. Once again, appeal congruency enhanced recycling intentions through the fluency of the congruent appeals. These congruent appeals were more effective than both incongruent appeals and a control appeal, which simply asked participants to recycle. In addition, the effects of congruent appeals on recycling intentions were shown to spillover onto other, nontargeted sus-

tainable intentions. This provides additional empirical support for our conceptual model supporting fluency as the underlying mechanism driving the congruency effects on recycling intentions and sustainable spillover.

GENERAL DISCUSSION

We proposed and tested a conceptual model of the underlying process driving the effectiveness of persuasive appeals, designed to evoke the moral foundations consistent with consumers' political ideologies. In doing so, we developed tailored persuasive messages that appealed to the individualizing foundations for liberals, based on fairness and avoiding harm to others, and the binding foundation for conservatives, based on duty and an obligation to adhere to authority. We found that these congruent appeals significantly affected consumers' acquisition, usage, and recycling intentions and behaviors. Below, the theoretical, policy, consumer, and marketing implications are discussed along with limitations and future research opportunities.

Theoretical Implications

This research sheds light on an understudied and not well understood aspect of consumers' everyday life—their political leanings. These can have novel effects on the types of products consumers purchase and the ways they dispose of products. The fundamental differences between conservatives and liberals must be accounted for since they provide distinct ways of thinking and are highly influential in developing and informing one's worldview. Many aspects are touched by these ideological differences, including the activities one engages in, the friendships and social ties one makes, the types of things one cares about, and the associations and organizations with which one affiliates. Thus, uncovering how the congruency between ad appeals and political ideologies influences consumer behavior is critical for understanding the acquisition, usage, and disposition behaviors in which consumers engage. Our persuasive appeals were designed to tap unique moral foundations of each ideology, and, when congruent with moral foundations, they elicited a "feels right" fluent experience (Labroo and Lee 2006; Lee and Aaker 2004) that led to greater intentions. Fluency was characterized as "ease of comprehension," where consumers were persuaded effortlessly because the messages were compelling and easy to relate to based on their underlying beliefs and opinions (Lee and Labroo 2004). While both involvement and recycling efficacy are plausible alternative explanations, we demonstrated that fluency is both a conceptually and empirically superior explanation for the persuasive impact of the ideological appeals.

Policy Implications

The sustainability movement has met modest success in changing actual behavior of consumers (McDonagh et al. 2012; Polonsky 2011). We have shown that, despite efforts to promote sustainable behaviors through policy, regulatory, market, and technological innovations (Crittenden et al.

2011), appealing to the moral foundations of liberals and conservatives significantly enhances recycling behavior. These effects were also shown to *spill over* onto related sustainable behaviors of acquisition (CFLs) and usage (water conservation). For policy makers wanting to increase the adoption of green products and disposition, initiating action through targeted messages that appeal to fundamentally different conservative and liberal beliefs, values, and opinions is suggested. The study 4 appeals are a good model to use, as these provide the cleanest way to tap the underlying moral foundations of liberals and conservatives. We have provided a framework for understanding these fundamental differences and demonstrated how congruency between political ideology and appeal influences sustainable behaviors through the fluency of congruent messages. Tapping into underlying foundations of both liberals and conservatives can provide a compelling means to initiate behavior. Conservatives, who favor in-group loyalty, authority, and purity (binding foundation) for moral judgments, tend to adhere to the social norms of their in-group and strive for a high degree of self-control and a strong sense of duty. Liberals, who favor caring and fairness (individualizing foundation) tend to act based on their inner feelings about moral behavior, with specific regard to individual rights and welfare. These foundations and the appeals based on them can provide a powerful means to affect change in some of the most critical socially relevant issues of our time.

Consumer and Marketing Implications

Our research also shows that the congruency between ad appeals and political ideologies can influence consumers' acquisition, consumption, and disposition behavior. The focus here was on sustainable behaviors. However, marketers can use our findings to create persuasive appeals targeted at increasing a variety of behaviors (including the purchase of specific products and services). For example, marketers of leading brands popular with conservatives, such as Subway, could tailor specific messages to appeal to conservatives' binding foundation to develop and maintain loyal customers who are familiar and comfortable with the given brands. Top conservative magazines such as *Weekly Standard* and *National Review Online* can tailor specific conservative messages to potentially enhance the persuasiveness of their appeals. Similarly, a recent study by Green (2011) suggests that liberals are more likely to purchase Macs versus PCs and more likely to drink Boylan's root beer instead of Pepsi-Cola. Thus, brands such as Apple or Boylan's can enhance their persuasive attempts by appealing to their more liberal clientele by using ads congruent with their moral foundations. Given our results suggesting that congruent appeals are more effective at increasing sustainable behaviors, arguably congruent appeals could be used in an effort to create a better environment for all consumers.

As demonstrated in our four studies, consumers are particularly vulnerable to congruent ideological appeals. Liberal and conservative consumers should be aware of marketer persuasion attempts, consistent with their underlying moral

foundations (Friestad and Wright 1994). Consumers must understand how their political ideologies affect their decision making and be cognizant that their moral foundations are susceptible to persuasive attempts by marketers and politicians. Through developing consumer persuasion knowledge associated with their moral foundations, consumers can be vigilant against being unknowingly persuaded.

Limitations and Directions for Future Research

Our research focused on how political ideology can be used to develop targeted appeals designed to persuade consumers to recycle. There are several avenues for future research, including focusing on (1) the persuasive influence of combining political ideology and moral foundations to create congruent appeals, (2) potential outcomes affected by congruent ideological appeals, and (3) political ideology in greater depth.

The Persuasive Influence of Congruent Ideological Appeals. We demonstrated that congruent appeals are potent in persuading consumers based on the fluency of the messages used. The recycling ads spoke to who they are, based on their most basic moral foundations, and just felt right to liberals and conservatives respectively. When viewing the recycling ads, individuals not only wanted to recycle more, but were more likely to report intentions to engage in other green behaviors. Future research should explore the powerful effects of congruent ideological appeals to understand how they can be used more broadly to enhance sustainable behavior. For example, while congruent appeals boosted intentions and behavior, might incongruent appeals hurt subsequent sustainable behavior? How might attitudes be influenced of those receiving incongruent appeals? Could a conservative who receives an appeal about helping one's environment code such an appeal as "environmentalist" and thereby form intensely negative attitudes? Or could a liberal who receives an appeal about duty and obligation based on one's in-group feel manipulated and form intensely negative attitudes? These questions are important to consider when employing targeted appeals based on moral foundations and political ideology.

Potential Outcomes Affected by Congruent Ideological Appeals. There are several important behaviors that could be adopted or enhanced by persuading consumers through congruent appeals. For example, consumer health decisions could benefit greatly from using persuasive appeals to tap into the underlying moral foundations that affect behavior. Might liberals who are more open to information be more likely to seek out a doctor's advice? Or might conservatives be more likely to get cancer screenings because of their sense of duty and obligation to adhere to authority? Persuasive appeals might be used in the area of healthy food choice to stimulate eating a healthy diet. Might conservatives make higher quality decisions when using persuasive appeals that focus on self-control, self-discipline, and doing what their in-group is doing? Or might liberals make better decisions when appeals focus on doing what they know is best for them, fairness to society, and through taking care

of themselves? Future research should also assess whether congruent ads can result in other socially positive behaviors such as giving to charity and volunteering and whether our theory is applicable for other ideologies such as religion.

Political Ideology in Greater Depth. A few broader avenues for future research on political ideology and consumer decision making could consider discrete facets of ideology that frame decision making in order to understand conditions under which economic or social dimensions influence behavior (Feldman and Stenner 2008). Our research focused on the impact of the congruency between persuasive appeals and political ideology on sustainable behaviors but did not look at how differences in political ideology might affect more general behaviors such as shopping or general consumption. Differences in how liberal or conservative consumers interpret or perceive information may have interesting effects on shopping behavior such as whether they frequent the same restaurants, purchase the same types of products, or even consume the same way. Furthermore, given the increasingly polarized political landscape, future researchers might examine how ideology influences postpurchase communication and decision making. For example, how does ideology affect referrals and word-of-mouth communication? Are liberals or conservatives more likely to spread information? There are many avenues for future research given the complexity and depth of these underlying moral foundations.

Limitations. While we have shed light on new ground, this research is not without limitations. There are instances where manipulation checks, confound checks, and control conditions were collected several months after obtaining the initial sample. In studies 1 and 3, the control condition was collected approximately 4 months after the initial study was collected. Ideally, a full study would be re-collected from scratch to include a control condition at a single point in time. However, we do not feel as though there were relevant history or maturation effects that resulted from the passage of time between data collections. For example, there is no reason to expect substantial changes in political views in a matter of a few months, nor is it likely that there were substantial shifts in environmental attitudes over this period of time. These concerns are further mitigated in studies 2 and 4, where the control condition was collected concurrently with the experimental conditions and the results were consistent with the other studies in which a control group was added subsequently. In study 1, the manipulation checks were collected directly after viewing the manipulation and before the collection of the dependent variable—recycling intentions. While best practice would be to collect manipulation checks after the dependent variable, it does not seem that such a generalized task would have altered our core results. In addition, the results of study 1 were replicated in our field study, which contained no manipulation check. In studies 1 and 4, moral foundation posttest checks were also collected for the appeals at a separate point in time than our main studies. These posttests were added because our initial

checks were general to recycling and the new checks were specific to the appeals. Both guilt and perceived environmental benefit were included as confound checks in posttests to study 1. Study 4 included a control condition, confound checks, as well as appropriate manipulation checks to help mitigate these concerns. Future research might lend assurance to our results by replicating our findings while concurrently including control conditions and manipulation checks.

Moreover, for our congruent messages, we chose stimuli that would best represent the underlying moral foundations, in hopes that it would lead to changes in sustainability behavior. We believe the study 4 appeals are best equipped to tap the underlying moral foundations of liberals and conservatives. Nevertheless, we do feel that other modalities or types of stimuli, derived from the moral foundations literature, could be used to demonstrate changes in behavior. In our original messages, visual images were used as well as textual information to evoke moral foundations; however, in our new appeals, we primarily relied on textual information while controlling for extraneous visual cues by holding the visual images constant. Future research should continue on this path to develop new stimuli for successfully evoking moral foundations and to further replicate our findings. For example, a priming experiment could be employed using vignettes or persuasive narratives that are devoid of any visual information and use entirely new wording, content, and structure to manipulate conservative or liberal moral foundations. In contrast, using appeals that are entirely image-based showing graphics related to authority, duty, and in-group behavior, or showing graphics related to fairness, reducing harm, and empathy may provide a powerful means to manipulate conservative and liberal moral foundations. Future researchers are also encouraged to take a more specific focus regarding the binding and individualizing appeal manipulations. That is, we used a general approach including manipulations of multiple aspects associated with each moral foundation. Future researchers are encouraged to establish whether specific aspects of each moral foundation are most effective for enhancing consumer behavior. This could be done by manipulating only one lower level of a moral foundation (e.g., fairness) at a time rather than the higher order foundation (e.g., individualizing) as done here.

Finally, while our research demonstrates how to change sustainable behaviors of conservatives and liberals by creating persuasive appeals that invoke their differing underlying moral foundations, it should be noted that each ideology can have distinct benefits for consumers. According to Carney et al. (2008), both conservatives and liberals show wide ranges of favorable behavioral tendencies. Conservatives tend to be more conscientious, dutiful, and organized, whereas liberals tend to be more flexible, curious, and creative. Although these tendencies are beyond our present scope, we hope to have provided a solid foundation for understanding the importance of congruent messages on consumer behaviors and offered fruitful grounds for future research to continue investigating the full range of behavioral effects related to political ideology.

APPENDIX A

FIGURE A1

INDIVIDUALIZING APPEAL



FIGURE A2

BINDING APPEAL



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