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## Where Do We Draw Our Lines? Politics, Rigidity, and the Role of Self-Regulation

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#### Abstract

Past research on political orientation suggests an association between conservatism and cognitive rigidity. In the area of self-regulation, cognitive rigidity has been related to avoidance motivation and cognitive flexibility to approach motivation. Furthermore, recent work suggests links between political orientation and self-regulation, with conservatism associated with (inhibition-based) avoidance motivation and liberalism with (activation-based) approach motivation. The authors therefore propose that self-regulatory differences may account for the links between political orientation and cognitive rigidity. Two studies investigate the effects of motivational prime and political orientation on rigidity, assessed by a cognitive categorization task. Across both studies, avoidance motivation moderated the relationship between conservatism and rigidity. Liberalism was associated with similar category inclusiveness across conditions, whereas conservatism was associated with greater rigidity in the avoidance condition. It appears that conservatives' cognitive rigidity is an avoidance-primed inhibitory strategy; conservatives are sensitive to avoidance motivation, which in turn accounts for their greater cognitive rigidity.

#### **Keywords**

political psychology, self-regulation, social cognition, motivation, goal, categorization

Considerable research supports an association between political conservatism and cognitive rigidity. Specifically, political conservatism has been associated with greater intolerance of ambiguity (e.g., Budner, 1962; Fibert & Ressler, 1998; Jost, Napier, Thorisdottir, Gosling, Palfai, & Ostafin, 2007; Kirton, 1978; Kohn, 1974; Sidanius, 1978), decreased openness to experience (e.g., Joe, Jones, & Ryder, 1977; Kish, 1973; Peterson & Lane, 2001), greater need for order and structure (e.g., Altmeyer, 1998; Jost et al., 2007; Eisenberg-Berg & Mussen, 1980; Webster & Stewart, 1973), and greater need for cognitive closure (e.g., Chirumbolo, 2002; Jost et al., 2007; Kemmelmeier, 1997; Webster & Kruglanski, 1994). Although associations between political conservatism and rigidity are plentiful (for a review, see Jost, Glaser, Kruglanski, & Sulloway, 2003), there is little research regarding an underlying mechanism that explains when and why conservatives might be more cognitively rigid than liberals. We would like to suggest that inhibition-based self-regulation (i.e., avoidance) may be such a mechanism.

Self-regulatory processes, particularly differences in approachavoidance motivation, have recently provided a deeper understanding of psychological phenomena as diverse as power (e.g., Keltner, Gruenfeld, & Anderson, 2003), achievement (e.g., Elliot & Church, 1997), and interpersonal relationships (e.g., Gable & Strachman, 2008). We believe that these motivational processes can also inform differences in both cognitive rigidity and political orientation and may provide a clarifying lens through which to view their association.

#### Self-Regulation and Rigidity

Recent research on self-regulatory processes provides suggestive evidence of a link between cognitive rigidity and motivation. More specifically, avoidance motives appear to be associated with cognitive rigidity and approach motives with cognitive flexibility. In attentional research, for example, approach orientation has been shown to bolster attentional flexibility, whereas avoidance motives hamper task performance (e.g., Friedman & Förster, 2005; Förster, Friedman, Özelsel, & Denzler, 2006). In these studies, priming approach rather than avoidance motivation expanded participants' scope of conceptual attention, which produced greater access to mental representations and facilitated alternative solutions for presolved anagrams. Similarly, Crowe and Higgins (1997) demonstrated that framing events as losses (i.e., avoidance) rather than gains (i.e., approach) was associated with a more repetitive response style, lower cognitive complexity, and greater mental rigidity. And in language research, Semin and Fiedler (1988) found that approach-based language tends to be more

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abstract whereas avoidance-based language is more concrete. An abstract focus involves greater inclusivity, whereas a concrete focus is sensitive to error reduction by focusing on detail, thereby making exclusivity more practical. In this way, abstraction and concreteness are analogous to cognitive flexibility and rigidity.

Emotion research, too, provides suggestive evidence for a relationship between approach orientation and cognitive flexibility and between avoidance orientation and cognitive rigidity. Mikulincer, Kedem, and Paz (1990) found that trait-level anxiety is associated with more rigid grouping of semantic material. More specifically, increases in trait-level anxiety resulted in the rejection of more nonprototypic items from membership in a category and reliance on narrower categories. Also relevant is the finding that positive moods generally facilitate greater category inclusion, whereas negative moods encourage greater category exclusion (e.g., Isen & Daubman, 1984). Taken together, this evidence suggests that approach motives produce a more "open" orientation to cognitive processing that allows for greater flexibility in forming mental sets. In contrast, an avoidance motive seems to produce greater closure and the establishment of narrower, more rigid mental sets.

These differences are consistent with the basic action tendencies associated with approach and avoidance motivation: activation versus inhibition. Gray's (1982, 1990) influential work on motivation and conditioning distinguishes between an approach-based Behavioral Activation System (BAS) and an avoidance-based Behavioral Inhibition System (BIS). Similarly, Carver and Scheier (1998, 2008) have regarded the BIS and BAS as the two fundamental components of self-regulation. These systems have distinct neural substrates based on differential responses to reward and punishment (see, e.g., Sutton & Davidson, 1997; also see Davidson, Ekman, & Saron, 1990). Specifically, approach regulation involves a positive end state; its action tendency is activation and thus movement toward a desirable outcome. Avoidance regulation involves a negative end state; its action tendency is inhibition and thus withdrawal from an undesirable outcome. We would like to suggest that such selfregulatory differences, based in activation versus inhibition, may provide a means to better understand past findings linking political conservatism and cognitive rigidity.

#### **Politics and Self-Regulation**

Recently, Janoff-Bulman, Sheikh, and Baldacci (2008; also see Janoff-Bulman, 2009; Janoff-Bulman, Sheikh, & Hepp, 2009) posited an association between political orientation and self-regulation. More specifically, they proposed that conservatives are more sensitive to negative outcomes, which leads to a focus on inhibition-based avoidance motivation; in contrast, liberals are more sensitive to positive outcomes, which leads to a focus on activation-based approach motivation. Supporting these predictions, in their research Janoff-Bulman et al. (2008) found that in the moral domain conservatives favored avoidance-based motives and regulatory restraints (i.e., inhibitions) in the service of social order. In contrast, liberals showed a preference for approach-based motives and regulatory interventions (i.e., activations) in the service of social justice. More generally, a conservative political orientation is focused on protecting and involves an (avoidance) emphasis on harm, whereas a liberal orientation is focused on providing and involves an (approach) emphasis on social welfare (Janoff-Bulman, 2009).

This perspective is consistent with Jost et al.'s (2003) claim that the management of uncertainty and threat underlies the core ideology of conservatism and with recent research by Carney, Jost, Gosling, and Potter (2008) on personality differences between liberals and conservatives. Carney et al. found that two traits—openness to experience and conscientiousness particularly distinguished between the two, with openness higher for liberals and conscientiousness higher for conservatives. Although consistent, however, the work of Jost et al. and Carney et al. does not focus on self-regulation or the activation or inhibition bases of motivation that we propose may underlie political orientation.

Given that avoidance motivation has been associated with greater cognitive rigidity and, furthermore, that political conservatism has been associated with avoidance motivation, we propose that the greater cognitive rigidity of conservatives is attributable to their greater reliance on avoidance motivation. We set out to test this possibility in the two studies that follow. Compared to liberals, are political conservatives more sensitive to avoidance motivation? And does avoidance (vs. approach) motivation produce greater cognitive rigidity in conservatives but not in liberals? We also investigated suggested associations among liberals, approach motivation, and cognitive flexibility.

Interestingly, virtually all past research linking political conservatism and mental rigidity has been correlational, involving self-reports on questionnaires rather than assessed differences in task performance. A notable exception is a recent study by Amodio, Jost, Master, and Yee (2007) on the neural substrates of political orientation, which found that conservatives had lower anterior cingulate activity than did liberals and were more likely to persist in a habitual response pattern, even when an alternative response was required. Amodio et al. conceptualized cognitive rigidity in terms of response set rather than category inclusion or exclusion, yet their findings are consistent with the past body of work in finding a relationship between conservatism and rigidity. In the current research, approach-avoidance motivation was investigated as a mechanism for understanding this relationship, and an actual cognitive categorization task (rather than self-report) was used to measure rigidity versus flexibility.

To fully appreciate the hypothesized link between avoidance and cognitive rigidity in these studies, it is best to focus on the action tendency—inhibition—associated with avoidance motivation. Inhibitory processes would be expected to produce narrower, less inclusive cognitive processing, such that ambiguous stimuli would likely be excluded from categories. Activation (i.e., approach), in contrast, should enlarge categories by "allowing" ambiguous stimuli to be included.

#### Study I

In this study we manipulated approach and avoidance orientation and investigated the effects of this motivational prime and political orientation on rigidity, as assessed by a cognitive categorization task. Based on work by Rosch (1975), this task used neutral stimuli, devoid of social or political associations; such a task would presumably minimize any processing differences between liberals and conservatives and would therefore provide the strongest test of rigidity differences. We hypothesized an interaction between political orientation and motivation, such that conservatives (vs. liberals) would be more cognitively rigid when primed with avoidance (vs. approach) motivation; conservatives were expected to be especially sensitive to avoidance primes. Past research has almost exclusively focused on the conservatism-rigidity link, which raises the question of a liberalism-flexibility link. We therefore also investigated whether liberals would demonstrate greatest flexibility (i.e., inclusion of ambiguous items) in the approach motivation condition.

#### Method

**Participants.** Participants were 223 undergraduate psychology students (65 males, 158 females) at the University of Massachusetts, Amherst, who received experimental credit for their cooperation. As a large northeastern U.S. university, UMass is a relatively liberal campus. Nevertheless, the participants in this study were distributed across the entire range of political orientation (see below).

#### Materials

Approach-avoidance prime. We manipulated approachavoidance orientation using primes that focused individuals on what they should do (i.e., approach) versus what they should not do (i.e., avoidance). We included two different approachavoidance manipulations, one in the moral domain and the other in a nonmoral domain. Given that moral beliefs generally underlie political orientation, we were interested in whether inhibition in the moral domain in particular would produce greater rigidity. Furthermore, past research has suggested that morality is associated with greater mental rigidity (e.g., Skitka, Bauman, & Sargis, 2005). Alternatively, research on approachavoidance suggests that inhibition in general would produce greater rigidity; that is, both moral and nonmoral avoidance primes would be similarly associated with greater rigidity. The domain (moral vs. nonmoral) differences for the approachavoidance primes were viewed as an exploratory aspect of the current research. In both cases, the approach prime focused on positive outcomes and the avoidance prime focused on negative outcomes.

More specifically, the approach-avoidance primes asked participants to generate 10 items that one should approach versus avoid. In the nonmoral domain, the approach-avoidance prime focused on personal preferences, specifically entertainment recommendations. The nonmoral approach prime asked participants to generate a list of movies that one should watch to have an enjoyable entertainment experience, whereas the nonmoral avoidance prime asked participants to generate a list of movies one should not watch to avoid having an unenjoyable entertainment experience. In the moral domain, the approach prime focused on what one should do to be a moral person. The avoidance moral prime focused on what one should not do to avoid being an immoral person. An additional neutral control condition that involved no prime was also included.

Categorization task. Following the prime, participants completed a 60-item categorization task. This measure was develprototypic, moderately prototypic, oped using and nonprototypic exemplars from Rosch's (1975) Cognitive Representations of Semantic Categories. Participants were asked to rate the extent to which an item fit a category. Participants rated 12 items within each of five categories (i.e., furniture, vehicle, weapon, clothing, and carpenter tool). The 12 items were further differentiated in terms of prototypicality (e.g., prototypic, moderately prototypic, nonprototypic). Using the vehicle category as an example, prototypic items included car, bus, train, and airplane; moderately prototypic items included jet, tractor, yacht, and go-cart; and nonprototypic items included *blimp*, *camel*, *wheelbarrow*, and *elevator*.

Participants provided both discrete judgments of whether the item was considered a member of the category (i.e., yes or no) and category fit ratings for each item (anchored from 1 = not at all a good fit to 9 = extremely good fit). Importantly, discrete judgments have typically not been assessed in past research (see, e.g., Isen & Daubman, 1984; Mikulincer et al., 1990) but seemed essential for making claims about categorization inclusion and exclusion. Category fit ratings alone would not provide a clear indication of whether an item was considered in or out of the category. Items were averaged within each level of prototypicality; within-category reliabilities for the discrete and category fit measures (each averaged across four items) ranged from .69 to .82. Higher numbers on the discrete measures (i.e., larger number of *no* responses) represented greater category exclusion and thus greater cognitive rigidity.

Political orientation. Following the categorization task, four items in the questionnaire measured political orientation (see Skitka et al., 2005). Participants were asked to indicate where they would place themselves on four 7-point scales. One item asked about liberalism/conservatism and had endpoints at 1 (very liberal) and 7 (very conservative); a second item asked about political party affiliation and had endpoints at 1 (strong Democrat) and 7 (strong Republican). Participants were also asked, "How much do you tend to like or dislike political conservatives?" and "How much do you tend to like or dislike political liberals?" Participants responded on scales anchored at 1 (dislike extremely) and 7 (like extremely). These four items were highly correlated and were combined (after reverse scoring the item about disliking or liking liberals) to provide a single measure of political orientation ( $\alpha = .76$ ), with higher numbers indicating greater political conservatism. Scores by

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Variable	В	SE B	Þ
Moral	-0.453	0.583	.438
Approach avoidance	0.876	0.665	.190
Political orientation	0.399	0.287	.166
Moral $\times$ approach avoidance	0.057	0.265	.829
Moral $\times$ political orientation	0.156	0.142	.271
Approach avoidance $\times$ political orientation	-0.439	0.142	.002
Morality $ imes$ approach avoidance $ imes$ political orientation	0.006	0.064	.922

Table I. Summary of Multiple Regression Analysis for Total No Decisions Predicted by Prime and Political Orientation (Study I)

the current sample ranged from very liberal to very conservative and from strong Democrat to strong Republican, and the mean score on the measure of political orientation was 3.3(midpoint = 4).

Positive and Negative Affect Schedule (PANAS). Participants completed the PANAS (Watson, Clark, & Tellegen, 1988) and provided some basic demographic information following the priming and categorization tasks. The PANAS scores were unrelated to any of the study's findings and therefore are not discussed further.

#### Results and Discussion

Across all analyses, significant results emerged for the moderately prototypic items and not for the prototypic and nonprototypic items. This was consistent with our expectations given that both the prototypic and the nonprototypic items were likely to have been perceived as unambiguous; either all items clearly fit the category (prototypic) or they did not (nonprototypic). It was the items that were perceived as most ambiguous (moderately prototypic) that produced the most variability in responses. Therefore, all results refer to findings for the moderately prototypic items.

Multiple regression analyses were first conducted to explore the effects of the three independent variables (approachavoidance prime, moral or nonmoral domain, and political orientation) on cognitive rigidity. These two initial regressions (one for total no decisions and the other for category fit) did not include the no-prime control group because both regulatory prime (i.e., approach-avoidance) and moral or nonmoral domain were absent in this condition (i.e., moral/nonmoral domain was manipulated via the approach-avoidance prime). In both regression analyses, political orientation and approach-avoidance prime significantly interacted to predict cognitive rigidity (total no decisions: B = -0.44, SE = 0.14, p = .002; category fit ratings: B = -0.40, SE = 0.14, p =.004). In both cases, higher levels of conservatism were associated with more cognitive rigidity, but only when exposed to the avoidance prime. The main effect and interactions involving priming domain (moral or nonmoral) were not significant (see Table 1), and thus subsequent multiple regressions were run without the priming domain variable. Specifically, these two analyses included the three priming conditions (approach,



**Figure 1.** Total *no* decisions for moderately prototypic items as a function of political orientation and motivational prime (Study 1) Note: Higher numbers represent more category exclusion.

avoidance, and no-prime control) and political orientation. As shown in Figure 1, results for total no decisions revealed the association between political orientation and cognitive rigidity was significantly stronger for the avoidance prime relative to both the approach-prime (B = 0.91, SE = 0.37, p = .015) and the control conditions (B = 0.79, SE = 0.42, p = .057). Specifically, higher levels of conservatism were associated with more total *no* decisions when exposed to the avoidance prime but not when exposed to either approach or control primes. Identical patterns emerged for the category fit ratings, such that higher levels of conservatism were more strongly associated with lower category fit ratings when exposed to the avoidance prime relative to the approach (B = -0.42, SE = 0.14, p = .003) and control conditions (B = -0.28, SE = 0.16, p = .078).

Approach and control conditions generally looked very similar in this study, providing support for the "positivity offset" (see, e.g., Cacioppo & Berntson, 1999), which suggests that approach is essentially the default motivation. Overall, liberals showed little differential responsiveness to any of the primes; they did not exhibit greater cognitive flexibility in the approach condition nor greater rigidity when primed with avoidance. However, the research findings supported the predicted interaction between political orientation and approach-avoidance prime. More specifically, conservatives primed with an avoidance (but not approach) motivational prime showed the greatest cognitive rigidity—more than conservatives in the approach-prime condition, more than liberals in either priming condition, and more than those in the no-prime condition. The avoidance prime produced greater rigidity by conservatives regardless of domain (i.e., moral or nonmoral). The finding that conservatives in the avoidance condition exhibited the greatest cognitive rigidity seems to provide evidence for a differential sensitivity of conservatives to an avoidance orientation compared to liberals.

#### Study 2

Study 2 was an attempt to replicate the Study 1 findings using a very different type of approach and avoidance prime. We used a modified prime to control for possible effects of language and to ensure that a focus on inhibition was responsible for avoidance effects. To test this, we used a prime that framed a controversial issue (i.e., abortion) in terms of allowance (legal abortion) or prohibition (illegal abortion), which respectively reflect activation versus inhibition in social regulation. Although abortion may not be a hot-button political issue in other countries, it has clearly been a central concern in the culture wars between liberals and conservatives in the United States. In the United States, conservatives typically favor prohibiting abortion (i.e., inhibition), whereas liberals typically favor guaranteeing that abortion remains available to women (i.e., activation).

We were concerned that the word *not*, used in Study 1, might prime inhibition directly, so in this study we substituted a positive word—*support*—in both the approach and the avoidance conditions. The prime both controlled for language and linked the current research to an important social issue. Once again we predicted an interaction effect of political orientation and approach-avoidance prime, such that individuals with relatively high levels of conservatism exposed to the avoidance prime would exhibit increases in cognitive rigidity.

#### Method

**Participants.** Participants were 78 university undergraduates (46 females, 32 males) at the University of Massachusetts, Amherst, who were approached on campus to complete a brief questionnaire. Participation was voluntary, and individuals received a piece of candy for their cooperation.

#### Materials

Approach-avoidance prime. The approach-avoidance primes were framed as a question assessing attitudes toward abortion. The approach prime involved allowance, reflecting activation, and asked, "Do you support legal abortion?" The avoidance prime involved prohibition, reflecting inhibition, and asked, "Do you support making abortion illegal?" Participants were asked to indicate their support or opposition on 7-point scales with endpoints at 1 (*strongly oppose*) and 7 (*strongly support*). A measure of issue importance was also included and asked,

 Table 2.
 Summary of Multiple Regression Analysis for Total No

 Decisions Predicted by Prime and Political Orientation (Study 2)

Variable	В	SE B	Þ
Prime	-1.61	0.97	.10
Political orientation	-0.35	0.37	.33
Prime $\times$ political orientation	0.52	0.25	.04

"In general, how important is the issue of abortion to you?" Responses were indicated on a 7-point scale with endpoints at 1 (*very unimportant*) and 7 (*very important*). Importance of the abortion issue was uncorrelated with abortion position.

Categorization task. Given time constraints, participants completed a shortened 40-item categorization task based on the same list of category exemplars used in Study 1 (Rosch, 1975). The modified categorization task included five object categories (furniture, vehicle, weapon, clothing, and carpenter tools), with items from all three levels of prototypicality. Given the similarity of *yes* or *no* decisions and goodness-of-fit ratings in the previous study, only the former (i.e., discrete category membership) was used in this study. The numbers of *no* responses were summed within each level of prototypicality (prototypic  $\alpha = .76$ , moderately prototypic  $\alpha = .71$ , and nonprototypic  $\alpha = .69$ ). Higher numbers indicated greater category exclusion and therefore greater cognitive rigidity.

**Political orientation.** The first two items from Study 1 were used to measure political orientation (see Skitka et al., 2005); these assessed the extent to which respondents were liberal or conservative and the strength of their party affiliation. These two items were highly correlated and were combined to create a single measure of political orientation ( $\alpha = .90$ ), with higher numbers indicating greater political conservatism. Participants were again distributed across the entire range of liberalism and conservatism, and their mean political orientation score was 3.5 (midpoint = 4).

#### Results and Discussion

Given that the prime involved abortion, we conducted preliminary analyses investigating possible gender effects. These analyses revealed no effects due to gender, and consequently this variable was dropped from subsequent analyses.

Multiple regression analyses included approach-avoidance prime, political orientation, and their interaction terms to predict cognitive rigidity (i.e., total *no* decisions). Once again significant differences emerged only for the moderately prototypic (i.e., most ambiguous) items. As shown in Table 2, for total *no* decisions of category group membership, political orientation and approach-avoidance prime significantly interacted to predict cognitive rigidity (B = 0.53, SE = 0.26, p =.04). As can be seen in Figure 2, relatively high levels of conservatism were again associated with more cognitive rigidity,



**Figure 2.** Total *no* decisions for moderately prototypic items as a function of political orientation and motivational prime (Study 2) Note: Higher numbers represent more category exclusion.

but only for those exposed to the avoidance (inhibition-framed) question, "Do you support making abortion illegal?"

Given that the primes were based on attitudes toward abortion, we ran analyses that included respondents' attitudes toward abortion, as expressed in their response to the prime, as well as their position on the response scale (i.e., closer to the support versus oppose ends of the scale). In the former instance, scores on the "making abortion illegal" question (i.e., for those primed with avoidance) were reverse scored, such that high scores indicated a pro-choice position. In the latter case (i.e., scale usage), participants' raw scores were entered into the analysis. In two separate multiple regression analyses, one for attitudes and the other for scale usage, only the interaction term of approach-avoidance and political orientation continued to be significant (B = 0.52, SE = 0.25, p =.05; B = 0.56, SE = 0.26, p = .03). Attitudes toward abortion and individual scale usage did not explain any additional variance and were ruled out as alternative explanations.

Using very different primes, Study 2 replicated the pattern of results found in Study 1. The social issue prime effectively produced approach-avoidance motivational differences; framing the abortion question in terms of a prohibition was sufficient to produce inhibition-based effects on categorization. Once again there was a strong association between higher levels of conservatism and greater cognitive rigidity for individuals exposed to the avoidance prime. It appears that individuals with relatively high levels of conservatism are more sensitive to inhibition-based avoidance and react with greater category exclusivity and thus narrower categories.

#### Conclusions

Overall, the studies' findings suggest that approach-avoidance motivation moderates the relationship between political orientation and cognitive rigidity. More specifically, avoidance motivation moderates the relationship between political conservatism and cognitive rigidity. Liberalism was not associated with greater flexibility in the approach conditions (or greater rigidity in the avoidance conditions) compared to the no prime condition but generally was similarly inclusive regardless of prime. Greater conservatism, however, was associated with greater rigidity, but only in the avoidance-prime condition. The research therefore provides support for self-regulatory differences based on political orientation.

The current work expands on the conservative-rigidity link found in past research by providing a mechanism to account for this association. Our findings suggest that conservatives are sensitive to avoidance motivation, which produces "inhibition" responses manifested in greater rigidity. In these studies avoidance was cued by should not statements linked to relatively nonthreatening negative outcomes (Study 1) and a prohibition-framed social issue (Study 2). In both cases, when subjected to an avoidance prime, conservatives (but not liberals) employed an inhibitory strategy that resulted in greater cognitive rigidity. Based on the studies' findings, we would not expect differences between liberals and conservatives in responding to positive stimuli or incentives (i.e., approach cues), but we would expect greater inhibitory reactions by conservatives in response to negative, avoidant cues. Selfregulation appears to provide a useful perspective for understanding how one's political views may affect categorization processes and, more broadly, the association between political conservatism and rigidity.

A strength of these studies was the use of an actual behavioral task to assess cognitive rigidity and not self-report assessments of psychological constructs reflecting rigidity. Furthermore, although the yes—no and goodness-of-fit ratings produced identical patterns of results, the use of the discrete judgments of category membership in addition to the more typical fitness ratings made the interpretation of results in terms of category inclusion or exclusion more convincing. To draw causal inferences, we also experimentally manipulated regulatory focus and did not rely on preexisting differences assessed through a trait-based scale (e.g., BIS or BAS; Carver & White, 1994).

A limitation of our experimental design, however, involved measuring political affiliation at the conclusion of the study and, in particular, after the approach-avoidance prime. Although preferable to priming political affiliation before engaging in the categorization task (thereby making political orientation salient), one might nevertheless ask whether the approach-avoidance prime affected self-reported political orientation. To help answer this question, we tested for differences in reported political orientation across the priming conditions; there were no differences across conditions in either study. More specifically, those in the avoidance-prime condition were not more likely to be politically conservative. Instead, it appears that conservatives were most likely to be affected by the avoidance prime.

Generalization of the findings beyond the stimuli and samples used in these studies is a task for future research. It would be important to extend the findings to other indices of rigidity and to noncollege samples and populations outside of the United States. Future directions include exploring the role of regulatory focus and political orientation in the categorization of social stimuli (e.g., people's faces) as a means to better understand the relationship between political orientation and ingroup - outgroup perceptions. Furthermore, this research suggests that basic self-regulatory differences, such as sensitivity to negative stimuli, may have important implications for other types of "rigid" responses. Thus, self-regulatory differences may affect the interpretation of contemporary social issues such as illegal immigration. Can political differences in reactions to illegal immigration, for example, be understood in terms of conservatives' greater sensitivity to avoidance cues (i.e., losses rather than gains)? We are currently conducting research to address this question.

It is noteworthy that the findings in these studies involved differences in basic cognitive processing, for participants reacted to stimuli that were intentionally chosen to be completely neutral, free of any social or political associations. Yet even with these neutral stimuli, conservatives were more rigid when primed with avoidance cues. It appears that selfregulatory processes, and in particular avoidance motivation, can provide a better understanding of the relationship between political conservatism and cognitive rigidity.

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The authors declared that they had no conflicts of interests with respect to their authorship or the publication of this article.

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#### References

- Altmeyer, R. A. (1998). The other "authoritarian personality." Advances in Experimental Social Psychology, 30, 47-91.
- Amodio, D. M., Jost, J. T., Master, S. L., & Yee, C. M. (2007). Neurocognitive correlates of liberalism and conservatism. *Nature Neuroscience*, 10, 1246-1247.
- Budner, S. (1962). Intolerance of ambiguity as a personality variable. Journal of Personality, 30, 29-50.
- Cacioppo, J. T., & Bernston, G. G. (1999). The affect system: Architecture and operating characteristics. *Current Directions in Psychological Science*, 8, 133-137.
- Carney, D. R., Jost, J. T., Gosling, S. D., & Potter, J. (2008). The secret lives of liberals and conservatives: Personality profiles, interaction styles, and the things they leave behind. *Political Psychology*, 29, 807-840.
- Carver, C. S., & Scheier, M. F. (1998). On the self-regulation of behavior. New York: Cambridge University Press.
- Carver, C. S., & Scheier, M. F. (2008). Feedback processes in the simultaneous regulation of affect and action. In J. Y. Shah & W. L. Gardner (Eds.), *Handbook of motivation science* (pp. 308-324). New York: Guilford.

- Carver, C. S., & White, T. L. (1994). Behavioral inhibition, behavioral activation, and the affective responses to impending reward and punishment: The BIS/BAS Scales. *Journal of Personality and Social Psychology*, 67, 319-333.
- Chirumbolo, A. (2002). The relationship between need for cognitive closure and political orientation: The mediating role of authoritarianism. *Personality and Individual Differences*, *32*, 603-610.
- Crowe, E., & Higgins, E. T. (1997). Regulatory focus and strategic inclinations: Promotions and prevention in decision-making. Organizational Behavior and Human Decision-Making, 69, 117-132.
- Davidson, R., Ekman, P., & Saron, C. (1990). Approach-withdrawal asymmetry: Emotional expression and brain physiology. *Journal* of Personality and Social Psychology, 58, 330-341.
- Eisenberg-Berg, N., & Mussen, P. (1980). Personality correlates of sociopolitical liberalism and conservatism in adolescents. *Journal* of Genetic Psychology, 137, 165-177.
- Elliot, A. J., & Church, M. A. (1997). A hierarchical model of approach and avoidance achievement motivation. *Journal of Personality and Social Psychology*, *72*, 218-232.
- Fibert, Z., & Ressler, W. (1998). Intolerance of ambiguity and political orientation among Israeli university students. *Journal of Social Psychology*, 138, 33-40.
- Förster, J., Friedman, R. S., Özelsel, A., & Denzler, M. (2006). Enactment of approach and avoidance behavior influences on the scope of perceptual and conceptual attention. *Journal of Experimental Social Psychology*, 42, 133-146.
- Friedman, R. S., & Förster, J. (2005). The influence of approach and avoidance cues on attentional flexibility. *Motivation and Emotion*, 29, 69-81.
- Gable, S. L., & Strachman, A. (2008). Approaching social rewards and avoiding social punishments: Appetitive and aversive social motivation. In J. Y. Shah & W. L. Gardner (Eds.), *Handbook of motivation science* (pp. 561-575). New York: Guilford.
- Gray, J. A. (1982). The neuropsychology of anxiety: An inquiry into the functions of the septo-hippocampal system. New York: Oxford University Press.
- Gray, J. A. (1990). Brain systems that mediate both emotion and cognition. *Cognition and Emotion*, 4, 269-288.
- Isen, A. M., & Daubman, K. A. (1984). The influence of affect on categorization. *Journal of Personality and Social Psychology*, 47, 1206-1217.
- Janoff-Bulman, R. (2009). To provide or protect: Motivational bases of political liberalism and conservatism. *Psychological Inquiry*, 20, 120-128.
- Janoff-Bulman, R., Sheikh, S., & Baldacci, K. (2008). Mapping moral motives: Approach, avoidance, and political orientation. *Journal of Experimental Social Psychology*, 44, 1091-1099.
- Janoff-Bulman, R., Sheikh, S., & Hepp, S. (2009). Proscriptive versus prescriptive morality: Two faces of moral regulation. *Journal of Personality and Social Psychology*, 96, 521-537.
- Joe, V., Jones, R., & Ryder, S. (1977). Conservatism, openness to experience and sample bias. *Journal of Personality Assessment*, 41, 527-531.
- Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological Bulletin*, 129, 339-375.

- Jost, J. T., Napier, J. L., Thorisdottir, H., Gosling, S. D., Palfai, T. P., & Ostafin, B. (2007). Are needs to manage uncertainty and threat associated with political conservatism or ideological extremity? *Personality and Social Psychology Bulletin*, 33, 989-1007.
- Keltner, D., Gruenfeld, D. H., & Anderson, C. (2003). Power, approach, and inhibition. *Psychological Review*, 110, 265-284.
- Kemmelmeier, M. (1997). Need for closure and political orientation among German university students. *Journal of Social Psychology*, 137, 787-789.
- Kirton, M. (1978). Wilson and Patterson's conservatism scale: A shortened alternative form. *British Journal of Social & Clinical Psychology*, 17, 319-323.
- Kish, G. (1973). Stimulus-seeking and conservatism. *The psychology of conservatism*. Oxford, UK: Academic Press.
- Kohn, P. (1974). Authoritarianism, rebelliousness, and their correlates among British undergraduates. *British Journal of Social & Clinical Psychology*, 13, 245-255.
- Mikulincer, M., Kedem, P., & Paz, D. (1990). Anxiety and categorization—1. The structure and boundaries of mental categories. *Personality and Individual Differences*, 11, 805-814.
- Peterson, B., & Lane, M. (2001). Implications of authoritarianism for young adulthood: Longitudinal analysis of college experiences and future goals. *Personality and Social Psychology Bulletin*, 27, 678-690.
- Rosch, E. (1975). Cognitive representations of semantic categories. Journal of Experimental Psychology: General, 104, 192-233.
- Semin, G. R., & Fiedler, K. (1988). The cognitive functions of linguistic categories in describing persons: Social cognition and

language. Journal of Personality and Social Psychology, 54, 559-568.

- Sidanius, J. (1978). Intolerance of ambiguity and socio-politico ideology: A multidimensional analysis. *European Journal of Social Psychology*, 8, 215-235.
- Skitka, L. J., Bauman, C. W., & Sargis, E. G. (2005). Moral conviction: Another contributor to attitude strength or something more? *Journal of personality and Social Psychology*, 88, 895-917.
- Sutton, S. K., & Davidson, R. J. (1997). Prefrontal brain asymmetry: A biological substrate of the behavioral approach and inhibition systems. *Psychological Science*, 8, 204-210.
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063-1070.
- Webster, A. C., & Stewart, R. A. C. (1973). Theological conservatism. In G. D. Wilson (Ed.), *The psychology of conservatism* (pp. 129-147). London: Academic Press.
- Webster, D. M., & Kruglanski, A. W. (1994). Individual differences in need for cognitive closure. *Journal of Personality and Social Psychology*, 67, 1049-1062.

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