Are Conservatives Really More Simple-Minded than Liberals? The Domain Specificity of Complex Thinking

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Prior research suggests that liberals are more complex than conservatives. However, it may be that liberals are not more complex in general, but rather only more complex on certain topic domains (while conservatives are more complex in other domains). Four studies (comprised of over 2,500 participants) evaluated this idea. Study 1 involves the domain specificity of a self-report questionnaire related to complexity (dogmatism). By making only small adjustments to a popularly used dogmatism scale, results show that liberals can be significantly more dogmatic if a liberal domain is made salient. Studies 2–4 involve the domain specificity of integrative complexity. A large number of open-ended responses from college students (Studies 2 and 3) and candidates in the 2004 Presidential election (Study 4) across an array of topic domains reveals little or no main effect of political ideology on integrative complexity, but rather topic domain by ideology interactions. Liberals are higher in complexity on some topics, but conservatives are higher on others. Overall, this large dataset calls into question the typical interpretation that conservatives are less complex than liberals in a domain-general way.

It has practically achieved the state of an axiom in our field that liberals are more complex thinkers than conservatives. This is not without reason. Meta-analyses—covering a vast array of evidence related to dogmatism, uncertainty avoidance, openness to experience, need for closure, and integrative complexity—suggest that liberals are indeed more complex than conservatives (see Jost, Glaser, Kruglanski, & Sulloway, 2003; Van Hiel, Onraet, & De Pauw, 2010; see also Joseph, Graham, & Haidt, 2009).

Nonetheless, we believe that the judgment that conservatives are broadly simple-minded may be premature. In the present article, we provide an alternative framework for understanding existing differences in complexity between conservatives and liberals and some initial evidence for that framework. Our approach focuses on considering more fully the *topic domain* that the complexity measurement is relevant to.

The Domain Specificity of Complex Thinking

Complex thinking is domain-specific.[1] Someone can think highly complexly about the Iraq War, and yet still think very simply about broccoli. A lot of evidence using many different operations of complex thinking underscores this point (Conway, Schaller, Tweed, & Hallett, 2001; Houck, Conway, & Gornick, 2014; Judd & Lusk, 1984; Liht, Conway, Savage, White, O'Neill, 2011; Pancer et al., 1995; Sidanius, 1984; Suedfeld, 2000; Tetlock, Peterson, & Lerner, 1996). For example, the complexity of thinking can be affected by the *importance* of the content domain (Conway et al., 2008; Suedfeld, 2000) by the *experience* people have with the domain (Conway et al., 2008; Dasen, 1975; Suedfeld, 2000), by the *heritability* of the domain (Conway, Dodds, Hands Towgood, McClure, & Olson, 2011), or by the *value conflict* implied by the domain (e.g., Suedfeld, Bluck, Loewen, & Elkins, 1994; Tetlock, 1986).

This fact of domain specificity has implications for our understanding of group differences in complexity. For example, while there is a tendency to think about cultural differences in complexity in monolithic terms, evidence (see Conway et al., 2001, for a summary) suggests that the culture-complexity link is in fact domain-specific. In methodological terms, the relationship between cultural groups and complexity is probably better described as a culture by topic-domain interaction than it is by a main effect of culture (Conway et al., 2001).

Ideology X Domain Interactions on Complex Thinking

A primary assumption of the present article is that this same culture $\times$ domain interaction applies to *political* culture (defined operationally by political ideology). This idea is not new. Over 25 years ago, Tetlock (1986) pointed out that, because conservatives and liberals differ in which values are in conflict, his *Value Pluralism Model* predicts ideology $\times$ domain interactions. Of course, his model also predicts that integrative complexity most typically breaks left of center; thus, it expects both a main effect (liberals more complex) and interactions with issue domain. Yet it is worth noting that,

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[1] In the present article, we use the term "domain specific" to indicate the particular content that comprises the thought-about subject in the same way that past researchers discuss "domains" or "issues" (e.g., Suedfeld, 2000; Tetlock, 1986). Deciding whether or not two thought-about subjects involve different "domains" in this sense is not itself always a simple matter. We suspect that most scientists would agree that "broccoli" is a different domain than "the Iraq War." But consider, for example, that while it is possible that "smoking cigarettes" and "drinking alcohol" could be viewed as different domains, it is also possible they could be viewed as being under the larger single domain of "substance use." In the present work, we took the view that it was best not to make too many inferences about the larger categories participants might or might not impose on each topic, and thus we treat domains as different to the degree that they clearly indicate potentially different linguistic topics. Thus, unless topic stems use identical language or are direct synonyms, we treat them as separate domains.

while the main effect prediction has been widely discussed, the expected interaction has not.[2] This is not from an initial lack of encouragement of its importance. In 1986, Tetlock (p. 825) encouraged researchers to study this topic: "*Systematic study of such Ideology X Issue interactions should be a major goal of future laboratory and archival studies on this topic.*" Tetlock's admonition has been largely ignored. Indeed, in the intervening 25-plus years, very little research has been done to further this "major goal." The research that has been done relevant to issue domain and complexity (e.g., Lavallee & Suedfeld, 1997; Suedfeld, 2000; Suedfeld et al., 1994; Suedfeld, Steel, & Schmidt, 1994) has generally not directly tested ideology X issue interactions, and, to date, no research program has systematically explored these interactions. Further, almost none of the research cited in meta-analyses on conservative simplicity (Jost et al., 2003; Van Hiel et al., 2010) has directly accounted for such interactions.

Why This Matters: The Present Research

If we assume that (1) ideology $\times$ domain interactions are prevalent in reality, and (2) very few formal and systematic tests have been made of such interactions, then it is possible that existing research to date might misrepresent the actual main effect between liberals and conservatives on complexity—it may be that the small number of tested domains are on average ones for which liberals score higher on complexity and that the counterbalancing domains have yet to be tested. As such, before fully deciding on the question of whether or not liberals and conservatives differ in complexity in a domain-general way, it is worth first more fully exploring ideology $\times$ topic domain interactions on a wide range of topics (see also Duarte et al., in press).

To that end, the present research attempts to show how two of the major complexity-relevant areas most typically used as evidence of conservative simplicity (Jost et al., 2003; Van Hiel et al., 2010) might be accounted for by ideology $\times$ domain interactions. Study 1 focuses on one self-report measure relevant to complexity; studies 2–4 focus on complexity scoring of open-ended statements.

Study 1: Dogmatism is Domain-Specific

As Jost et al. (2003) point out, dogmatism has historically been conceptualized as closed-mindedness that is indicative of rigid, black-and-white thinking; for example, Rokeach described dogmatism in terms of "closed belief systems" (1960, p. 67). Such closed belief systems are a hallmark of cognitive simplicity (see, e.g., Conway et al., 2008; Tetlock, 1986), and thus it is not surprising that other researchers have noted the kinship between dogmatism and cognitive simplicity (e.g., Suedfeld, Tetlock, & Streufert, 1992). For our purposes, this clear conceptual overlap suggests that it is reasonable for us to view dogmatism as a proxy for closed-minded, simplistic thinking.

Indeed, this overlap is the impetus for dogmatism being used as one of the major arguments in the case for conservative simplicity (Jost et al., 2003). Specifically, a large body of research, mostly using versions of the Rokeach (1960) scale we use here, reveals a positive relationship between dogmatism and political conservatism (see Jost et al., 2003).

The use of dogmatism as an argument in the case for conservative simplicity is partially dependent upon its conceptualization as being free of specific topic content (henceforth, *domain general*; see

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[2] Because so many factors relevant to topic content affect complexity, there are many reasons—including value pluralism and attitude strength—to expect interactions between ideology and content domain on complexity. As such, it is reasonable to expect interactions at a larger level without necessarily being able to identify specifically *why* such an interaction exists in a particular context. Although we provide some preliminary evidence concerning one possible explanatory mechanism in this context, the primary purpose of this article is to demonstrate the expected interaction at a larger level and not to provide a coherent theoretical explanation for the interaction.

Jost et al., 2003, for a discussion). And many of its items do, on the surface, appear to be domain general. On the other hand, some research suggests that students who rate the ideological content of the Rokeach items rate them as leaning towards conservative content (see Simons, 1968), and other academics have noted (e.g., Van Hiel et al., 2010) that not all the items on the scale are free of specific content. One of the items explicitly mentions religion, another item states an explicit idea about humans being helpless and frail, and a third item states that focusing on one's happiness is contemptuous. These items explicitly identify a domain of interest and in some cases state an opinion on that domain. Thus, it is possible that the standard dogmatism scale is not really a pure measurement of domain-general dogmatism, but rather a measurement of dogmatism that captures domains on which conservatives are more dogmatic. In the present study, we directly test the degree that the specific content of the dogmatism questionnaire matters by altering the items to reflect one of two content domains (environmental issues versus religion).

Study 1 Method

Participants

Four-hundred and seventy-five undergraduates at the University of Montana participated for course credit in large-group sessions.

Questionnaire Packets

Participants completed a questionnaire packet which contained a dogmatism scale,[3] a political ideology scale, and some demographic information.

Dogmatism. Eighteen items from Rokeach's (1960) standard dogmatism scale were used in the present study.

Participants were randomly assigned one of three versions of the dogmatism scale. Some participants received the standard version of the scale as typically used in previous research on ideology (obtained from Ray, 1970). Other participants received one of two domain-specific versions of the scale. In one condition, participants received a scale that was designed to measure their dogmatism about religion, and in another condition, participants received a scale designed to measure their dogmatism about environmental issues.

These domain-specific dogmatism scales were nearly identical to the standard scale and to each other, but they differed only in intentionally injecting content domains into the items (please see the online supplemental information for the entire scales). An example will help illustrate. A standard item on the dogmatism scale is "A group which tolerates too much difference of opinion among its own members cannot exist for long." For the religious dogmatism scale, this item was adapted (italics and bold added for emphasis here) to say "A ***religious*** group which tolerates too much difference of opinion among its own members cannot exist for long." The parallel environmental dogmatism questionnaire item read "An ***environmental*** group which tolerates too much difference of opinion among its own members cannot exist for long."

In this way, the two alternate domain-specific dogmatism questionnaires kept almost all of the language from the original items but interjected a content domain (either religion or environmental issues) into the majority of those items. Inter-item reliability for the scale was satisfactory in all three conditions (standard-scale *alpha* = .74; environmental-scale *alpha* = .74; religious-scale *alpha* = .88).

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[3] Participants also completed measurements of authoritarianism and modern racism. These measurements are not directly relevant to the present study and are not discussed further.

Four items on each domain-specific scale were kept in their original (domain-general) wording. These originally worded items appeared last in the list of 18 items.

Political Ideology. Participants also completed several items relevant to their political ideology. We focus on two of those here: standard bipolar items anchored by liberal/conservative and Democratic/Republican that have been used in prior research (e.g., Conway et al., 2012) and are similar to the vast majority of standard ideology measures (see e.g., Jost et al., 2003; Federico, Deason, & Fisher, 2012). These two items were highly correlated ($r = .77$) and thus averaged into a single measure of *political conservatism* (standardized *alpha* = .86).

Study 1 Results

Correlations within Condition

We first looked at correlations within each condition. Replicating prior research, the standard dogmatism scale was positively correlated with political conservatism ($r[111] = .27$, $p < .01$).

Does this finding represent a domain-general or domain-specific phenomenon? Our next two findings suggest it is domain-specific. First, the religion dogmatism scale—a scale specifically designed on a domain on which conservatives are more likely to be dogmatic—showed virtually the same effect as the supposedly domain-general scale ($r[184] = .33$, $p < .001$). More importantly, are conservatives unilaterally more dogmatic across all domains? The answer is no: They were significantly less dogmatic on environmental domains, as illustrated by the negative correlation between conservatism and environmental dogmatism ($r[180] = -.26$, $p < .001$).[4]

Absolute Values for Conservatives and Liberals

Evaluating only correlations between scales, it is conceptually possible that the negative correlation between conservatism and the liberal-focused scale could be driven more by a rejection of those items by conservatives than by an acceptance by liberals. To look at the plausibility of this alternative, we divided participants up categorically into *conservatives* (those who scored above 5 on the conservatism scale) and *liberals* (those who scored below 5 on the scale). This analysis thus drops those directly at the midpoint of the scale. We then ran parallel 2 (Type of Scale) × 2 (Ideology) ANOVAs for dogmatism (for this analysis, we dropped the standard questionnaire). This analysis showed a significant Type of Scale × Ideology interaction ($F > 29.9$, $p < .001$).

More pertinent to our purpose are the absolute values for each scale, broken down by ideology. These are presented in Table 1. As can be seen there, the highest score for simplicity was for *liberals* (the highest cell was liberals on environmental dogmatism). These additional

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[4] We also compared correlations within each condition by the type of item (domain-general versus domain-specific). Removing the four domain-general items from these domain-specific scales increased the size of the difference between the religion and environmental dogmatism scales: The main conservatism measure was significantly negatively correlated for the environmental scale ($r = -.36$, $p < .001$) and significantly positively correlated for the religion scale ($r = .34$, $p < .001$; Fisher's Z-test for comparing correlations = 6.86, $p < .001$). When looking at the four domain-general items on the otherwise domain-specific scales, conservatives were nonsignificantly positively correlated for the environmental scale ($r = .10$) and significantly positively correlated for the religion scale ($r = .23$, $p < .01$; Fisher's Z-test for comparing correlations = 1.32, $p > .05$). These results indicate that there is some "leakage" from the domain-specific environmental items that reduce the typical size of the conservatism-political ideology correlation but still reveal that the nature of the item itself does matter, even within a domain-specific context.

Table 1. Studies 1 through 4: Liberals and Conservatives by Topic Domain and Complexity Measurement

	Liberal Complex Domains		Conservative Complex Domains	
	Liberals	Conservatives	Liberals	Conservatives
Study 1 (Student) Dogmatism	2.55	3.21	3.61	3.07
Study 2 (Student) Complexity	1.90	1.75	1.54	1.76
Study 3 (Student) Complexity	2.02	1.67	1.54	1.79
Study 4 (Bush/Kerry) Complexity	1.81	1.34	1.39	1.93

Note: For Studies 1–3, Conservatives = participants above midpoint on political conservatism scale, and Liberals = participants below midpoint. For Study 4, conservative = Bush and Liberal = Kerry. Studies 2–4 = dialectical complexity for *ad hoc* categories (see text).

analyses with absolute values make any interpretation of Study 1 results based on a lack of liberal simplicity implausible.[5]

Study 1 Discussion

These results suggest that the relationship between ideology and dogmatism is domain-specific. Conservatives are indeed more dogmatic on the religious domain; but liberals are more dogmatic on the environmental domain.

It might be easy to dismiss these effects as reflecting the content preferences of liberals and conservatives (and thus as not reflecting anything about *dogmatism* per se). There are two reasons why we think such a dismissal would be premature.

First, the dismissal is a double-edged sword. If the question is "do prior results suggest that conservatives are more dogmatic?" then simply dismissing our results as only having to do with content raises the possibility that *all* dogmatism scales are picking up on *content* primarily (and not dogmatism per se).

Second, more importantly, a quick dismissal of these findings does not capture the subjective nature of the items themselves. For example, consider that for dogmatism, liberals scored higher on the following questions:

There are two kinds of people in this world: those who are for the truth that the planet is warming and those who are against that obvious truth.

When it comes to stopping global warming, it is better to be a dead hero than a live coward.

A person who thinks primarily of his/her own happiness, and in so doing disregards the health of the environment (for example, trees and other animals), is beneath contempt.

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[5] Some prior research suggests that the relationship between ideology and outcome variables may be curvilinear and as such represents more about ideological extremism than about ideological content (e.g., Tetlock et al., 1994). As a result, we tested for the possibility that our results represent a curvilinear, rather than a linear, relationship. In particular, we ran linear regression on all key results while entering both a linear and two separate nonlinear terms for political conservatism as simultaneous predictors: (1) A mean-centered quadratic term for conservatism and (2) an extremism score for conservatism (computed as the absolute difference from the midpoint of the conservatism scale). All analyses were performed within-condition in a way parallel to that described above. Results overwhelmingly support a linear, rather than a nonlinear, interpretation of our results. For dogmatism, when linear and quadratic/extremism scores are entered simultaneously, all linear conservatism terms remained significant (p's < .01), while no significant nonlinear effects emerged in any condition on either nonlinear measurement (p's > .380). Thus, (1) all linear effects remained significant—and were of similar size and direction as in zero-order analyses—when accounting for nonlinear effects, and (2) nonlinear effects overall accounted for very little of the variance. Thus, our results are much better construed as linear effects than as nonlinear.

The subjective tone of those statements is not merely "I am an environmentalist" but rather "all people who disagree with me are fools." In these and other items from the scale, liberals are consenting to (1) categorizing the world into only two kinds of people, those that are right and those that are wrong, (2) a scorn of those unwilling to die for a cause, (3) a belief that persons who disagree with them are "beneath contempt," (4) a belief that the *only* method for understanding the truth is to rely on experts, (5) an expression that *true living* involves believing in their cause, and (6) an appeal to the temporal urgency of the cause. Those are not just statements about *having an environmental position*: They are explicitly and overwhelmingly *dogmatic* statements. And liberals are more likely to agree with such sentiments—for an environmental domain.

Studies 2–4: Integrative Complexity is Domain-Specific

The dogmatism measurement used in Study 1 has been widely used to make a case for conservative simplicity, but it is not without its problems (see Van Hiel et al., 2010). It is dependent on participants' own self-perceptions and willingness to express them; it also contains explicit ideological content. Although, as we have discussed, that "ideological content" argument cuts both ways and does not undermine our present purpose, it would nonetheless be advisable to also use a more open-ended measure that ameliorated some of these problems.

With that in mind, we turn next to one such open-ended measurement of the complexity of thinking: *Integrative complexity* (e.g., Suedfeld & Streufert, 1966; Suedfeld & Tetlock, 1976; see also Harvey, Hunt, & Schroder, 1961; Schroder, Driver, & Streufert, 1965).

Integrative Complexity

Integrative complexity, which formed an important part of Jost et al.'s (2003) case for conservative simplicity, is used to assess the complexity of spoken or written communications according to their basic structure (see, e.g., Suedfeld & Bluck, 1988; Suedfeld, Bluck, & Ballard, 1994; Suedfeld & Leighton, 2002; Suedfeld & Rank, 1976). Passages are coded and assigned a score between 1 and 7 based on the level of differentiation (i.e., the extent to which differing dimensions are used to describe a given topic) and, if more than one dimension is present, integration (i.e., the joining of these multiple dimensions; see Baker-Brown et al., 1992, for *integrative complexity* scoring details).

In assigning complexity scores, the particular position argued for by the speaker/writer is irrelevant; the score is based on the *structure* of the passage. As such, the construct is able to capture the underlying mechanisms of the complexity of thought on a broad level that is conceptually independent of the content domain of the passage. It is in part for this domain-general breadth that integrative complexity is the most widely used scoring system for measuring the complexity of open-ended statements (e.g., Conway, Conway, Gornick, & Houck, 2014; Conway & Gornick, 2011; Conway et al., 2012; Conway, Suedfeld, & Clements, 2003; Conway, Suedfeld, & Tetlock, 2001; Houck et al., 2014; Suedfeld & Bluck, 1988; Suedfeld et al., 1994; Suedfeld & Leighton, 2002; Suedfeld & Tetlock, 1976; Tetlock, 1984, 1986).

Domain Specificity

Although it is intended to be a "content free" measurement, this does not mean that participants' complexity is uninfluenced by the domain of interest. Indeed, although content domain is not often a subject of inquiry in integrative complexity research, topic domain has been shown to influence integrative complexity in some lines of research (Conway et al., 2008; Conway et al., 2011; Conway et al., 2012; Pancer et al., 1995; Suedfeld, 2000; Suedfeld, Bluck et al., 1994; Suedfeld & Wallbaum, 1992; Tetlock, 1986; Tetlock, Peterson, & Lerner, 1996). In all this work, the specific content domain

that people wrote or talked about mattered for the ultimate complexity they produced. Thus, it is worth considering more fully the possibility of ideology $\times$ topic domain interactions on integrative complexity.

<p align="center">*Our Focus on Dialectical Forms of Integrative Complexity*</p>

Recently, a new scoring system for parsing integrative complexity scores into different *types* of complexity has been scientifically validated (Conway et al., 2008; Conway et al., 2011). In particular, some integrative complexity scores are driven by *dialectical complexity*, which is complexity achieved by giving legitimacy to two opposing viewpoints. On the other hand, some integrative complexity scores are driven by elaborative complexity, which is complexity achieved by defending or expanding upon one particular viewpoint (see Conway et al., 2008; Conway et al., 2011).

All materials in studies 2–4 in the present article were scored for integrative complexity and the two subtypes outlined in Conway et al. (2008). However, we here opt to present results in those studies on *dialectical* forms of complexity. Our reasons for doing so are three-fold. First, almost all of the prior work on integrative complexity cited in meta-analyses by Jost et al. (2003) and Van Hiel et al. (2010) comes from Tetlock. When scoring integrative complexity, Tetlock has only coded dialectical forms of complexity in his work (see Conway et al., 2008, for a review). As a result, the best direct comparison with prior work showing conservative simplicity is *dialectical complexity*. Second, this focus makes conceptual sense, because dialectical forms of complexity most clearly map on to the "rigidity of the right" idea. It is in their inability or unwillingness to think about things from different points of view that conservatives are supposed to be lacking: And dialectical complexity best captures that aspect (see Conway et al., 2008). Third, our results are inferentially stronger and more consistent using dialectical forms of complexity, and thus we acknowledge that part of our decision to present this set of results is ad hoc.

However, we also performed all analyses using the larger integrative complexity construct, and the overall pattern of results in most cases is similar (see footnote 12 for details). It is indeed noteworthy that the key moderating effects reported here are strongest for the form of complexity (dialectical complexity) on which conservatives are supposed to be weakest.

Using *dialectical complexity* below in Studies 2–4, we show that, contrary to the conservative simplicity hypothesis, no main effect emerges of ideology on complexity. Instead, these results are better characterized by an ideology $\times$ topic domain interaction.

<p align="center">**Study 2**</p>

<p align="center">*Method*</p>

Participants. Over a three-year span, 1,529 undergraduate participants at the University of Montana completed questionnaire packets, usually in large sessions exceeding 100 persons.[6]

Complexity Question Stems. Participants completed one of 13 possible question stems that mostly dealt with political and social issues (example topic stems include "death penalty," "abortion," and "organized religion"). These questions were later coded by trained scorers for integrative complexity. Most of these items were chosen because they had been previously assessed for their heritability in one of two prior, well-known heritability research programs (Eaves, Eysenck, & Martin, 1989;

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[6] Portions of the data from Studies 2 and 3 were used also to test hypotheses about psychological extremism (Conway et al., 2008) and heritability of attitudes (Conway et al., 2011). However, those studies did not deal with political ideology at all, and thus all analyses presented here are entirely novel.

Martin, Eaves, Heath, Jardine, Feingold, & Eysenck, 1986; see Conway et al., 2008; Conway et al., 2011 for descriptions of topic selection).

Complexity Coding. Study 2 was scored by coders who had taken an intensive training course and achieved a .85 reliability score with an expert integrative complexity coder and who had subsequently received training in scoring the subconstructs. Responses were coded by 4–5 coders in "blocks" of around 500 responses each. For each block, every coder of that block scored all participants (and thus all topics) for that block. Thus, summary scores provided below are the average of 4–5 coders for each participant. To check for reliability, we computed standardized *alphas* for each block separately (because all coders scored all responses in each block, an *alpha* is an appropriate metric of reliability). Reliability on each of the different blocks was satisfactory, with standardized *alphas* for dialectical complexity ranging from .86 to .89 ($M = .88$).

Ideology Measurement. All participants completed the same two continuous measurements of political ideology used in Study 1. These were averaged to produce a single continuous "political conservatism" score. For both Studies 2 and 3, we converted this score into a categorical measurement in a manner identical to our method in Study 1 for testing absolute values. We did this because the current conceptual case being made is that conservatives are simple-minded. Because the slope of the line in a correlation might not fully capture differences between persons on each side of the liberal/conservative divide, there is value in considering what people who classify themselves as being on the "conservative" side of the ledger are like, as compared to those on the "liberal" side, in more categorical terms. In addition, using a regression-based approach for Studies 2 and 3 would be fairly cumbersome, due to the large number of topic domains (with topic domain serving as one of the primary IVs). Thus, for ease of testing interactions, an ANOVA-based approach that uses categories for political ideology is more practically useful.

Persons who scored above the midpoint were categorized as *conservative*, while those below the midpoint were categorized as *liberal*. This removed participants right at the midpoint, leaving 1,323 for our main analyses in Study 2 (*liberal* = 852; *conservative* = 471).

Results and Discussion

Analyses were first performed within a 2 (Ideology: Leans Right versus Leans Left) × 13 (Topic Domain) Factorial ANOVA. By far the strongest effect was for Topic Domain $F(12, 1297) = 9.30$, $p < .001$. No main effect of ideology emerged, with Conservatives ($M = 1.72$) and Liberals ($M = 1.72$) having virtually identical overall complexity means. However, an Ideology × Topic Domain interaction emerged, with Conservatives higher on some topics and Liberals higher on others, interaction $F(12, 1297) = 2.03$, $p < .02$.

To understand the degree that this interaction was driven by conservative or liberal complexity (or both equally), we created some ad hoc categories representing the upper tertile of topics on which conservatives and liberals, respectively, were highest in complexity (defined by the difference between conservatives and liberals on complexity for that topic).[7] Topics for which Conservatives

[7] This ad hoc strategy is primarily an organizing device to simplify data analyses and presentation. First, one of the most important considerations in the domain ideology × interaction is whether or not conservatives show an equal effect on their highest-complexity topics as liberals do on their highest-complexity topics. The ad hoc strategy we employ is useful for quickly illustrating that the nature of the interaction across topics is equal on both sides in a manner that allows for easy comparison across studies. Second, this strategy helps simplify additional analyses (e.g., it provides a straightforward way to test the effect of potential explanatory mechanisms in the "Additional Analyses of Studies 1–3" section). Although we recognize that this method has the potential of exaggerating the strength of the interaction effect, it is important to note that two of the three domain × ideology interaction terms are significant (Studies 2 and 4) without any ad hoc organizing—and the one that is not significant (Study 3) has such small cell numbers and so many topic domains that it would be hard to find an interaction term. Thus, we think this ad hoc method is constructive way of summarizing these studies that accurately captures the nature of the data.

were higher were: *Death penalty is barbaric and should be abolished, Socialism, Refugees, and George W. Bush*. Topics for which Liberals were higher on complexity were: *People should find out if they are sexually suited before marriage, Bible truth, Alcohol, and Censorship*. (These analyses remove the middle tertile of topics for which liberals and conservatives were roughly equal in complexity).

A 2 (Ideology) $\times$ 2(Ad Hoc Domain Type: Conservatives Higher or Liberals Higher) ANOVA revealed, predictably, an interaction between Ideology and Domain Type, $F(1, 734) = 12.31$, $p < .001$. As can be seen in Table 1, this interaction is clearly a true crossover interaction, with conservatives scoring higher than liberals on some topics, while the reverse is true for others. Indeed, within-domain type correlations showed roughly similar effect sizes for topics on which conservatives were higher in complexity (conservatism-complexity $r[346] = .12$, $p < .03$) and topics on which conservatives were lower in complexity (conservatism-complexity $r[511] = -.08$, $p < .06$; Fisher's Z-test comparing correlations $= 2.87$, $p < .01$).

In other words, the interaction between domain type and ideology is roughly equally attributable to the fact that conservatives were sometimes higher than liberals on complexity as it is to the fact that liberals were sometimes higher than conservatives.

Study 3

Method

Participants. Over a two-year span, 728 undergraduate participants at the University of Montana completed an open-ended question pertaining to an array of attitudes in exchange for course credit, usually in large sessions exceeding 100 persons.[8]

Complexity Question Stems. The 30 question stems were taken directly from a research program that was not motivated by ideology, but rather because they had been previously assessed for their heritability in a project (Olson, Vernon, Harris, & Jang, 2001) that was independent of the heritability program used in Study 2.

Complexity Coding. As in Study 2, Study 3 was scored by 4–5 trained coders in "blocks" of around 400 responses each. For each block, every coder of that block scored all participants (and thus all topics) for that block. Thus, summary scores provided below are the average of 4–5 coders for each participant. To check for reliability, we computed standardized *alphas* for each block separately. Reliability on each of the different blocks was satisfactory, with standardized *alphas* for dialectical complexity ranging from .81 to .82 ($M = .81$).

Political Ideology. We measured ideology in a manner identical to Study 2 and further computed a single categorical score identical to that study. This method (which removes participants scoring directly at the midpoint of the scale) left 633 for our main analyses (*liberal* = 395; *conservative* = 238).

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[8] Studies 2 and 3 have 423 overlapping participants (those participants completed an item used both in Study 2 and in Study 3). As in prior research using this dataset (Conway et al., 2008; Conway et al., 2011), we treat these overlapping responses from each participant as independent. While it is conceptually possible that (for that subsample of 423 only) participants' responses on the first set influenced their responses on the second set, we statistically controlled for that possibility by computing all key analyses on that sample of 423 for each set, while statistically controlling for the participants' complexity from the other set. These analyses revealed no change when the other topic set was accounted for: Participants showed a pattern of results identical, both descriptively and inferentially, to the same analyses without controlling for variables for the other topic set. This demonstrates the validity of treating participants' responses to those attitude items independently (see Conway et al., 2008; Conway et al., 2011 for similar treatments). Indeed, it is worth noting that the complexity from the first set was virtually uncorrelated with complexity from the second set, $r = .02$, $p > .70$.

Results and Discussion

Initial analyses were performed within a 2 (Ideology: Leans Right versus Leans Left) $\times$ 30 (Topic Domain) Factorial ANOVA. Once again, by far the strongest effect was for Topic Domain $F(29, 573) = 2.91$, $p < .001$. No main effect of ideology emerged, with Conservatives ($M = 1.74$) and Liberals ($M = 1.76$) having virtually identical complexity means. Unlike in Study 2, no clear Ideology $\times$ Topic Domain interaction emerged in Study 3.

However, the descriptive data suggested that sometimes conservatives were higher than liberals on some topics and vice versa, but that small cell sizes (in some cases $n = 7$) and the large number of cells made it difficult to find an effect in the 2 $\times$ 30 ANOVA. We subsequently followed an ad hoc procedure identical to that in Study 2: Specifically, we created some ad hoc categories representing the upper tertile of topics on which conservatives and liberals, respectively, were highest in complexity. Topics for which Conservatives were higher were: *Wearing clothes that draw attention, Exercising, Death penalty, Open-door immigration, Smoking, Reading books, Castration, Loud music, Roller coaster rides, and Easy access to birth control.*

Topics for which Liberals were higher on complexity were: *Being assertive, Organized religion, Crosswords, Public speaking, Abortion on demand, Big parties, Playing organized sports, Making racial discrimination illegal, Education, Being the center of attention.* (This analyses removes the middle tertile of topics for which liberals and conservatives were roughly equal in complexity.)

A 2 (Ideology) $\times$ 2 (Ad Hoc Domain Type) ANOVA revealed an interaction between Ideology and Domain Type, $F(1, 374) = 21.39$, $p < .001$. As can be seen in Table 1, this interaction is clearly a true crossover interaction, with conservatives scoring higher than liberals on some topics, while the reverse is true for others. Indeed, within-domain correlations showed roughly similar effect sizes for topics on which conservatives were higher in complexity (conservatism-complexity $r[230] = .15$, $p < .03$) and topics on which conservatives were lower in complexity (conservatism-complexity $r[207] = -.20$, $p < .01$; Fisher's $Z = 3.67$, $p < .01$).

In other words, the interaction between domain type and ideology is roughly equally attributable to the fact that conservatives were sometimes higher than liberals on complexity as it is to the fact that liberals were sometimes higher than conservatives.[9,10]

Additional Results from Studies 1–3

To this point, we have talked loosely about ideology $\times$ domain interactions without clearly specifying the psychological explanatory variables that might account for such interactions. This is partially purposeful—our primary goal in this article is to discuss the potential for such interactions at a large

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[9] Although there are solid conceptual and practical reasons for treating liberalism/conservatism as a dichotomous variable, we ran several sets of additional analyses using conservatism as a continuous variable. First, we used regression/correlation analyses to test the key interactions from Studies 2 and 3 while keeping political conservatism as a continuous measurement. In particular, we (1) correlated political conservatism with complexity within each topic domain, (2) created an ad hoc dummy variable (-1 = liberals higher, $+1$ = conservatives higher) representing the top and bottom tertile for the conservatism-complexity relationship, then (3) ran a regression entering standardized political conservatism, topic domain, and their interaction term on complexity. Results were consistent with those presented in the text for the categorical measurement of political conservatism: For both Study 2 and Study 3, there was no main effect of political conservatism (*betas* = .01 and $-.03$), but a significant interaction between conservatism and topic domain (*betas* $> .12$, p's $<= .001$).

[10] For Studies 2 and 3, we further tested for curvilinear effects of conservatism in a manner identical to Study 1 by creating two nonlinear political conservatism terms. A summary of these results is that (1) the difference in the conservatism-complexity relationship between conservative-higher and liberal-higher topics remains when accounting for nonlinear terms, (2) nonlinear effects overall accounted for a proportionally smaller amount of the variance than linear effects. In short, the effects reported here are better described as linear effects than curvilinear effects. A detailed report of these additional results is available upon request.

level and not to engage in a debate about the specific psychological mechanisms underlying those interactions. However, on a subset of our data for Studies 1–3, we collected a few variables relevant to mechanisms that we believed might help explain those interactions. (We did not collect any of these additional variables for Study 4.) Thus, while not our primary purpose, we briefly summarize the outcome of those analyses here. Although we measured other variables (for a summary, see footnote 11), we specifically focus on a set of variables related to a given domain's attitude strength.

Conceptually and empirically, attitude strength/involvement is negatively related to dialectical forms of complexity (see Conway et al., 2008; Conway et al., 2011). Thus, it is possible that liberals and conservatives differ on what topics they hold strong attitudes on, and this fact might help us better understand the domain-specific effects of conservatism on complexity. We tested the implications of this in Studies 1–3.

Study 1. For Study 1, all participants who completed the domain-specific dogmatism scales also completed several measurements relevant to attitude strength/involvement with the topic domain: (1) topic importance, (2) involvement with the topic, (3) experience with the topic, (4) confidence in their opinion on the topic, and (5) attitude extremity (represented by how far they were from the midpoint in absolute terms on an agreement item). We converted each measurement to a *z*-score and averaged them into an overall *attitude strength* score.

Conceptually, if conservatives and liberals differed in what topics they were dogmatic about due to differences in attitude strength, then liberals should hold stronger attitudes on the topics they were more dogmatic on (and vice versa for conservatives). This conceptual logic directly predicts an ideology × topic type interaction on attitude strength, such that liberals would hold weaker attitudes on topics for which they scored lower in dogmatism (in this case, religion), while conservatives would hold weaker attitudes on topics for which they scored lower in dogmatism (in this case, environmental issues). We tested this by computing an ideology (liberal versus conservative) × topic type (environment versus religion) interaction on attitude strength.

Results were consistent with our conceptual logic: Conservatives held stronger attitudes for the domain on which they were more dogmatic (conservatives = .27, liberals = .10), while liberals held stronger attitudes for the domain on which they were more dogmatic (conservatives = −.34, liberals = −.04), interaction $F(1,304) = 8.69$, $p < .01$.

Studies 2 and 3: Attitude Strength/Involvement. We performed a similar set of analyses on Studies 2 and 3. In particular: On a subset of our data that comprised part of the sample for Studies 2 and 3 ($n = 423$), immediately after completing the open-ended statements that were scored for complexity, participants also completed measurements of attitude strength identical to those used in Study 1. As in Study 1, we converted each measurement to a *z*-score and averaged them into an overall *attitude strength* score.

Conceptually, if conservatives and liberals differed in what topics they were more complex about due to differences in attitude strength, then liberals should hold stronger attitudes on the topics they were less complex on (and vice versa for conservatives). Thus, we computed ideology (liberal versus conservative) × ad hoc topic type (liberal higher in complexity versus conservative higher in complexity) interactions.

Results were largely descriptively consistent with attitude strength being an explanatory variable, but the inferential statistics were not overwhelming. In particular, for Study 2, conservatives held stronger attitudes for topics on which liberals were higher in complexity (conservatives = .16, liberals = −.04), while liberals held stronger attitudes for topics on which conservatives were higher in complexity (conservatives = −.07, liberals = .00). However, this interaction was not statistically significant ($p = .184$). A similar pattern emerged for Study 3, where conservatives held stronger attitudes for topics on which liberals were higher in complexity (conservatives = .21, liberals = −.04), while this difference was essentially not in evidence for topics on which conservatives were higher in

complexity (conservatives = .05, liberals = .04). However, this interaction was also not statistically significant ($p = .262$).[11]

Study 4: 2004 Bush-Kerry Debates

George W. Bush has often been discussed as a prototypical representative of simple-minded conservatives (e.g., Simonton, 2006). But if, as we have argued, complexity is largely driven by topic domain, then it is important to consider what *domain* politicians are talking about. In Study 4, we compare Bush versus his opponent in the 2004 election campaign, John Kerry, across 15 different topics that were discussed during the presidential debates.

Method

Paragraph selection. Across three presidential debates, the two candidates were specifically directed to discuss 15 different topics, ranging from domestic issues (e.g., the economy) to moral discussions (e.g., abortion) to foreign policy (e.g., the Iraq war). From each debate, we randomly selected five paragraphs per topic per candidate. If the candidate did not provide five paragraphs in a given debate for a given topic, we used all the available paragraphs for that topic.

Paragraph preparation and scoring. As is standard in archival integrative complexity research (e.g., Conway & Conway, 2011; Suedfeld & Rank, 1976; Tetlock, 1984; Thoemmes & Conway, 2007), we removed all information from the selected paragraphs that might directly identify who the speaker is and replaced that with generic information, and then we presented the paragraphs in random order to four trained scorers. All scorers coded all paragraphs. Interrater reliability for the current project was satisfactory (dialectical complexity *alpha* = .75). The four coders' scores were averaged into a single *complexity* score.

Results and Discussion

Analyses were first performed within a 2 (Candidate: Bush Versus Kerry) $\times$ 15 (Topic Domain) Factorial ANOVA. By far the strongest effect was for Topic Domain $F(14, 65) = 2.40$, $p < .01$. No main effect of ideology emerged, with Conservative Bush ($M = 1.45$) and Liberal Kerry ($M = 1.48$) having virtually identical overall complexity means. However, an Ideology $\times$ Topic Domain interaction emerged, with Bush higher on some topics and Kerry higher on others, interaction $F(14, 65) = 1.88$, $p < .05$.

To understand the relative strength of Bush's and Kerry's complexity in contributing to this interaction, we created some ad hoc categories by grouping topic types together on which Bush's and Kerry's complexity differed. Specifically, we created difference scores for each topic representing the degree that either Bush or Kerry was higher on complexity for that topic, and then used the upper tertile of these difference scores for each candidate to create two categories: The five topics for which Bush was higher in complexity and the five topics for which Kerry was higher. (This strategy is analogous to the strategy for creating ad hoc categories in Studies 2 and 3). Using these criteria, the topics

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[11] For Studies 2 and 3, we also performed similar exploratory analyses using several measurements relevant to attitude discrepancy from consensus opinion (both real and perceived), the degree to which participants perceived consensus to exist on the issue in question, and the amount of effort they put into writing the topic. No significant interaction effects—and no clear pattern—emerged across the two studies on any of these variables. Finally, for Study 2 only, we had a measurement of the value pluralism participants felt relevant to the topic they wrote about (constructed in a manner drawn from Tetlock, 1986). While—consistent with theorizing from Moral Foundations Theory (see Graham, Haidt, & Nosek, 2009; Joseph et al., 2009)—conservatives had more overall value pluralism than did liberals ($p = .01$), conservatism did not interact with topic type to predict value pluralism (interaction $p > .89$), and thus value pluralism cannot offer a clear explanation as to why topic type moderated the effect of conservatism on complexity.

on which Bush was higher than Kerry were: *Religion, Terrorism/Homeland Security, Stem Cells, Healthcare, and Affirmative action*. The topics on which Kerry was higher than Bush were: *Iraq, non-Iraq foreign policy issues, economic issues, Abortion, and Education*.

A 2 (Candidate) × 2 (Ad Hoc Domain Type: Bush Higher or Kerry Higher) ANOVA revealed an interaction between Ideology and Domain Type, $F(1, 58) = 15.44$, $p < .001$. As can be seen in Table 1, this interaction is clearly a true crossover interaction, with Bush scoring higher than Kerry on some topics, while the reverse is true for others. Indeed, comparisons within-domain type showed roughly similar effects for topics on which Bush was higher in complexity (effect of candidate $t[28] = 2.93$, $p < .01$) and topics on which Kerry was higher in complexity (effect of candidate $t[30] = -2.63$, $p < .02$).[12]

In other words, the interaction between domain type and ideology is roughly equally attributable to the fact that Bush was sometimes higher than Kerry on complexity as it is to the fact that Kerry was sometimes higher than Bush.[13]

General Discussion

Are conservatives simple-minded? The present results suggest the answer to this question is "*yes*...but only on *some* topics." On other topics, conservatives are more *complex* than liberals. Using a large array of topic domains and methods, we found that the ideology-complexity relationship is perhaps best described as an interaction between ideology and topic domain.

Is this interaction hiding a larger main effect of conservative simplicity? Although we found no evidence here of the much-assumed main effect difference between liberals and conservatives, our article is not an attempt to definitively answer that question with a "no." Rather, the results presented here suggest that more caution should be given to definitively answering that question with a "yes." It may be that liberals are, as many have claimed (Jost et al., 2003; Tetlock et al., 1996; Van Hiel et al., 2010) and as some of even our own prior work suggests (Conway et al., 2012; Thoemmes & Conway, 2007), pulled towards complexity more than conservatives: But we think such a judgment is premature.

What Mechanism Might Explain Domain Differences in Complexity?

Our primary purpose in this article is not to explain domain differences but to demonstrate domain × ideology interactions. It is nonetheless important moving forward to address what

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[12] For Studies 2–4, we tested whether the absolute value of the effect sizes for these ad hoc topic-type comparisons differed for topics on which conservatives versus liberals were higher. In Studies 2 and 4, the effect was slightly stronger for topics on which conservatives were higher; for Study 3, the effect was slightly stronger for topics on which liberals were higher. However, across all three studies, Z-tests comparing the absolute value of these effect sizes revealed little evidence that they differed (Study 2 $Z = 0.58$; Study 3 $Z = 0.54$; Study 4 $Z = 0.24$; all p's > .56). In other words, the absolute values of the ideology-complexity effects are essentially equivalent between conservative-higher and liberal-higher topics in Studies 2, 3, and 4. This is consistent with the interpretation offered in the text.

[13] We also performed analyses for Studies 2–4 for integrative complexity. As occurred for the dialectical complexity results reported in the text, no significant main effects for ideology on complexity occurred on integrative complexity in Studies 2–4. Also the same as for dialectical complexity, for Studies 2 and 3 for integrative complexity there was a significant main effect of topic domain. The main difference between integrative complexity and dialectical complexity results occurred in Studies 2 and 4 (recall that Study 3 did not have an initial ideology × domain interaction): Namely, the initial domain × ideology interactions (using all topic domains in those studies) were not significant for integrative complexity. However, following a similar ad hoc strategy for Studies 2, 3, and 4 using integrative complexity (as opposed to dialectical complexity) yielded significant interactions in each case (interaction p's < .01), and the overall pattern is very similar. Also, Study 4 showed no main effect difference for topic domain for integrative complexity. Given our focus on dialectical forms of complexity throughout this article, these inferential differences are largely irrelevant. We report them here for completeness. Our larger point remains the same: For the dialectical forms of complexity most directly related to the *rigidity of the right* idea, the pattern presented here is better captured by domain ideology interactions than by a main effect of ideology.

psychological aspects of topic domains might help us better understand when conservatives are more or less complex than liberals.

We tested several possibilities on a subsample of our data, and the most promising explanatory variable to emerge was attitude strength. Conservatives and liberals differ on the topics for which they hold strong attitudes; and it may be that this variability in attitude strength helps us understand variability on complexity. Our data reveal evidence that is modestly consistent with this hypothesis: Across all three studies for which data was available, both conservatives and liberals held stronger attitudes for the topics on which they were more simple-minded (operationalized in Study 1 as topics for which they were more dogmatic and in Studies 2 and 3 as topics for which they were less complex). Although this pattern was weaker for Studies 2 and 3,[14] these results provide some preliminary evidence that the ideology × domain interactions on complexity-relevant variables may be partially a function of domain differences in attitude strength.

This suggests two possible ways forward for future researchers. First and most obviously, it would be useful to run studies with greater power for testing the explanatory ability of attitude strength measurements. This could be done by collecting a larger group of participants, but it also might be useful to select topics a priori that were especially prone to show attitude strength differences between liberals and conservatives and run more focused tests with those domains or otherwise directly manipulate attitude strength (rather than merely measuring it as we did in the present studies). Second, the measurements reported here are only one set of possible (and potentially imprecise) methods for measuring the attitude strength construct. Given the potential explanatory value of attitude strength in our understanding of complexity-related domain variability, future work would do well to include more sophisticated methods of measuring attitude strength that do not rely solely on direct self-report (e.g., Fazio, Jackson, Dunton, & Williams, 1995).

Sample Limitations

This research is not without its limitations. First, our work is entirely constrained to U.S. samples and thus should be interpreted with appropriate caution. We do not know if the results presented in Studies 1–3 would generalize beyond U.S. borders, and the results from Study 4 are from a single U.S. election.

What might this mean for our interpretation of the results? First, it is important to note that much of the case for conservative simplicity has been compiled on U.S. samples. For example, in Jost et al.'s (2003) meta-analysis, 81% of the reported N for integrative complexity and 44% of the reported N for dogmatism occurred on U.S. participants. Since part of our aim is to offer a potential alternative explanation for existing evidence in these areas, our data at least suggest that for the part of the current case which has been built on U.S. samples (a fairly large percentage), we should perhaps reconsider our collective interpretation of the evidence.

However, it is of course still worth considering the potential effect of the cultural context on our results. Consider, for example, that one of the most salient differences distinguishing the United States from other potential Western samples is that the United States as a whole is more conservative than many other Western nations. What effect might this have? According to one of the most influential models of the origins of complex thinking, Tetlock's Value Pluralism Model (e.g., Tetlock, 1986; Tetlock et al., 1996), if this had any effect, it would be likely to bias the sample by making U.S. liberals *more* complex than liberals in other places (in particular on

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[14] For Studies 2 and 3, it is worth noting that we only had relevant data on a subset of our larger sample. Although attitude strength measurements did not show significant effects in those studies, they were in the correct direction and showed a similar pattern across both studies. We do not want to overinterpret these data; it is possible that this pattern does not represent a real finding. However, we view it as likely that a larger sample would find the expected significant effect for attitude strength.

dialectical forms of complexity; see Conway et al., 2008).[15] If the United States leans right as a nation, that means that those we call "liberals" are actually more "centrist"—and it is centrists that the Value Pluralism Model (and a related model of belief defense; for discussions, see Conway et al., 2008; Conway et al., 2011) predicts would be most complex. As a population, this would make the United States a skewed test that would more likely make liberals complex, because liberals in the United States would actually be less likely to be true liberals—but would in fact be moderates who are more likely on average to be complex (see, e.g., Tetlock et al., 1994). Thus, in a sense, our finding no main effect (and instead finding domain × ideology interactions) in a U.S. sample is more—rather than less—compelling evidence against the conservative simplicity hypothesis.

Consistent with this notion, it is worth noting that additional research on integrative complexity and related measurements—research not cited in Jost et al. (2003)—suggests that if anything, the conservative simplicity effect may be less likely to be found in non-U.S. contexts. For example, Van Hiel and Mervielde (2003) correlated political conservatism amongst Belgian college students with three measurements of complexity, and none of the measurements was statistically significant. Further, in Soviet Russia, leftist communist leaders were less integratively complex than capitalistic reformers who had a more conservative ideology (Tetlock & Boettger, 1989). Quite a bit of research on Canadian political parties is also inconsistent with the conservative simplicity hypothesis. For example, comparing Canadian college students affiliated with two conservative and two liberal political parties, Suedfeld et al. (1994) found no significant differences among them, and the highest overall group on complexity was the conservative Progressive Conservative party. Similar results for Canadian politicians were found by Suedfeld's (2000) scoring of the major political parties' candidates for Prime Minister during the 1997 Federal election. Finally, Lavallee and Suedfeld (1997) found that more liberal environmental groups scored lower in integrative complexity (though not significantly so) than more conservative forest advocacy groups in a conflict in British Columbia over Clayquot Sound.

In summary, we do not view it is likely that our results will end up being relevant to only the United States—they may indeed be more powerful in other regions.[16] However, it is further worth noting that to the degree that our sample *does* in fact differ from other samples and would yield different results, this itself poses a problem for the rigidity of the right explanation. Even should our results prove to be specific only to the United States, this suggests at a minimum that cultural context is a potential moderator of the conservatism-complexity relationship. Given how alarmingly few cultural contexts have actually been tested, this leaves open the possibility that, averaged across all cultures, we may find a far weaker (or even nonexistent) main effect for the conservatism-complexity relationship.

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[15] The relationship of extremism/value pluralism to complexity itself is more complex than this implies. Some work shows that more extreme views lead to more complexity (e.g., Conway et al., 2008; Sidanius, 1984). Conway et al. (2008) attempted to resolve this apparent conflict by demonstrating that extremism leads to less dialectical complexity and more elaborative complexity. Because the focus of the "rigidity of the right" hypothesis is on dialectical forms of complexity, and most of the evidence in favor of it has focused on those forms, we opt to discuss the relationship here and elsewhere in terms of that well-established "extremism reduces complexity" pattern.

[16] There is a potential tension here. These results highlight that other studied nations may show less of a tendency for conservative simplicity, which is best construed as a main effect of context on the effect in question. It is possible that ideology topic domain *interactions*—the topic of this article—could conceivably be *less* in those nations, even as they are simultaneously showing less support for conservative simplicity. While we acknowledge this potential, the tension between the main effect and interactions in other nations is beyond the scope of this article. Our point here is that it is likely unreasonable to imagine that different contexts outside of the United States would produce a wildly different landscape in terms of the ideology-complexity relationship, and based on what we know, if they produce anything different, that difference would likely not be favorable to the conservative simplicity hypothesis.

Thus, while we cannot of course definitively say that our work would generalize, our work at least makes it clear that we should pause in our larger conclusions about the relationship between conservatism and domain-general simplicity.

Research Content Limitations

Our discussion has covered two of the major constructs in the argument for conservative simplicity: dogmatism and integrative complexity. But the case for conservative simplicity includes much more than just research on those constructs, and it includes quite a bit of evidence our domain-specificity theory does not account for even within those two lines of work. It does not seem very likely that ideology $\times$ domain interactions account for all of the additional evidence discussed by Jost et al. (2003). As such, caution is warranted in interpreting these results in the larger picture.

Indeed, consider three lines of evidence discussed in Jost et al. (2003) and Van Hiel et al. (2010): Need for closure/structure, openness, and preference for complexity (e.g., preferences for complex visual images and complex poetry). In each case, quite a bit of evidence exists tying political conservatism to a motive for simplicity; conservatives are higher in self-reported need for closure/structure (and, in a more nuanced recent account, liberals who are higher in need for closure show more conservative policy positions; see Federico et al., 2012), lower in self-reported openness, and lower in self-reported preferences for complex images or poems. Each of those areas could potentially capture a more domain-general motive—for example, need for closure is conceptualized as a need for nonspecific closure that cuts across domains—and yet our research cannot directly speak to that work. How, then, do we reconcile our work to this prior work? We discuss three different points of intersection below (see the online supplementary information for additional discussion in this regard).

The multidimensionality of complexity and why it matters. Even if we assume that this prior work on need for closure/structure, openness, and preferences for complex materials represent phenomena on which conservatives are indeed simpler, that would not invalidate the importance of our present findings. As many researchers have pointed out, complexity itself is multifaceted (see, e.g., Conway et al., 2014; Houck et al., 2014; Tetlock, Emlen Metz, Scott, & Suedfeld, 2014). Thus, even if the present results turn out to be limited only to dogmatism and integrative complexity—two aspects of the case being made for conservative simplicity—that would nonetheless suggest for complexity relevant to those types, the general case being made against conservatives in those areas needs revision. This would present to us a more nuanced and accurate picture of the relationship between ideology and complexity and suggest at the least that the current picture must be qualified by the type of complexity measurement under the microscope.

The potential pitfalls of self-report measurement. Further, for the purposes of determining the average complexity of a group of persons, the kinds of self-report measurements comprising the bulk of prior meta-analyses have some additional potential pitfalls in interpretation. A self-report measurement is at best an indirect marker of a potential complexity-relevant motive. To take one example, Person A may be higher than Person B on the need for closure scale because they are actually more motivated for closure; but they also may be higher because they are more willing to *report* higher need for closure (even though both persons may actually have the same level of motive), or have a different set of social desirability templates, or a host of other factors that do not have to do with the actual motive.[17]

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[17] Importantly, many of these self-report scales that are purportedly domain-general may also contain very specific domain-related content. (For discussion of this possibility relevant to openness, see Sibley & Duckitt, 2008; Sibley, Osborne, & Duckitt, 2012. For discussion relevant to need for closure, see the supplementary information.)

Further, self-report measurements vary in their degree of clear overlap with complexity. Consider that the need for structure scale was intentionally designed to avoid explicitly mentioning cognitive structure (see, e.g., Neuberg & Newsom, 1993). Both the need for structure scale and the highly correlated and conceptually similar need for closure scale contain items that appear like conscientiousness as much as cognitive structure, and the need for structure scale is in fact correlated with both self-reported conscientiousness and conscientious behaviors (Neuberg & Newsom, 1993). While need for structure/closure has been sometimes correlated with more face-valid measurements of complexity (e.g., Neuberg & Newsom, 1993; Webster & Kruglanski, 1994) and is related to attitudinal "seizing" that seems clearly conceptually related to complex thinking (e.g., Webster & Kruglanski, 1994), it is nonetheless worth considering that the scales do not directly measure a desire to think in a complex fashion.

In contrast, the scoring of open-ended statements is a much more direct marker of the average complexity of particular groups (see Houck et al., 2014). While it, too, has its drawbacks, this at the very least means that when Person A scores higher than Person B, we can feel more confident that the *output* of Person A is indeed more complex than Person B on that domain. Thus, this provides a more direct marker of the outcome of interest—complexity—than do more indirect measurements of a self-reported motive that is expected to be correlated to the outcome. The importance of the potential divergence between self-report and open-ended measures is underscored by the fact that the two types of measurements are often not very highly correlated (see Van Hiel et al., 2010, for a summary).

Empirical scope of the present research. Our work shows a different pattern of results than quite a bit of prior work. Why is that the case? There are three conceptual reasons why the literature *writ large* might differ with the results presented here. The first is the primary argument made in this article: That prior work has not fully accounted for domain × ideology interactions. But it may also be that our results are simply anomalous. After all, for any real effect in psychology, sometimes you will not find that effect, or find a reversal of the effect, just by chance.

Relatedly, it is also possible that our results represent an overselection of topics on which conservatives score more complexly. Even if one grants the power of ideology × domain interactions, it of course does not follow that there is no meaningful main effect (see, e.g., Tetlock et al., 1996). Conservatives may be more complex than liberals on a certain handful of topics, but this may run counter to the general tendencies outlined by Jost et al. (2003) to pull them, at some larger psychological level, towards simplicity. Indeed, it is possible that we ourselves are exhibiting a bias in topic selection: Although the topics selected here (with a few exceptions) were not largely selected for reasons directly related to ideology at all (see Conway et al., 2008; Conway et al., 2011), it is nonetheless certainly possible that we selected a group of topics on which conservatives are particularly likely to score high in complexity, thus offsetting the larger tendency for liberals to score higher.

We acknowledge the possibility, as well as the possibility that our results are simply anomalous. But, in considering the scope of our research set against the existing body of work, it is also worth noting that most prior research on ideology and complexity is very narrow in its scope of possible topics, whereas our research covered 43 separate (though sometimes overlapping) topic stems for the student population and 15 separate topic categories for the Bush/Kerry comparison. For comparison, in the integrative complexity research cited in Jost et al. (2003), only one topic distinction is made within-study at all, and it only occurred for one study and included only two broad topic types. Thus, although a lot of research indicates that liberals are higher than conservatives in complexity, it is unclear whether or not that research covers a wide range of *topics*.

About integrative complexity specifically, it is further worth noting that prior research on ideology and integrative complexity has been mostly limited to scoring politicians (Jost et al., 2003; Van Hiel

et al., 2010), and thus may not apply to the vast majority of the population.[18] Further, our research covers over 2,000 participants, which is more participants than all the integrative complexity research combined cited in Jost et al.'s (2003) meta-analysis (combined participant N for all integrative complexity studies = 307). So while it would be premature to suggest overturning all prior evidence on the basis of our work presented here, it would similarly be premature to dismiss our evidence as having no bearing on the larger question. We do not know yet whether our topic selection method might show bias in favor of conservatives, and our evidence contains the largest set of domains studied to date.[19]

Concluding Thoughts

Even the best research is potentially subject to qualification through scientific scrutiny. Our purpose here is not to claim definitively that conservatives are equally as complex as liberals. We are certainly open to the possibility that conservatives are simpler on average, and agree with Tetlock (1986) and Jost et al. (2003) that there are reasons it may be so.

Our purpose is much more modest: It is to point out that, just as there are reasons why it may be so, there are also reasons it may *not* be so. We have presented one alternative possibility here and offered some empirical evidence in support of that model. As such, we believe that the present research might fit in with a growing body of work suggesting that negative attributes once attributed to conservatives might be domain specific (see, e.g., Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014; Crawford, 2012; Suedfeld, Bochner, & Wnek, 1972). We hope this to be the beginning of the discussion with respect to complexity and have no illusions of it being the last word.

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[18] A recent study (Brundidge, Reid, Choi, & Muddiman, 2014)—using a computer-based complexity measurement—analyzed the complexity of over 500 blog posts from liberals and conservatives and found that liberal blog posts were more complex than conservative blog posts ($r = .20$). They also scored for four different topic types and found no clear interaction pattern for ideology and domain. These data are clearly relevant to the larger issue of differences between conservatives and liberals, but it is less clear how relevant they are to integrative complexity specifically. Several considerations include: (1) Computer-based measurements are at best an indirect approximation of linguistic complexity (see Tetlock et al., 2014). It is noteworthy that the LIWC complexity measurement used by Brundidge et al. (2014) was based on a measurement that has shown fairly low correlations with human-scored integrative complexity ($r = .14$; Conway et al., 2014). This low correlation means that differences between liberals and conservatives on the measurement may very well have to do with some other linguistic property besides complexity itself. In contrast, human-scored integrative complexity on which prior meta-analyses are based—and which are the subject of this paragraph—is a much more direct measurement of the actual structural complexity of a paragraph (see., e.g., Tetlock et al., 2014). Thus, while clearly a relevant piece of evidence that should be considered, we should be careful in overinterpreting such indirect data. (2) It is further noteworthy that, while not finding domain × ideology interactions, the study had a low number of domains (four) when compared to the present work. (3) The study does not deal directly with lay populations, instead focusing on political pundits who author blogs. Thus, even if interpreted as representing real complexity differences among liberals and conservatives, it should be interpreted with caution in terms of the potential breadth of application. It is entirely possible that the reported effects between liberals and conservatives are in actual fact very specific only to political elites and/or political pundits; if so, that is an important and meaningful fact but is nonetheless a comparatively small percentage of the population—and this would require a revisiting of the underlying cause of the differences between the two groups. In summary, while we acknowledge that the work has value and relevancy, there is also good reason to interpret the work very cautiously as indicative of integrative complexity differences for liberals and conservatives more broadly.

[19] It is also important to note that we are not arguing that Jost et al.'s (2003) theory is wrong. In fact, the theory could be completely right and yet conservatives and liberals could still be equally complex. Please see the supplementary information for additional discussion on this issue.

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's website:

Study 1 Questionnaires
Additional Discussion: The Potential for Domain-Specificity for Prior Scales.