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Are Needs to Manage Uncertainty and Threat Associated With Political Conservatism or Ideological Extremity?

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Three studies are conducted to assess the uncertainty–threat model of political conservatism, which posits that psychological needs to manage uncertainty and threat are associated with political orientation. Results from structural equation models provide consistent support for the hypothesis that uncertainty avoidance (e.g., need for order, intolerance of ambiguity, and lack of openness to experience) and threat management (e.g., death anxiety, system threat, and perceptions of a dangerous world) each contributes independently to conservatism (vs. liberalism). No support is obtained for alternative models, which predict that uncertainty and threat management are associated with ideological extremism or extreme forms of conservatism only. Study 3 also reveals that resistance to change fully mediates the association between uncertainty avoidance and conservatism, whereas opposition to equality partially mediates the association between threat and conservatism. Implications for understanding the epistemic and existential bases of political orientation are discussed.

Keywords: *uncertainty; threat; ideology; liberalism; conservatism; political orientation*

A few years ago, *The New Yorker* ran a cartoon depicting a woman modeling a dress for her

husband with a caption that read, “Does this dress make me look Republican?” (Diffie, 2004). This joke trades on the pervasive belief that social and political attitudes are often reflected in personal styles and preferences that are, on the face of it, devoid of political content. The notion that general characterological differences in the thoughts, feelings, and behaviors of individuals are linked to their political leanings has intrigued several generations of psychologists (see also Carney, Jost, & Gosling, 2006). Silvan Tomkins (1965), for instance, wrote that “if we know a person’s general emotional posture, I believe we can predict what ideologies he would choose if he were exposed to them—and whether they will be toward the left pole or the right” (p. 27).

There is, in fact, a good deal of evidence suggesting that individual differences in personality, cognitive style, and motivational needs covary with political orientation (e.g., see Jost, Glaser, Kruglanski, & Sulloway, 2003a, 2003b). For example, those who gravitate toward conservative or right-wing ideologies are, in

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general, less tolerant of ambiguity (e.g., Adorno, Frenkel-Brunswick, Levinson, & Sanford, 1950; Frenkel-Brunswick, 1954), and they tend to exhibit higher personal needs for order, structure, and closure (Altemeyer, 1998; Chirumbolo, 2002; Kimmelmeier, 1997; Webster & Kruglanski, 1994) as compared with those who gravitate toward liberal or left-wing ideologies. Furthermore, conservatives tend to perceive the world as more dangerous and threatening, on average, than do liberals (Altemeyer, 1998; Duckitt, 2001).

An uncertainty–threat model of conservatism has been proposed by Jost et al. (2003a, 2003b) to integrate these myriad findings from diverse research programs to develop a parsimonious model of epistemic and existential needs that underlie ideological outcomes. Specifically, the theoretical model holds that “several specific motives relating to the management of fear and uncertainty are associated with the ideology of political conservatism” (Jost et al., 2003a, p. 366). In the remainder of this article, we first review the basic tenets of this model as well as several limitations and criticisms of previous research used to support it. Then, in three studies, we use structural equation methods to compare the uncertainty–threat model of political conservatism to alternative models positing that heightened needs to reduce uncertainty and threat should be associated with ideological extremity rather than conservatism *per se*.

THE UNCERTAINTY–THREAT MODEL OF POLITICAL CONSERVATISM

According to Jost et al. (2003a, 2003b), political conservatism is an ideological belief system that consists of two core components, resistance to change and opposition to equality, which reduce uncertainty and threat. The idea is that there is an especially good fit between needs to reduce uncertainty and threat, on the one hand, and resistance to change and acceptance of inequality, on the other, insofar as preserving the status quo allows one to maintain what is familiar and known while rejecting the risky, uncertain prospect of social change. The broader argument is that ideological differences between right and left have psychological roots: Stability and hierarchy generally provide reassurance and structure, whereas change and equality imply greater chaos and unpredictability. Even for people who are relatively disadvantaged by the status quo, the “devil” they know often seems preferable—in terms of satisfying basic epistemic and existential needs—to the devil they do not know (see also Jost, 2006; Jost & Hunyady, 2005). Thus, the uncertainty–threat model suggests that the appeal of politically conservative opinions and leaders is strengthened when psychological needs to

reduce uncertainty and threat are relatively high, and the appeal of liberal opinions and leaders is strengthened when these needs are relatively low. Both temporary, situational factors and chronic, dispositional tendencies pertaining to the avoidance of uncertainty and the management of threat are therefore hypothesized to affect ideological preferences.

To assess the uncertainty–threat model, Jost et al. (2003a) conducted a meta-analytic review of the cognitive-motivational antecedents of liberalism–conservatism. They found that several dispositional and situational variables presumably associated with the management of uncertainty and threat did indeed predict various manifestations of political conservatism (including right-wing authoritarianism, social dominance orientation, and economic system justification). The original studies were conducted in 12 countries between 1958 and 2002 and employed 88 research samples involving 22,818 individual cases. Results revealed that the tendency to endorse conservative (rather than liberal or moderate) opinions was positively associated with uncertainty avoidance; intolerance of ambiguity; and needs for order, structure, and closure, and it was negatively associated with openness to experience. Conservatism was also positively associated with threat variables such as mortality salience (or death anxiety), system instability, and fear of threat and loss.

Uncertainty Avoidance

Although evidence suggests that everyone is motivated to resolve uncertainty (Gao & Gudykunst, 1990; Kagan, 1972), people vary in the extent to which uncertainty is experienced as aversive and in the manner in which they choose to resolve uncertainty (Kruglanski, 2004; Sorrentino & Short, 1986; Wilson, 1973). Psychologists have identified several individual difference variables that capture different orientations toward certainty and uncertainty. For example, the personality factor of openness to experience is associated with intellectual curiosity, creativity, and flexibility (Costa & McCrae, 1992), and it is negatively correlated with uncertainty avoidance (Hodson & Sorrentino, 1999). In their meta-analytic review, Jost et al. (2003a) found that the weighted mean effect size for the relationship between openness to experience and political conservatism, aggregating across 21 tests of the hypothesis, was negative (Cohen’s $d = -0.68$) and significant.

It has long been noted that individual differences in the tolerance for ambiguity are associated with left–right ideological differences. Even before Adorno et al.’s (1950) theory of the authoritarian personality appeared, Frenkel-Brunswick (1949, 1954) identified the intolerance of ambiguity as a personality characteristic of political conservatives. Budner (1962), too, found

that ambiguity intolerance was associated with several conservative values and opinions, including belief in God, conventionalism, and support for censorship. Research by Rokeach (1960) also demonstrated an association between dogmatic thinking styles and political conservatism. Jost et al. (2003a) found that the weighted mean effect size for the relationship between dogmatism/intolerance of ambiguity and political conservatism, aggregating across 20 tests of the hypothesis, was positive ($d = 0.73$) and significant.

Work summarized by Kruglanski (2004) addresses yet another related individual difference variable that is associated with epistemic motivation to reduce uncertainty, namely, the need for cognitive closure. Kruglanski referred to individual (as well as situational) differences in a person's "desire for a firm answer to a question, any firm answer as compared to confusion and/or ambiguity" (p. 6). Webster and Kruglanski (1994) developed a multifaceted scale that includes measures of closed-mindedness, decisiveness, and needs for order and predictability. There is evidence that scores on the need for closure scale—as well as scores on related instruments such as the personal need for structure scale—covary with political orientation. Jost et al. (2003a) found that the weighted mean effect size for the relationship between needs for order, structure, and closure and political conservatism, aggregating across 20 tests, was positive and significant ($d = 0.54$).

Threat Management

According to a well-known adage, "a conservative is a liberal who's been mugged." While we know of no evidence demonstrating that conservatives are disproportionately victims of violent crime, research does show that conservatives tend to score more highly than liberals on the "perception of a dangerous world" scale (Altemeyer, 1998; Duckitt, 2001). Furthermore, archival research suggests that the appeal of right-wing conservatism is enhanced during periods of high social, economic, and political threat (Doty, Peterson, & Winter, 1991; McCann, 1997; Sales, 1973; Willer, 2004). Jost et al. (2003a) found that fear of threat and loss ($d = 0.38$, aggregating across 22 tests) and system instability and threat ($d = 1.08$, aggregating across 9 tests) were both significant predictors of political conservatism.

Another existential motive that is apparently associated with political orientation is death anxiety. For example, Jost et al. (2003a) found that the weighted mean effect size for the relationship between death anxiety and political conservatism was significantly positive ($d = 1.20$) in eight studies, seven of which involved an experimental manipulation of mortality salience. More recent studies have also demonstrated that mortality salience tends to increase support for conservative

President George W. Bush, even among relatively liberal college students (Cohen, Ogilvie, Solomon, Greenberg & Pyszczynski, 2005; Cohen, Solomon, Maxfield, Pyszczynski, & Greenberg, 2004; Jost, Fitzsimons, & Kay, 2004; Landau et al., 2004).

According to the uncertainty–threat model proposed by Jost et al. (2003a), uncertainty avoidance and threat management are independent but related motivational clusters. Each of these clusters, as we have suggested, can be measured in multiple ways. They are hypothesized to make distinctive contributions to political orientation, so that increases in dispositional (or situational) needs to either reduce uncertainty or manage threat (or both) should be associated with increased attraction to conservative ideology (and decreased attraction to liberal ideology). A key prediction of Jost et al.'s model is that these levels of epistemic and existential motivation should be associated with political conservatism in particular and not ideological extremity in general (see Jost et al., 2003b).

ADDRESSING CRITISMS, LIMITATIONS, AND UNRESOLVED ISSUES

Although the meta-analytic review by Jost et al. (2003a) provides the most comprehensive review of research on the cognitive–motivational underpinnings of political orientation, there are clearly some limitations to what can be gleaned by relying exclusively on secondary analyses of the published research literature. In the current studies we sought to overcome these limitations to address four unresolved questions of theoretical and practical significance.

Do Uncertainty and Threat Management Independently Contribute to Political Orientation?

First, because most of the studies summarized in the Jost et al. (2003a) meta-analysis included either a measure of uncertainty avoidance or threat management but not both, it was impossible to investigate directly the notion that these form two distinct motivational clusters or that each contributes independently to political orientation. Thus, the theoretical assumption that separate epistemic and existential motives affect ideological preferences has not yet been explicitly tested. This issue is particularly important because it bears on an ongoing debate about whether death anxiety is a "special" form of threat, as terror management theorists suggest (Pyszczynski, Greenberg, & Solomon, 2005), or whether it is one of several similar types of threat (e.g., the threat of uncertainty), as others suggest (e.g., Navarrete, Kurzban, Fessler, & Kirkpatrick, 2004; van den Bos, Poortvliet, Maas, Miedema, & van

den Ham, 2005). We hypothesize that needs to reduce uncertainty and threat are indeed distinct motivations but that death anxiety exerts effects that are comparable to those caused by other forms of threat (e.g., perceptions of a dangerous world and system threat). We investigated these possibilities in the current research with the use of confirmatory factor analysis and structural equation modeling with latent variables.

Do Uncertainty and Threat Management Predict Conservatism or Ideological Extremity?

A second limitation of the Jost et al. (2003a) meta-analysis is that the authors were not always able to test directly the uncertainty–threat model against competing theories of political ideology. For example, Greenberg and Jonas (2003) proposed that needs to manage uncertainty and threat should be best served by clinging to any extreme ideology, whether left wing or right wing. Thus, they predicted that needs to avoid uncertainty and threat would be higher at both (extreme) ends of the political spectrum, in comparison with the center. Thirteen of the studies included in Jost et al.'s (2003a) meta-analysis reported the data in sufficient detail to allow for a direct comparison of the (linear) hypothesis derived from the uncertainty–threat model and the (quadratic) extremity hypothesis. Jost et al. (2003b) found that data from seven of these studies exhibited a linear relationship between conservatism and uncertainty/threat avoidance, and data from the other six studies appeared to show both quadratic and linear effects (i.e., offering support for both hypotheses). However, because Jost et al. (2003b) were dependent on how researchers originally collected and reported the data that were included in the meta-analysis, they were unable to directly pit the two hypotheses against each other for most of the studies they reviewed and for many of the individual variables pertaining to epistemic and existential motivation. In the current research we were able to estimate the effects of uncertainty avoidance and threat management on liberalism–conservatism while adjusting for ideological extremity (and vice versa).

Do Uncertainty and Threat Management Predict “Mainstream” Conservatism?

Crowson, Thoma, and Hestevold (2005) criticized the uncertainty–threat model of conservatism for failing to distinguish clearly between the psychological antecedents of right-wing authoritarianism and those of “mainstream” conservatism. They suggested that uncertainty avoidance and threat management would be associated with extreme forms of conservatism such as right-wing authoritarianism but not with moderate levels of conservatism.

In the current research we assessed political orientation with the use of a single ideological self-placement item that has been shown by political scientists to capture political preferences adequately, albeit imperfectly (e.g., Fuchs & Klingemann, 1990; Knight, 1999; see also Jost, 2006), rather than with the use of scales such as the right-wing authoritarianism scale (Altemeyer, 1998). By obtaining continuous measures of self-reported liberalism–conservatism in different geographical regions, we were able to examine a fairly broad range of mainstream political attitudes.

Do Individual Differences in Death Anxiety Predict Political Orientation?

A fourth and final point to be addressed is the relationship between death anxiety and political ideology. There is some ambiguity in the research literature about whether mortality salience (which presumably increases death anxiety) tends to make people more conservative (e.g., Cohen et al., 2005; Cohen et al., 2004; Jost et al., 2004; Landau et al., 2004) or more extreme in either liberal or conservative directions (e.g., Greenberg & Jonas, 2003). One way of directly investigating the possibility that there is a better “match” between needs to reduce death anxiety and conservative (as opposed to liberal) attitudes, as suggested by the uncertainty–threat model, is to consider individual differences in death anxiety. However, only one prior study to our knowledge has explored the relationship between fear of death and political orientation (see Jost et al., 2003a, pp. 364–365). In Studies 1 and 2, we were able to estimate the strength of the relationship between death anxiety (measured as an individual difference variable) and liberalism–conservatism to shed some light on this question. Although this method is useful for understanding the extent to which consciously accessible fears of death are associated with ideological preferences, it does not constitute a critical test of terror management theory per se, insofar as terror management processes are largely assumed to operate unconsciously (Pyszczynski, Greenberg, & Solomon, 1999).

OVERVIEW OF RESEARCH

In three studies we assessed the uncertainty–threat model of political conservatism, which posits that psychological needs to manage uncertainty and threat are associated with political orientation, even after adjusting for ideological extremity in general. Part of our theoretical argument, which is consistent with the results of the Jost et al. (2003a, 2003b) meta-analysis, is that there are “families” (or clusters) of interrelated (yet dis-

tinguishable) epistemic and existential motives that contribute to political orientation. Thus, we are interested in latent, underlying constructs pertaining to the psychological management of uncertainty and threat, and this informed our choice of statistical procedures. In this research program, we focused on the similarities (rather than differences) among variables such as the need for closure, openness to experience, and ambiguity intolerance, as well as the similarities among variables such as death anxiety, system threat, and perceptions of a dangerous world. By varying the ways in which we measured uncertainty and threat management variables across the three studies, we were able to assess convergent validity across operations and to investigate the possibility that these families of epistemic and existential variables would exert similar (rather than different) effects on political orientation.

STUDY 1

In our first study, we measured individual differences in uncertainty and threat management and examined their associations with political orientation and ideological extremity. Uncertainty orientation was operationalized in terms of the need for order and openness to new experiences. Threat was operationalized in terms of death anxiety and perceptions of terrorism. It was hypothesized that each of these motivational clusters would contribute independently to political orientation, even after adjusting for political extremism, but they would not predict extremism after adjusting for political orientation. We used structural equation modeling with first- and second-order latent variables to investigate these predictions.

Method

Participants. One hundred and sixty-one (65.5% female) undergraduate students in an introductory psychology course at a large public university in Texas voluntarily participated in this study. Ages ranged from 17 to 35, with a mean age of 18.42 ($SD = 1.53$).

Instruments and procedure. Participants completed measures of uncertainty avoidance, threat management, and ideological self-placement. Throughout the semester, participants completed questionnaires in mass-testing sessions and received personalized feedback in exchange for participation. Questionnaires included the NEO Personality Inventory–Revised (NEO PI-R) (administered online); a 240-item personality instrument that measures Big Five personality traits, each of which possesses six facets (Costa & McCrae, 1992); selected items from a Death Anxiety scale (Wong,

Reker, & Gesser, 1994); one item gauging perceptions of system threat; and a single ideological self-placement item (e.g., see Jost, 2006).

Because Kenny (1979) recommended selecting three to five indicators per latent variable, uncertainty avoidance was measured using three items taken from the need-for-order facet of the Conscientiousness factor ($\alpha = .85$) and three items taken from each of the six facets of the Openness factor (ideas, values, feelings, fantasy, aesthetics, and activity: α s = .79, .64, .70, .79, .81, and .51, respectively) of the NEO PI-R (Costa, McCrae, & Dye, 1991). Sample items include “I prefer to spend my time in familiar surroundings” and “I often enjoy playing with theories or abstract ideas.”

Threat was measured with the use of five items selected from Wong et al.’s (1994) Death Anxiety scale and one item tapping perceptions of system threat. Items from the first scale are as follows: “I avoid death thoughts at all costs”; “Whenever the thought of death enters my mind, I try to push it away”; “I have an intense fear of death”; “I avoid thinking about death altogether”; and “I try to have nothing to do with the subject of death” ($\alpha = .90$). An additional item assessed participants’ perceptions of system threat: “Our way of life is seriously threatened by the forces of terrorism in the world.”¹

In addition, participants were asked to locate themselves on a 9-point scale of political orientation ranging from 1 (*extremely liberal*) to 9 (*extremely conservative*). The mean political orientation score for the sample was 4.95 ($SD = 2.23$). Eight participants chose the extreme liberal endpoint (1) and 10 participants chose the extreme conservative endpoint (9). To construct a measure of ideological extremism, we subtracted 5 (the scale midpoint) from the original political orientation score and took the absolute value of the result. Thus, participants who chose 1 (*extremely liberal*) or 9 (*extremely conservative*) received an extremism score of 4, and participants who chose the scale midpoint received a score of 0.

Results

Data preparation. None of the variables described previously exceeded the recommended limits for univariate normality. The absolute values of all skew indices were less than 1.7, and those of all kurtosis indices were less than 2.3 (see Kline, 2005; Yuan, Bentler, & Zhang, 2005).

We therefore constructed second-order latent variables to estimate individuals’ scores on both uncertainty and threat orientations. To estimate uncertainty orientation, we first conducted a nonrotated principle component exploratory factor analysis and selected the two pro-trait items and one con-trait item that loaded most strongly on the primary factor for each of the seven

TABLE 1: Covariances, Variances, and Correlations of Latent Variables (Study 1)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Need for order	<i>.81</i>	-.14**	-.26**	-.09*	-.12*	-.29**	-.29**	-.00	.15	.53**	.18**	-.06	.04
2. Openness to ideas	-.27**	<i>.31</i>	.26**	.05+	.14**	.38**	.21**	-.27**	-.03	-.31**	.07	-.07+	.17**
3. Openness to values	-.31**	.49**	<i>.90</i>	.07	.14*	.40**	.35**	-.25*	-.79**	-.156**	.07	-.14	.04
4. Openness to feelings	-.15*	.14+	.11	<i>.45</i>	.20**	.31**	-.02	-.22**	-.03	-.21*	.11+	-.02	-.20**
5. Openness to fantasy	-.18*	.31**	.19*	.39**	<i>.61</i>	.34**	.04	.12	.05	.00	.00	.03	.01
6. Openness to aesthetics	-.26**	.56**	.35**	.38**	.36**	<i>1.46</i>	.38**	-.22	-.11	-.69**	.11	.06	.15*
7. Openness to activity	-.36**	.42**	.41**	-.03	.05	.35**	<i>.80</i>	-.21+	-.21	-.82**	.00	.07	-.12+
8. Death anxiety	.00	-.26**	-.14*	.17**	.08	-.10	-.13+	<i>3.48</i>	1.50**	.87**	.37	1.35+	-.15
9. System threat	.09	-.03	-.44**	-.02	.04	-.05	-.13	.42**	<i>4.42</i>	1.47**	.16	-.66+	.17
10. Political conservatism	.26**	-.24**	-.72**	-.14*	.00	-.25**	-.40**	.20**	.34**	<i>5.25</i>	.12	.09	.15
11. Ideological extremism	.15**	.10	.06	.13+	.00	.07	.00	.15	.06	.04	<i>1.69</i>	-.64+	.12+
12. Age	-.05	-.08+	-.10	-.02	.03	-.13*	.05	-.47+	-.23+	.03	-.32+	<i>2.35</i>	-.06
13. Sex	.05	.31**	.04	-.31**	.02	.03	.14+	-.09	.09	.07	.09+	-.04	.91

NOTE: Covariances are reported in the top triangle, variances are reported in italics on the diagonal, and correlations are reported in the bottom triangle.

+ $p < .10$. * $p < .05$. ** $p < .01$.

measures (i.e., need for order plus the six openness facets). We then used these items as indicators of seven corresponding first-order latent variables and estimated uncertainty avoidance as a second-order latent construct.

To estimate threat orientation, two first-order latent variables were created, namely, death anxiety and system threat. Death anxiety was estimated using the five items described previously as indicators. Because there was only one indicator for system threat (which could result in an unidentified model), the error variance of the system threat latent variable was set to .8 (20% of the variance of the indicator; see Kline, 2005). The variances, covariances, and correlations among the first-order latent variables are listed in Table 1.² To set the scale of second-order variables, their variances were set to 1.

Model specification. We used individual-level estimates of uncertainty and threat orientation to predict both political orientation and ideological extremity in a series of hybrid structural equation models. In the first of four models we used uncertainty and threat orientation to predict political orientation, and in the second model we adjusted for ideological extremism. In the third model we used uncertainty and threat orientation to predict ideological extremism, and in the fourth model we adjusted for political orientation.

Age (centered at the sample mean) and sex (effect coded so that female = -1 and male = 1) were included as adjustment variables on the dependent measures in all of the models for all three studies. Analyses were conducted using EQS v6.1 (Bentler & Wu, 1995). Models were covariance analyses using robust maximum likelihood estimations. Missing data were handled with maximum likelihood estimators, and parameter estimates for the standard errors were based on the inverse of Fisher information matrix (Jamshidian & Bentler, 1999).

To analyze the adequacy of the models, several fit indices are reported. To determine whether uncertainty and threat management represent distinct motivational clusters, we compared nested models based on differences between likelihood ratio chi-squares (or model chi-squares, χ^2_M). We considered several fit statistics in our evaluations of structural models, including the robust comparative fit index (CFI), the root mean square error of approximation (RMSEA), the Bentler-Bonett non-normed fit index (NNFI). We also report the Satorra and Bentler (1994) adjusted chi-square statistic (χ^2 ; see also Curran, West, & Finch, 1996). Minimum acceptable values for the CFI and NNFI are considered to be approximately .95, and an acceptable maximum value for the RMSEA index is approximately .05 (Hu & Bentler, 1999).

Uncertainty and threat management as distinct motivational clusters. To determine whether uncertainty

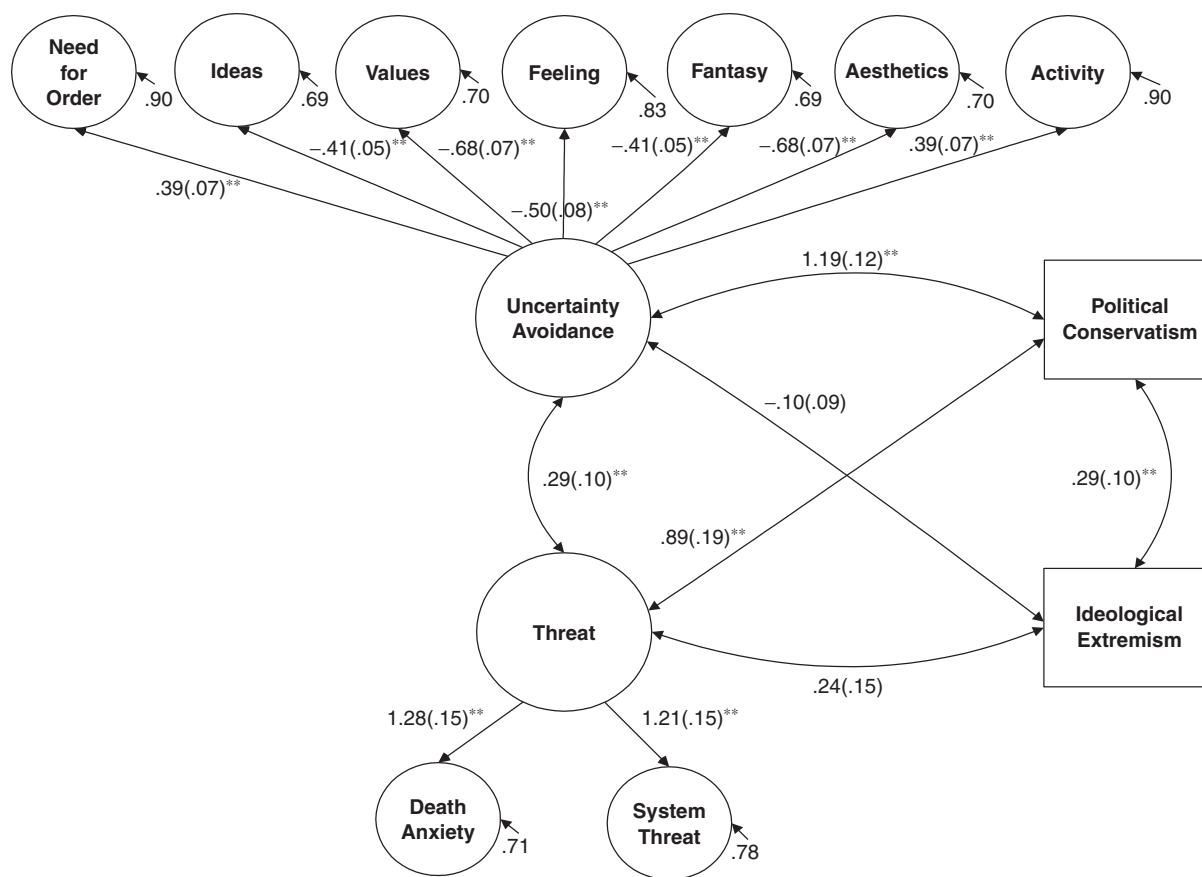


Figure 1 Two-factor measurement model from Study 1 ($N = 161$).

NOTE: Unstandardized regression weights are followed by standard errors in parentheses. Fit indices: $\chi^2(415) = 610.67$, non-normed fit index = 1.01, comparative fit index = 1.00, root mean square error of approximation = .047.

and threat management should be considered separate motivational clusters, we compared a measurement model in which all nine independent variables loaded onto one higher order factor to the two-factor model illustrated in Figure 1. Results indicated that the fit of the one-factor model was acceptable, $\chi^2/df = 636.73/420$, NNFI = 1.005, CFI = 1.0, RMSEA = .049. However, the fit of the two-factor model, $\chi^2/df = 610.68/415$, NNFI = 1.011, CFI = 1.0, RMSEA = .047, was significantly better, with a likelihood-ratio chi-square difference of $\chi^2_M(5) = 27.46$, $p < .001$. This suggests that uncertainty and threat management are indeed distinctive, albeit related, motives.

Uncertainty and threat management as independent predictors of political orientation. The structural models we used to assess our hypotheses are shown in Figure 2.³ In Model 1, we see that uncertainty avoidance is positively and significantly related to political conservatism, $b = .93$ ($\beta = .41$), $p < .01$, as is threat, $b = .90$ ($\beta = .40$), $p < .01$. Model 2 demonstrates that these results hold after adjusting for the

(nonsignificant) effects of ideological extremism, $b = .13$ ($\beta = .08$), ns . These two models clearly support the hypothesis that uncertainty and threat management are each associated with conservative rather than liberal political leanings; these results are not attributable to a handful of extreme conservatives. Furthermore, we see in Model 3 that there is no reliable association between either uncertainty avoidance, $b = -.10$ ($\beta = -.08$), ns , or threat, $b = .07$ ($\beta = .05$), ns , and ideological extremism as an outcome variable. Model 4 shows that adjusting for the effects of political orientation, $b = .06$ ($\beta = .11$), ns , does not alter the overall pattern illustrated in Model 3 (see Figure 2).

Discussion

The results of our first study lend support to the uncertainty–threat model of political conservatism and contradict rival hypotheses that uncertainty avoidance and threat would be associated only with ideologically extreme viewpoints (e.g., Crowson et al., 2005; Greenberg & Jonas, 2003). Our measures of epistemic

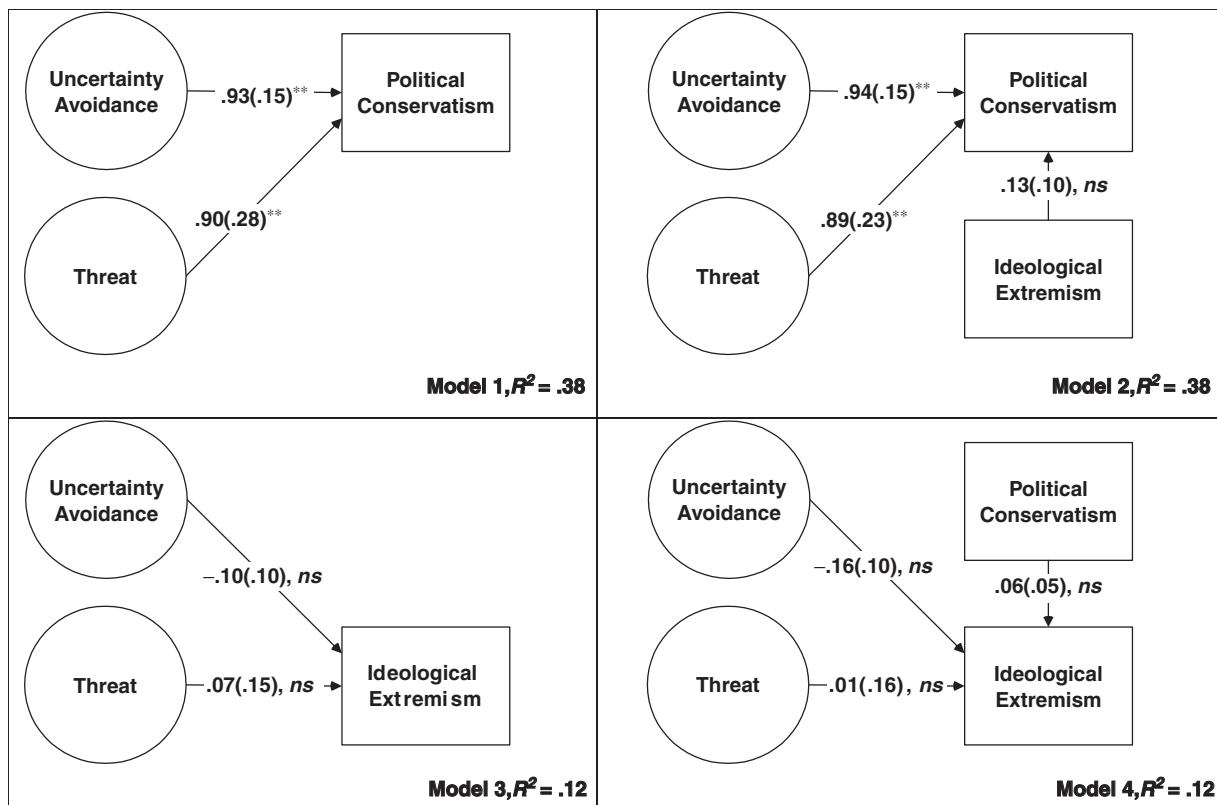


Figure 2 Results from Study 1 ($N = 161$).

NOTE: Only the structural paths are shown. Unstandardized regression weights are followed by standard errors in parentheses.

and existential motivation accounted for 38% of the statistical variance in participants' self-reported liberalism-conservatism. Nevertheless, there are some features of this study that leave some results open to multiple interpretations. First, it is possible that the superior fit of the two-factor model over the one-factor model was due to measurement error insofar as the uncertainty avoidance variables (i.e., need for order and openness to experience) were part of the same personality questionnaire and were taken online, whereas the remaining variables were administered in paper-and-pencil fashion. Second, the data from Study 1 were collected in Texas immediately before the presidential election of 2004. Although political orientation was normally distributed in this sample, it is conceivable that—because Texas is a “red” state and was the home of the Republican presidential incumbent, George W. Bush—heightened needs to reduce uncertainty and threat could have led people to cling to culturally prevalent norms and values (e.g., Greenberg & Jonas, 2003). In Study 2, we administered additional measures of uncertainty and threat orientation and gauged political orientation in the context of a predominantly liberal or “blue” state.

STUDY 2

In Study 2 we examined the uncertainty–threat model in the context of a predominantly liberal environment. To increase the generalizability of our conclusions we used slightly different measures of epistemic and existential motivation. We hypothesized that once again uncertainty and threat avoidance would be associated with political conservatism but not with ideological extremism.

Method

Participants. One hundred and eight (61.1% female) undergraduate volunteers from an introductory to psychology course at a large private university in Massachusetts elected to participate in a study of social attitudes in exchange for course credit. Participants ranged in age from 18 to 22, with a mean age of 18.92 ($SD = 1.02$).

Instruments and procedure. Participants completed measures of uncertainty avoidance, threat management, and ideological self-placement. Questionnaires were administered in a classroom setting; students participated

TABLE 2: Variances, Covariances, and Correlations of Latent Variables (Study 2)

Variable	1	2	3	4	5	6	7	8	9
1. Need for order	<i>1.20**</i>	.15+	.06	.12	.31	.61*	-.75*	.01	-.22*
2. Closed-mindedness	.55+	<i>.06</i>	.02	.05	.05	.24+	-.27+	-.02	-.07
3. Decisiveness	.06	.07	<i>.95**</i>	-.10	-.35	.05	-.11	.12	.24*
4. Death fear	.08	.17	-.08	<i>1.74**</i>	<i>2.05**</i>	.66*	.13	-.22	-.10
5. Death avoidance	.14	.11	-.18	<i>.79**</i>	<i>3.91**</i>	<i>1.15*</i>	-.66	-.17	-.24
6. Political conservatism	.26*	.45+	.02	.24*	.27**	<i>4.51**</i>	<i>-2.45**</i>	-.11	-.04
7. Ideological extremism	-.25*	-.40+	-.04	.04	-.12	<i>-.42**</i>	<i>7.70**</i>	.02	.43+
8. Age	.01	-.06	.13	-.16	-.09	-.05	.01	<i>1.04**</i>	.03
9. Sex	-.21*	-.28	.25*	-.08	-.12	-.02	.16+	.03	<i>.95**</i>

NOTE: Covariances are reported in the top triangle, variances are reported in italics on the diagonal, and correlations are reported in the bottom triangle.

+ $p < .10$. * $p < .05$. ** $p < .01$.

in groups ranging in size from 5 to 15. Uncertainty avoidance was measured using 10 items from the Need for Cognitive Closure scale (Webster & Kruglanski, 1994). Four of these items came from the Need for Order and Predictability subscales ($\alpha = .80$), three came from the Decisiveness subscale ($\alpha = .78$), and three came from the Closed-Mindedness scale ($\alpha = .51$). Sample items include: "I find that establishing a consistent routine enables me to enjoy life more"; "I don't like going into a situation without knowing what I can expect from it"; "I would describe myself as indecisive" (reverse scored); and "When considering most conflict situations, I can usually see how both sides could be right" (reverse scored).

Threat management was measured using Wong et al.'s (1994) multidimensional Death Anxiety scale, with three items taken from the Death Fear subscale ("The prospect of my own death arouses anxiety in me"; "Death is no doubt a grim experience"; "I have an intense fear of death"; $\alpha = .80$) and three items from the Death Avoidance subscale ("I avoid death thoughts at all costs"; "I always try not to think about death"; "I try to have nothing to do with the subject of death"; and $\alpha = .88$).

Political orientation was measured on a scale ranging from -5 (*extremely liberal*) to 5 (*extremely conservative*). The sample mean was $-.97$ ($SD = 2.13$). Ideological extremity was again estimated by taking the absolute value of the difference from the scale midpoint for each participant.

Results

Data preparation and model specification. Although the need for cognitive closure measure is composed of five subscales (Order, Predictability, Decisiveness, Closed-Mindedness, and Discomfort With Ambiguity), an exploratory factor analysis of our data yielded a

three-factor solution (Need for Order and Predictability, Decisiveness, and Closed-Mindedness) that was consistent with previous research (e.g., Kossowska, Van Hiel, Chun, & Kruglanski, 2002; Kruglanski et al., 1997; Mannetti, Pierro, Kruglanski, Taris, & Bezinovic, 2002; Neuberg, Judice, & West, 1997; Neuberg, West, Judice, & Thompson, 1997; Van Hiel, Pandelaere, & Duriez, 2004). Thus, to estimate uncertainty avoidance, we created three latent variables based on these factors, using four items from the Preference for Order and Predictability factor, three items from the Decisiveness factor, and three items from the Closed-Mindedness factor, with two pro-trait items and one con-trait item per factor. Threat management was estimated with two first-order latent variables, namely, death fear and death avoidance, with the items described previously used as indicators. Table 2 lists the covariances, variances, and correlations of these first-order latent variables. Details of the analyses for this study are the same as in Study 1.

Uncertainty and threat management as distinct motivational clusters. To assess the hypothesis that uncertainty and threat management are distinguishable motivations, we compared the fit of a measurement model that consisted of all five independent variables loaded onto one second-order latent variable to a measurement model with two second-order latent variables, as illustrated in Figure 3. The fit of the one-factor model was barely acceptable, $\chi^2/df = 214.87/160$, NNFI = .894, CFI = .911, RMSEA = .057. The fit of the two-factor model, $\chi^2/df = 183.29/155$, NNFI = .945, CFI = .955, RMSEA = .041, was again significantly better, $\Delta\chi^2_M(5) = 36.16$, $p < .001$ (see Figure 3).⁴ These results again support the notion that death anxiety is a form of threat that is distinguishable from uncertainty avoidance.

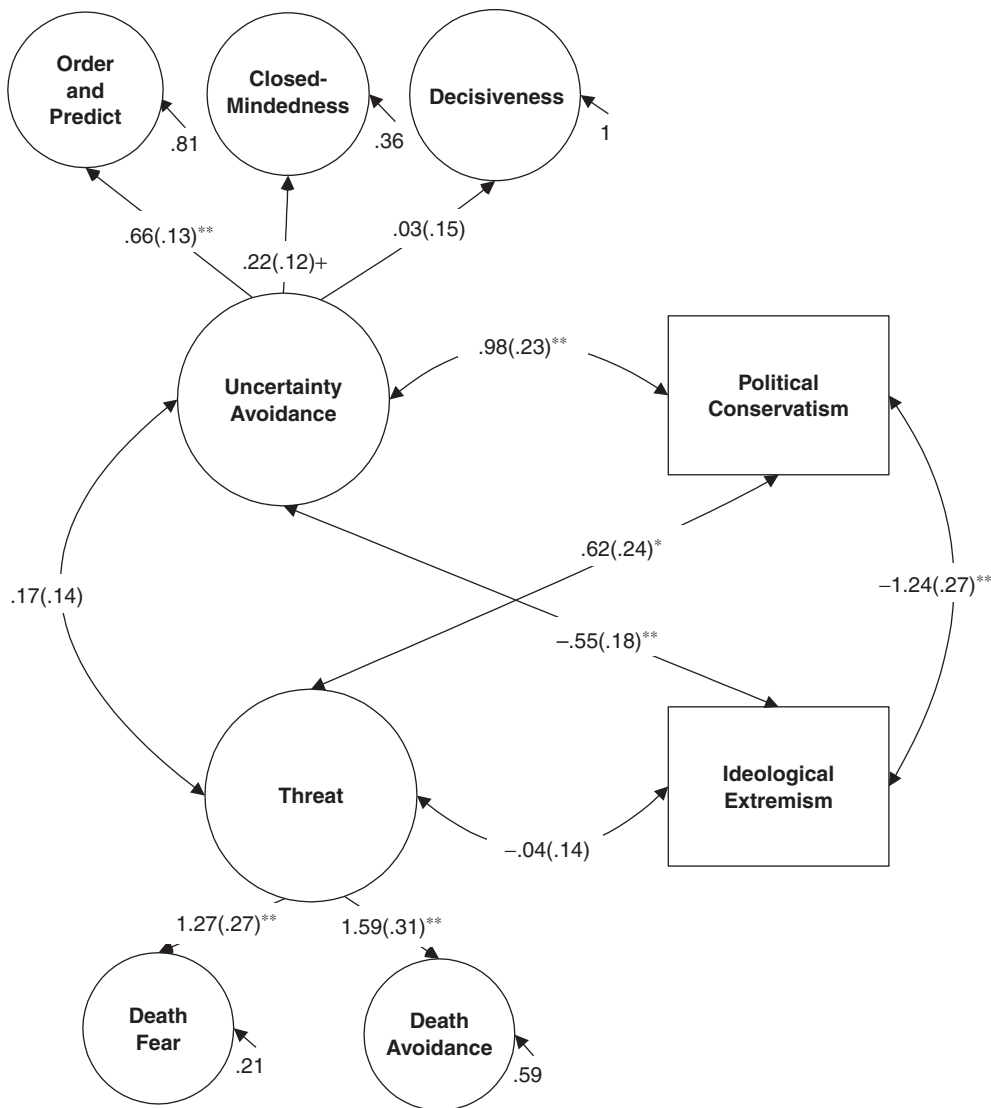


Figure 3 Two-factor measurement model from Study 2 ($N = 108$).
 NOTE: Unstandardized regression weights are followed by standard errors in parentheses. Fit indices: $\chi^2/df = 183.29/155$, non-normed fit index = .945, comparative fit index = .955, root mean square error of approximation = .041.

Uncertainty and threat management as independent predictors of political orientation. The structural models we used to test our hypotheses are illustrated in Figure 4. As shown in Model 1, we again found that uncertainty avoidance, $b = 1.00$ ($\beta = .47$), $p < .01$, and threat, $b = .48$ ($\beta = .23$), $p < .05$, were each significant predictors of political conservatism. In Model 2, we adjusted for the absolute values of participants' political orientation scores to ensure that these findings were not driven by ideological extremists. Political conservatism and ideological extremism were negatively related, $b = -.54$ ($\beta = -.32$), $p < .01$, confirming that the sample was predominantly liberal. Even after adjusting for ideological

extremism, both uncertainty avoidance, $b = .69$ ($\beta = .33$), $p < .01$, and threat, $b = .51$ ($\beta = .24$), $p < .01$, remained significant predictors of political conservatism. In Model 3, we see that although threat was unrelated to ideological extremity, $b = .05$ ($\beta = .04$), *ns*, there was a fairly strong negative relationship between uncertainty avoidance and ideological extremism, $b = -.57$ ($\beta = -.45$), $p < .01$. Thus, heightened needs to reduce uncertainty were not associated with more extreme political attitudes, as suggested by Greenberg and Jonas (2003). Rather, they were associated with less extreme (i.e., centrist, moderate) views. After adjusting for political orientation, the overall pattern remained the same, but the negative effect

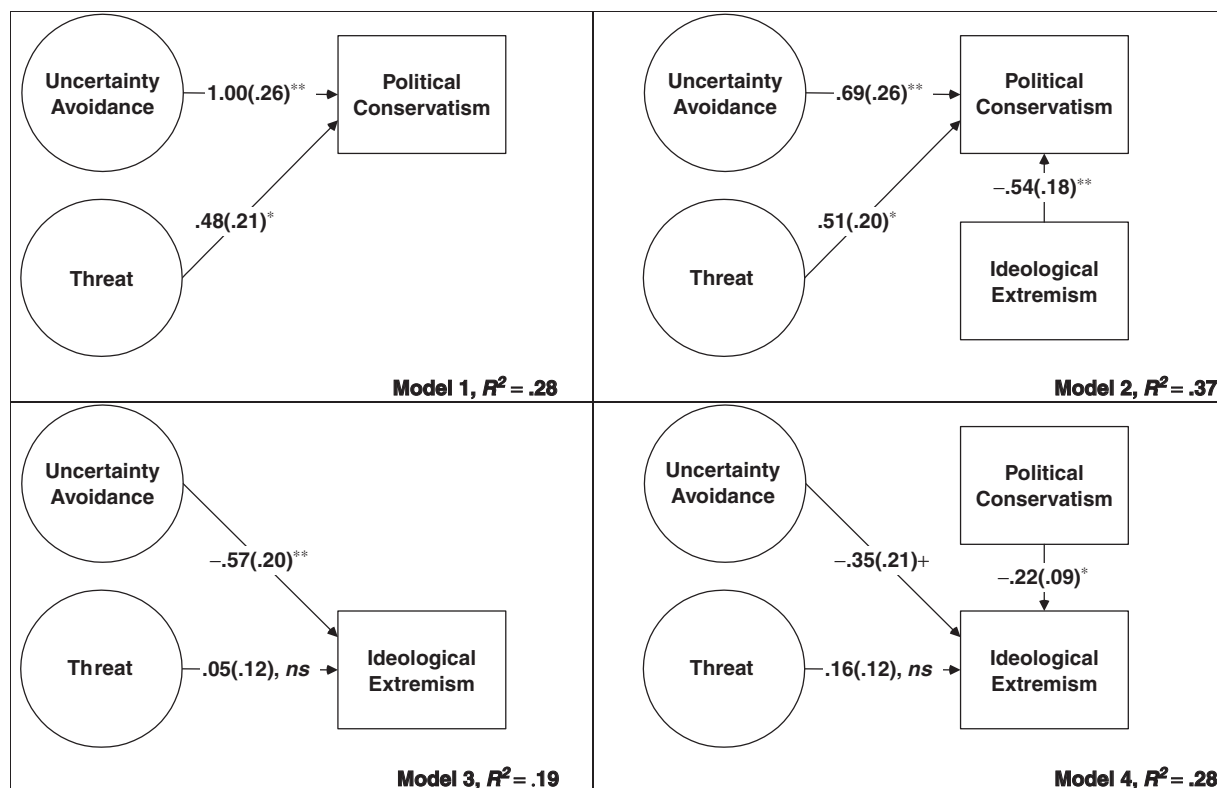


Figure 4 Results from Study 2 ($N = 108$).

NOTE: Only the structural paths are shown. Unstandardized regression weights are followed by standard errors in parentheses.

of uncertainty avoidance on ideological extremism dropped to marginal significance (see Model 4). These results again support the Jost et al. (2003a, 2003b) model, which holds that needs to reduce uncertainty and threat are consistently associated with political conservatism rather than ideological extremism.

Discussion

In Study 2, we obtained further support for the uncertainty–threat model of political conservatism. Once again, uncertainty and threat management were each significantly associated with conservatism, together accounting for 28% of the statistical variance in political orientation. Death anxiety was again positively associated with conservatism, but it was unrelated to ideological extremism. The data from Study 2 suggest that uncertainty tolerance (rather than avoidance) may be associated with ideological extremism (and especially left-wing extremism). This evidence is consistent with Sidanius's (1988) observation that holding extreme views requires some degree of cognitive sophistication and complexity.

STUDY 3

In our first two studies we found that variables pertaining to the management of uncertainty (need for order, openness to experience, closed-mindedness) and threat (death anxiety, system threat) each contributed significantly and independently to individuals' political orientation scores. These findings provide clear support for the uncertainty–threat model of ideology and no support for rival hypotheses. There were two goals of Study 3. First, to increase the generalizability of our results, we included additional measures of uncertainty avoidance (intolerance of ambiguity) and threat (perceptions of a dangerous world). Second, we sought to test the uncertainty–threat model by incorporating an additional hypothesis suggested by Jost et al. (2003a, 2003b), namely, that resistance to change and opposition to equality are important mediators that help explain why certain epistemic and existential needs would be associated with specific ideological outcomes (see also Thorisdottir, Jost, Liwatan, & Shrout, 2007).

More specifically, Jost et al. (2003a) hypothesized that heightened needs to reduce uncertainty and threat would

be associated with increased resistance to change and acceptance of inequality and that these variables, in turn, would be associated with increased political conservatism. One possibility is that uncertainty and threat avoidance would each motivate resistance to change as well as opposition to equality. An alternative is that epistemic and existential motives would be differentially associated with resistance to change and opposition to equality. For instance, Jost et al. (2003a, p. 368) speculated that uncertainty avoidance might lead to resistance to change (i.e., preservation of the status quo), whereas threat might lead to opposition to equality (i.e., attempts at dominance, submission, or both). In our third and final study, we were able to investigate these possibilities by analyzing resistance to change and opposition to equality as potential mediators of the relationship between psychological motives and political orientation.

Method

Preselection of participants. Participants, all of whom were taking one or more undergraduate courses in psychology at a large private university in New York, were preselected on the basis of a political orientation measure completed in a mass-testing session at the beginning of the semester. Specifically, they completed the same ideological self-placement item used in Study 1. The purpose of this procedure was to ensure that the sample included the widest possible range of ideological preferences. Because the original ideological distribution of the participant pool at large was negatively skewed, we oversampled participants from the conservative end of the distribution. Participants were contacted by e-mail and invited to participate in a study of social attitudes in exchange for course credit. The final sample consisted of 182 participants (72.4% female) from 18 to 34 years of age ($M = 19.12$, $SD = 1.77$).

Instruments and procedure. Either individually or in small groups, participants completed measures of uncertainty avoidance, threat management, resistance to change, opposition to equality, and ideological self-placement. Uncertainty avoidance was measured using three items selected from the Need for Order subscale of Webster and Kruglanski's (1994) Need for Closure scale ($\alpha = .67$), four items⁵ from Budner's (1962) Ambiguity Intolerance scale ($\alpha = .56$), and three items from Costa and McCrae's (1992) Openness to Experience scale ($\alpha = .67$), including items tapping openness to ideas, openness to fantasy, and openness to aesthetics. Although these shortened versions of the scales exhibited fairly low reliabilities, this was not a serious concern because we were modeling latent

constructs, which take into account measurement error, and our measurement models (as described below) demonstrated acceptable fits (John & Benet-Martínez, 2000; Kline, 2005).

Threat was measured using four items selected from Duckitt, Wagner, du Plessis, and Birum's (2002) Perceptions of a Dangerous World scale ($\alpha = .72$) and the same terrorism item used in Study 1 to assess the perception of system threat. A sample item from the Dangerous World scale is "Things are getting so bad, even a decent law-abiding person who takes sensible precautions can still become a victim of violence and crime."

Resistance to change was assessed with two items: "I would be reluctant to make any large-scale changes to the social order" and "I have a preference for maintaining stability in society, even if there seems to be problems with the current system" ($\alpha = .69$). Opposition to equality was measured with five items taken from Kluegel and Smith's (1986, pp. 106-107) research. A sample item is: "If incomes were more equal, nothing would motivate people to work hard" ($\alpha = .82$).

Political orientation was measured on a scale ranging from 1 (*extremely liberal*) to 9 (*extremely conservative*). The sample mean was 3.93 ($SD = 1.93$). Ideological extremism was estimated as in the previous two studies.

Results

Data preparation and model specification. Data preparation and details of the analyses are the same as in Studies 1 and 2. Uncertainty avoidance was estimated using the three first-order latent variables of need for order, intolerance of ambiguity, and lack of openness to experience. Threat was estimated using the two first-order latent constructs of perceptions of a dangerous world and system threat. Covariances, correlations, and variances are listed in Table 3.

Uncertainty and threat management as distinct motivational clusters. To examine whether uncertainty and threat management are distinct motivations, we again compared a measurement model in which all five independent variables loaded onto a single second-order factor to a measurement model with two second-order factors, as illustrated in Figure 5. The fit statistics for the first measurement model were: $\chi^2/df = 194.14/148$, NNFI = .890, CFI = .905, RMSEA = .042. The fit of the second measurement model, $\chi^2/df = 175.75/143$, NNFI = .923, CFI = .935, RMSEA = .036, was once again significantly better, $\Delta\chi_M^2(5) = 18.49$, $p < .01$.

Uncertainty and threat management as independent predictors of political orientation. The four structural

TABLE 3: Variances, Covariances, and Correlations of Latent Variables (Study 3)

Variable	1	2	3	4	5	6	7	8	9
1. Need for order	<i>1.12**</i>	-.10+	.22+	.20	.24	.37*	-.17+	.42*	-.17*
2. Openness to new experiences	-.17+	<i>.31+</i>	-.22*	-.14	-.07	-.37**	.15*	.01	-.03
3. Ambiguity intolerance	.24+	-.46*	<i>.77**</i>	.36*	.50*	.51**	-.26**	.11	.00
4. Perceptions of a dangerous world	.15	-.21	.34*	<i>1.53**</i>	1.18**	.42*	-.27*	.04	.11
5. System threat	.11	-.06	.28*	.47**	<i>4.16**</i>	1.54**	-.19	-.06	.04
6. Political conservatism	.18*	-.34**	.30**	.18*	.39**	<i>3.73**</i>	-.72**	.46	.15
7. Ideological extremism	-.15+	.25*	-.29**	-.21	-.09	-.36**	<i>1.06**</i>	.03	-.07
8. Age	.23*	.01	.07	.02	-.02	.13	.02	<i>3.13*</i>	.04
9. Sex	-.18*	-.06	.00	.10	.02	.09	-.08	.02	<i>.80**</i>

NOTE: Covariances are reported in the top triangle, variances are reported in italics on the diagonal, and correlations are reported in the bottom triangle.
 + $p < .10$. * $p < .05$. ** $p < .01$.

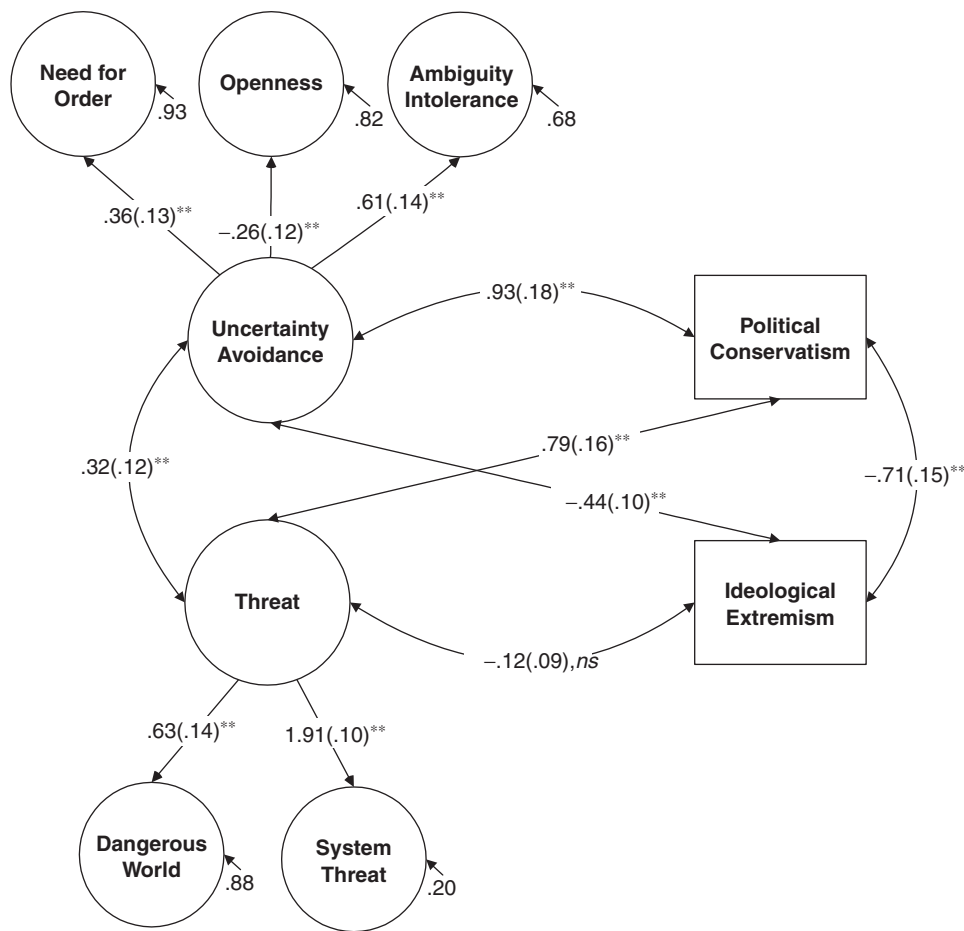


Figure 5 Two-factor measurement model from Study 3 ($N = 182$).
 NOTE: Unstandardized regression weights are followed by standard errors in parentheses. Fit indices: $\chi^2(139) = 170.64$, non-normed fit index = .923, comparative fit index = .937, root mean square error of approximation = .035.

models used to test our hypotheses are shown in Figure 6. In Model 1, we see that the results replicate those of the first two studies. Both uncertainty avoidance, $b = .73$ ($\beta = .39$), $p < .01$, and threat, $b = .55$ ($\beta = .28$),

$p < .01$, were significantly and positively associated with political conservatism. Model 2 shows that political conservatism and ideological extremity were negatively related, $b = -.37$ ($\beta = -.17$), $p < .05$, indicating

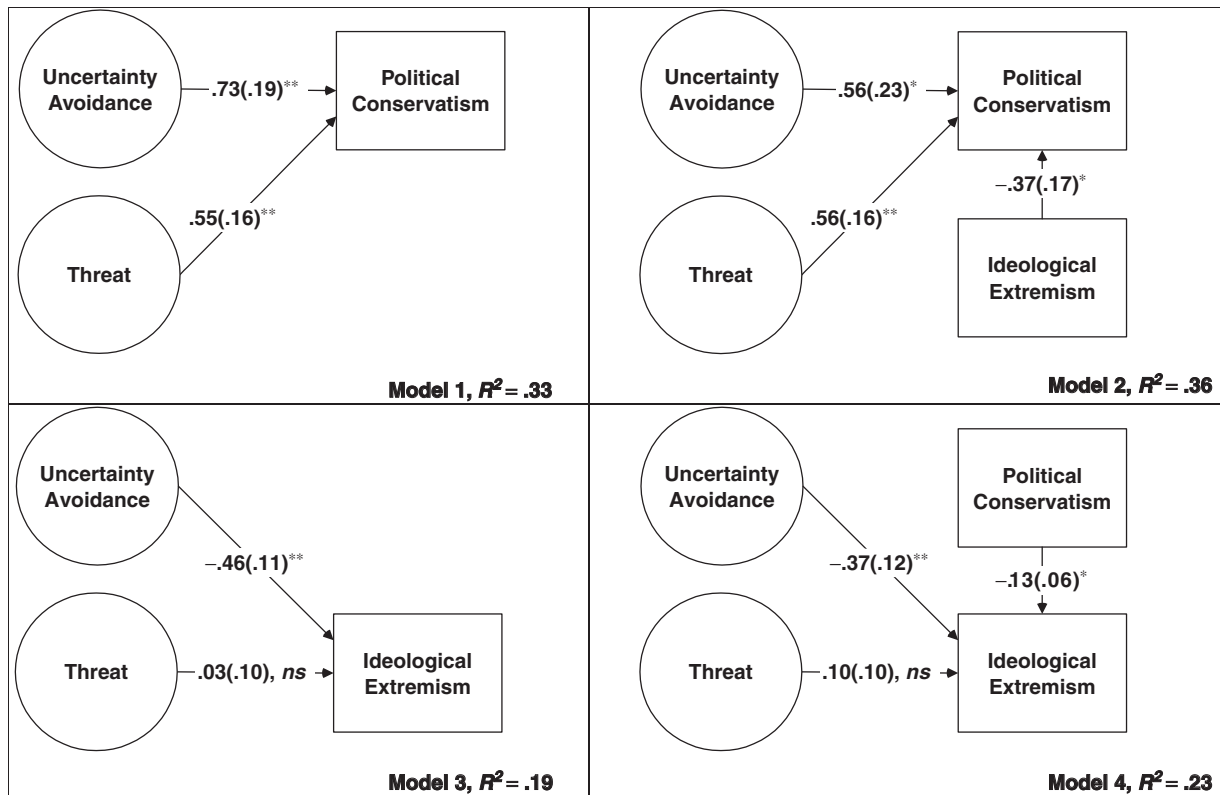


Figure 6 Results from Study 3 ($N = 182$).

NOTE: Only the structural paths are shown. Unstandardized regression weights are followed by standard errors in parentheses.

that there were more liberal than conservative extremists in the sample. After adjusting for this sample bias, uncertainty and threat avoidance remained significant predictors of political conservatism. As shown in Model 3, there was again a significant negative relationship between uncertainty avoidance and ideological extremity, $b = -.46$ ($\beta = -.45$), $p < .01$, and no relationship between threat and extremity. This pattern remained the same in Model 4, after adjusting for political orientation. As in Study 2, uncertainty avoidance was associated with centrism (as well as conservatism).

Resistance to change and opposition to equality as potential mediators. To examine the roles of resistance to change and opposition to equality as potential mediators of the effects of uncertainty and threat management on political conservatism, we first constructed the partially mediated structural model (Model 5) illustrated in Figure 7 (see Table 4 for the correlations, covariances, and variances of the latent variables used in this model). Fit statistics for Model 5 were as follows: $\chi^2(273) = 352.12$, NNFI = .930, CFI = .942, RMSEA = .040. This model reveals that uncertainty avoidance is a strong predictor of resistance to change, $b = 1.05$ ($\beta = .70$), $p < .01$, and it is a marginally significant predictor

of opposition to equality, $b = .30$ ($\beta = .19$), $p < .10$. Threat was found to be unrelated to resistance to change, $b = .14$ ($\beta = .09$), ns , but it was significantly related to opposition to equality, $b = .23$ ($\beta = .21$), $p < .05$. These results are consistent with Jost et al.'s (2003a) conjecture that uncertainty avoidance would motivate resistance to change, whereas threat would motivate opposition to equality.

We found that after adjusting for all of the other variables in the model, resistance to change was a marginally significant predictor of political conservatism, $b = .46$ ($\beta = .36$), $p < .10$, and opposition to equality was a significant predictor, $b = .24$ ($\beta = .19$), $p < .05$. Taken together, the independent and mediating variables accounted for approximately 36% of the variance in political orientation scores. Model 5 also shows that uncertainty avoidance was no longer a significant predictor of conservatism, $b = .01$ ($\beta = .00$), ns , after accounting for the mediating variables of resistance to change and opposition to equality. However, threat remained a significant predictor of conservatism, $b = .44$ ($\beta = .23$), $p < .01$, even after adjusting for the mediators.

Given these results, we constructed a second mediational model (see Model 6, Figure 7) in which the three nonsignificant paths from Model 5 were dropped. This

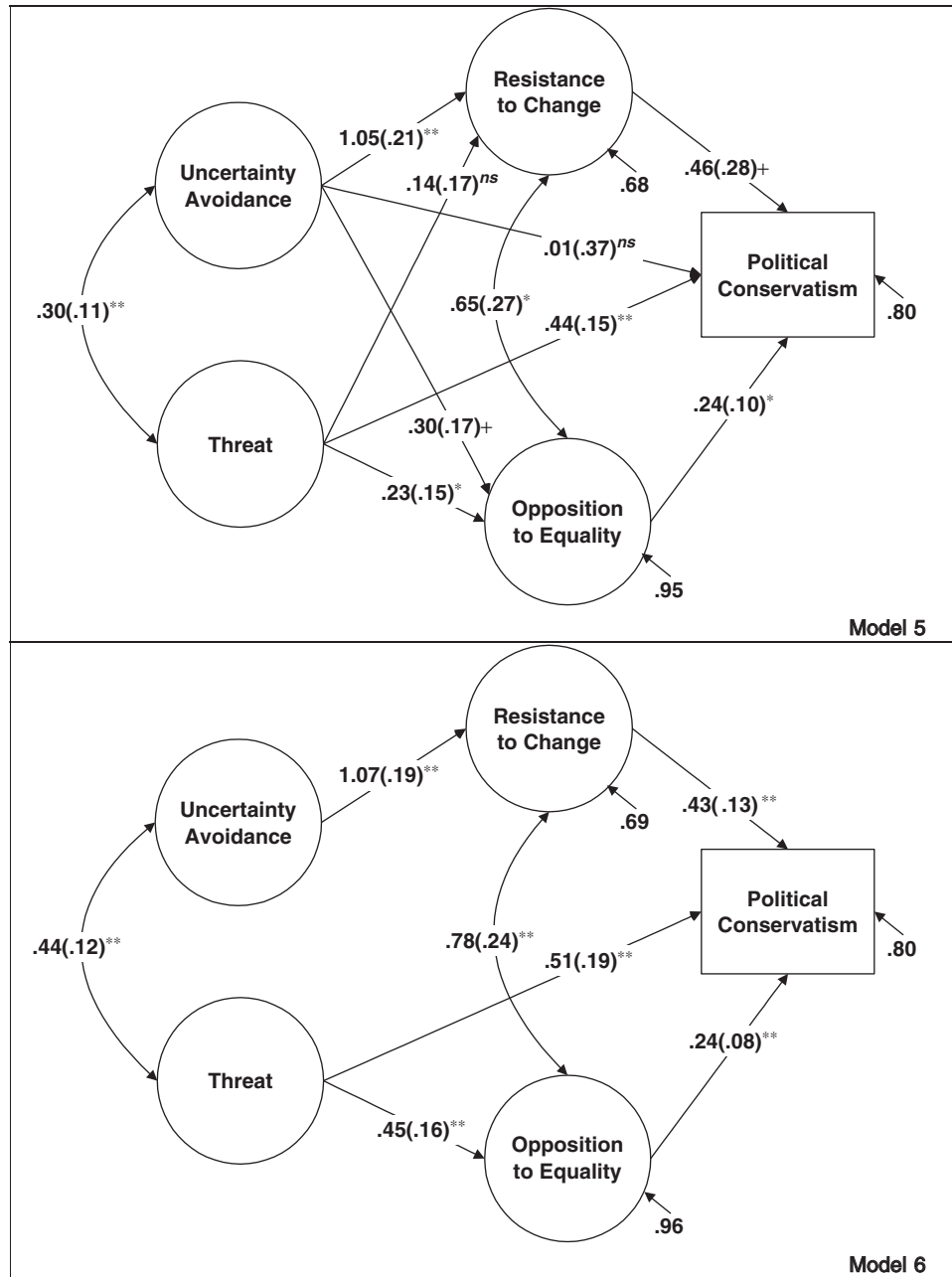


Figure 7 Results from mediational analyses of Study 3.
 NOTE: Unstandardized regression weights are followed by standard errors in parentheses.

model assumes that the effect of uncertainty avoidance on political orientation is completely mediated by resistance to change, whereas the effect of threat on political orientation is only partially mediated by opposition to equality. Model 6 fit the data well: $\chi^2(276) = 356.00$, NNFI = .931, CFI = .941, RMSEA = .040. A likelihood-ratio chi-square difference test revealed that Model 6 was not significantly different from Model 5, $\chi^2_M(3) = 3.41$,

ns, indicating that the more parsimonious model fit the data just as well as the saturated model.

In Model 6, we see that uncertainty avoidance was significantly related to resistance to change, $b = 1.07$ ($\beta = .72$), $p < .01$, and threat was significantly related to opposition to equality, $b = .45$ ($\beta = .29$), $p < .01$. Both mediators were significantly related to political conservatism, $b = .43$ ($\beta = .34$), $p < .01$, and $b = .24$ ($\beta = .19$),

TABLE 4: Variances, Covariances, and Correlations of Latent Variables for Mediation Analyses (Study 3)

Variable	1	2	3	4	5	6	7	8
1. Uncertainty avoidance	<i>1^{NT}</i>	.30**	1.09**	.40**	.74**	-.36**	-.17	-.01
2. Threat management	.30**	<i>1^{NT}</i>	.46**	.41**	.75**	-.10	-.03	.03
3. Resistance to change	.73**	.31**	<i>2.24**</i>	1.12**	1.51**	-.42**	.12	.18
4. Opposition to equality	.26**	.30**	.49**	<i>2.37**</i>	1.27**	-.45**	-.01	.00
5. Political conservatism	.38**	.39**	.53**	.43**	<i>3.69**</i>	-.70**	.43	.19+
6. Ideological extremism	-.35**	-.10	-.27**	-.29**	-.36**	<i>1.06**</i>	.03	-.06
7. Age	.10	-.02	.05	-.00	.13	.02	<i>3.12**</i>	.05
8. Sex	-.02	.03	.13	.00	.11+	-.07	.03	<i>.80**</i>

NOTE: Covariances are reported in the top triangle, variances are reported in italics on the diagonal, and correlations are reported in the bottom triangle.

+ $p < .10$. * $p < .05$. ** $p < .01$. ^{NT}Not tested.

$p < .01$, respectively. In addition, there remained a direct effect of threat on political conservatism, $b = .51$ ($\beta = .27$), $p < .01$. Thus, resistance to change fully mediated the effect of uncertainty avoidance on political orientation, and opposition to equality partially mediated the effect of threat on political orientation.

GENERAL DISCUSSION

In three studies we examined competing models of the cognitive and motivational underpinnings of political orientation. Specifically, we pitted the uncertainty–threat model of ideological preferences, which holds that uncertainty avoidance and threat management are both associated with conservative (rather than liberal) opinions (Jost et al., 2003a, 2003b), against alternatives in which these variables were hypothesized to be associated with ideological extremity in general (e.g., Greenberg & Jonas, 2003) or only with extreme, authoritarian forms of right-wing ideology (Crowson et al., 2005). All three studies support the uncertainty–threat model but not the predictions of the alternative models. Specifically, we found that uncertainty and threat management contribute independently to self-reported political conservatism, even after adjusting for ideological extremity. We also found that individual differences in death anxiety are significantly associated with conservatism but not ideological extremity in general.

Of course, there are methodological limitations that future research would do well to overcome. First, cross-sectional, correlational techniques do not allow us to draw causal inferences. We think that an individual differences approach to testing the uncertainty–threat model is a very useful starting point, but we still do not have definitive evidence that people who are initially high on uncertainty and threat avoidance are subsequently more drawn to political conservatism. However, it is worth pointing out that longitudinal and experimental studies have shown that

support for conservative leaders and opinions is enhanced under high- versus low-threat periods (e.g., Jost et al., 2003a; Willer, 2004) and following the experimental induction of death anxiety (e.g., Cohen et al., 2005; Cohen et al., 2004; Jost et al., 2004; Landau et al., 2004). A second limitation is that the present findings are based on college student samples, which may not be representative of the population as a whole (Sears, 1986). Although we agree that empirically validating the uncertainty–threat model in the general population is an important direction for future research, we did find remarkably consistent patterns in three geographically and ideologically varied populations with respect to the structure of epistemic and existential motives and the extent to which they were associated with political conservatism, adjusting for the effects of ideological extremity.

These findings add to a growing body of evidence suggesting that psychological needs and motives pertaining to the management of uncertainty and threat are related to individuals' degree of attraction to liberal versus conservative ideologies (e.g., Block & Block, 2006; Jost, 2006; Jost et al., 2003a, 2003b). As Tomkins (1965) argued more than 40 years ago, it appears that there are distinctive cognitive and motivational styles that characterize liberals (or leftists) and conservatives (or rightists) and that these styles emerge even in domains that are not explicitly political (see Carney et al., 2006). Differences with respect to tolerance for uncertainty may show up in attitudes toward science, religion, and education, among other areas of life. Consider, for example, the contrasting views of science and education expressed by two theoretical physicists who were close contemporaries, namely, the left-leaning Robert Oppenheimer and the right-leaning Edward Teller (see Bird & Sherwin, 2005). Oppenheimer saw science and education as exciting primarily because there are so many unanswered questions, and any attempts to understand the world are full of uncertainty and complexity. He declared, for instance, that “no

man should escape our universities without knowing how little he knows.” Teller, by contrast, was motivated by the definitive answers that science could provide rather than by the complexities it reveals. He once opined that “the main purpose of science is simplicity and as we understand more things, everything is becoming simpler” (Teller, Teller, & Talley, 1991, p. 2). Although both Oppenheimer and Teller played central roles in the development of the atomic bomb, they came to hold different attitudes about nuclear weapons. Whereas Oppenheimer grew increasingly ambivalent about his life’s work (Bird & Sherwin, 2005), Teller saw the invention of nuclear weapons as necessary and justifiable because of threat management concerns. He concluded in 1999: “Had we not pursued the hydrogen bomb, there is a very real threat that we would now all be speaking Russian. I have no regrets” (CNN, 1999).

The divergent psychological characteristics of liberals and conservatives suggest that they may frequently experience conflict and tension in working with each other, as Teller and Oppenheimer surely did (Bird & Sherwin, 2005). Both liberal and conservative thinking styles are likely to possess at least some advantages and disadvantages. It is at least conceivable that appreciating individual differences in the epistemic and existential motivations that underlie different political judgments and opinions may move us closer to developing empathy and respect for those who hold opposing political viewpoints (cf. Haidt & Graham, 2007). It may also one day help us foster a more objective, evidence-based approach to decision making in realms that are as vital to society as national security, privacy, justice, welfare, and war and peace.

NOTES

1. Perceptions of terrorist threat probably blend two distinguishable sources of anxiety: system threat and fear of death (see also Landau et al., 2004). As noted in the text, our primary purpose was to focus on similarities rather than differences among different existential (and epistemic) variables. Thus, unlike terror management theorists, we are not arguing that fear of death is qualitatively different from other types of threat and anxiety. Furthermore, we find that although perceptions of system threat and death anxiety are significantly intercorrelated ($r = .42$, as shown in Table 1), as are system threat and perceptions of a dangerous world ($r = .47$, as shown in Table 3), these variables are not so highly intercorrelated as to suggest that they are empirically redundant.

2. Because of the large number of observed variables in our studies, we present the covariances among latent rather than observed variables. All of our models could be recreated by simulating indicators based on the latent variables.

3. As mentioned in the text, sex and age were included in all models as adjustment variables, but they are omitted from the figures for ease of presentation. We found in Study 1 that men were more conservative than women, $b = .25$, ($\beta = .10$), $p < .05$, and older participants were more conservative than younger participants, $b = .34$, ($\beta = .23$), $p < .01$. In addition, we found that age (but not sex) was a significant predictor of ideological extremism, $b = -.25$ ($\beta = -.30$), $p < .01$, such that younger participants tended to be more ideologically extreme. No reliable effects of age or sex were observed in Studies 2 or 3.

4. As can be seen in Figure 3, decisiveness did not significantly load onto the uncertainty avoidance factor. This finding is in line with previous research, which has found that the decisiveness items tend to load on a factor that is orthogonal to the rest of the need for closure items (e.g., Kruglanski et al., 1997; Neuberg, Judice, & West, 1997). A model in which the decisiveness factor was omitted yielded the same results as those presented in this article.

5. Items taken from the Budner (1962) scale were worded as follows: “There is not necessarily a right way and wrong way to do everything”; “I have always felt there is a clear difference between right and wrong”; “An expert who doesn’t come up with a definite answer probably doesn’t know too much; and “People who insist on a yes or no answer just don’t know how complicated things really are.”

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