

POLITICAL STEREOTYPING AND PERCEIVED ENTITATIVITY FROM A  
TERROR MANAGEMENT THEORY PERSPECTIVE

By

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## ABSTRACT OF THE THESIS

Political Stereotyping and Perceived Entitativity from a Terror Management Theory

Perspective

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This research examined the intersection of Terror Management Theory (TMT) (J. Greenberg, T. Pyszczynski, & S. Solomon, 1986; S. Solomon, J. Greenberg, & T. Pyszczynski, 1991) with stereotyping of and perceived entitativity of political groups. Three hypotheses were tested. The first was that mortality salience would engender stereotyping of conservative Republicans and liberal Democrats. The second was that mortality salience would increase the perceived entitativity of conservative Republicans and liberal Democrats. The final hypothesis was that perceived entitativity would mediate the proposed relationship between mortality salience and stereotyping. Although none of these hypotheses were supported, findings revealed that overall, liberal Democrats were stereotyped more than were conservative Republicans. Specifically, conservative Republican participants stereotyped the liberal Democrat target group significantly more than the conservative Republican target group, while moderate participants and liberal Democrat participants did not stereotype either target group significantly more than the other.

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## Introduction

How does social perception change in response to reminders of our own mortality? Do we stereotype others more? Do we perceive groups to be more entitative (i.e., do we perceive them more as groups and less as collections of individuals; Campbell, 1958)? This research used Terror Management Theory (TMT) (Greenberg et al., 1986; Solomon et al., 1991) to frame the examination of these questions. In addition, it developed and tested a model in which the expected relationship between mortality salience (i.e., acute awareness of death) and stereotyping is mediated by perceived group entitativity.

## Stereotyping

In the course of social interactions, people constantly judge one another. To facilitate this process people use stereotypes, which are general beliefs about the characteristics of members of social groups (Ashmore & Del Boca, 1981). Stereotypes function as heuristics, or cognitive shortcuts, in that they simplify the process of making social judgments (Allport, 1954; Bodenhausen & Wyer, 1985).

Kunda and Spencer (2003) argued that stereotyping is motivated by two goals: comprehension and enhancement. The comprehension goal is a person's endeavor to understand the social environment. Because stereotypes eliminate gaps in understanding by simplifying large amounts of social information, the conditions that are most germane to fostering a comprehension goal are those under which cognitive resources are limited or available information is ambiguous. van den Bos & Stapel (2009) found that stereotypes that result from a comprehension goal can be either positive or negative.



The enhancement goal refers to acquiring, maintaining, or strengthening a feeling of self-worth. For instance, to bolster his or her self-image, a person may derogate others by emphasizing negative stereotypic characteristics of groups or group members (Kunda & Spencer, 2003). Stereotypes of outgroups that result from an enhancement goal are mainly negative (van den Bos & Stapel, 2009).

### **Terror Management Theory (TMT)**

Based on the work of Becker (e.g., 1973), TMT (Greenberg et al., 1986) examines the psychological implications of the uniquely human awareness of the inevitability of death. The core principle of TMT is that this awareness causes severe, overwhelming existential anxiety and that a dual-component anxiety buffer protects the individual from the potentially paralyzing, crippling effects of this anxiety. One component of the anxiety buffer is the cultural worldview, which is an internalized version of the culture's beliefs about reality that provides the individual with a sense of meaning, stability, and permanency. The cultural worldview offers to individuals who meet the cultural criteria of value the opportunity to obtain symbolic immortality (e.g., by creating artwork), literal immortality (e.g., if a religion that guarantees an afterlife is part of the worldview), or both. The second element of the anxiety buffer is self-esteem. In the TMT context, self-esteem is defined as "one's belief regarding how well one is living up to the standards of value prescribed by the worldview" (Harmon-Jones et al., 1997, p. 24).

Findings that have emerged from TMT research indicate that there are two categories of anxiety-reducing processes: proximal and distal death defenses. Proximal death defenses function at a conscious level and include suppressing death-related thoughts, denying vulnerability to death, or both. In contrast, distal death defenses

operate at an unconscious level and include self-esteem and faith in the cultural worldview (e.g., Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994; Pyszczynski, Greenberg, & Solomon, 1999).

Empirical research in the realm of TMT has been directed toward two key hypotheses: (a) the *self-esteem as anxiety buffer hypothesis*, and (b) the *mortality salience hypothesis*. The self-esteem as anxiety buffer hypothesis posits that if self-esteem is an anxiety-buffering agent, then raising self-esteem or naturally high self-esteem should reduce anxiety in response to threats. Indeed, studies that have tested the self-esteem as anxiety buffer hypothesis have found that raising self-esteem reduces self-reported anxiety in the face of reminders of death (e.g., Greenberg et al., 1992). Moreover, dispositional high self-esteem and self-esteem increased by experimental manipulations both have been demonstrated to result in lower mortality salience effects (e.g., Harmon-Jones et al., 1997).

The mortality salience hypothesis states that because the cultural worldview protects individuals from existential anxiety, mortality salience increases the need for faith in the cultural worldview and motivation to defend it. An implication of this is that when mortality is salient, people like and agree with others who are similar to them and share their beliefs, and that they equally strongly dislike and disagree with others who are different from them and do not share their beliefs. These strong reactions are termed *worldview defense* (e.g., Solomon, Greenberg, & Pyszczynski, 1998; Solomon, Greenberg, & Pyszczynski, 2004).

**Mortality salience and social perception.** Research has addressed the effects of mortality salience on both ingroup and outgroup social perception (e.g., Castano,

Yzerbyt, Paladino, & Sacci, 2002; Greenberg et al., 1990, Experiment 1; Renkema et al., 2008; Schimel et al., 1999). This research has examined phenomena such as stereotyping, ingroup bias, and target liking. Findings broadly have demonstrated that mortality salience changes social perception.

For instance, Schimel et al. (1999, Experiment 3) investigated perceptions of counterstereotypic and stereotypic Black individuals, and stereotype-neutral White individuals. Findings indicated that mortality salience increased liking of a stereotypic Black individual and disliking of a counterstereotypic Black individual. The opposite result emerged among control participants for whom watching television was salient. There were no differences between conditions in liking of the White individual. The reversal in the mortality salient condition of the typical tendency to like counterstereotypic outgroup members more than stereotypic outgroup members provided support for the argument that mortality salience causes people to dislike others who do not conform to the cultural worldview. Although a follow-up experiment replicated this pattern for stereotypic and counterstereotypic male and female targets, the difference between evaluations made by participants in the mortality salient and exclusion salient conditions was not significant for evaluations of counterstereotypic targets (Schimel et al., 1999, Experiment 4).

Schimel et al. (1999, Experiments 1 & 2) also investigated the effects of mortality salience on stereotyping. Experiment 1 used diagnostic ratios to examine the ascription of stereotypic traits to members of national outgroups (Schimel et al., 1999, Experiment 1). The target group that the research aimed to examine was Germans. Therefore, the focal traits were chosen on the basis of being stereotypic of Germans. The national

outgroup that participants evaluated as a control group was Italians. Ratings of Americans were used as the comparison group in the computations of the diagnostic ratios. Findings indicated that mortality salience, indeed, increased stereotyping. Specifically, when the traits were characteristic of Germans, German targets were stereotyped more strongly in the mortality salient than in the control condition, but Italians were not. In addition to the traits that were stereotypic of Germans, some traits emerged as stereotypically Italian in the pilot test. Although they were not the focus of the experiment, these traits were analyzed in the same fashion as the traits that were determined to be prototypically German. The pattern of findings was the same as that for the German traits: When the traits were characteristic of Italians, Italians were stereotyped more strongly in the mortality salient than in the control condition, but Germans were not. However, the finding was nonsignificant.

In Experiment 2, a more indirect measure of stereotyping was utilized, and the target groups were different from those in Experiment 1. The sentence stem completion task (von Hippel, Sekaquaptewa, & Vargas, 1997) measured stereotyping, and the target groups were men and women. In the sentence stem completion task, items were sentence stems that described behaviors that either were stereotypic or counterstereotypic for the target group. Scores on the measure were difference scores that assessed the discrepancy between the number of explanatory completions of sentence stems describing counterstereotypic behaviors and the number of explanatory completions of sentence stems describing stereotypic behaviors. A higher score indicated more stereotyping. Analysis of the difference scores revealed a main effect for mortality salience such that mortality salience increased explanations of counterstereotypic behaviors. In addition,

when responses were examined separately on the basis of whether the behaviors that were described were stereotypic or counterstereotypic, results revealed that participants gave more explanations for stereotype-inconsistent than for stereotype-consistent items.

In another experiment that examined mortality salience and stereotyping, trait ratings of ingroup and outgroup members were compared (Greenberg et al., 1990, Experiment 1). Results indicated that participants who were subjected to a mortality salience manipulation endorsed negative stereotypic traits of the outgroup member more strongly than did participants in the control condition. However, this was true only the ingroup member was rated before the outgroup member. The authors proposed two possible explanations for the order effect: (a) rating the ingroup member served as a reminder to participants of the particular way in which they felt threatened by the outgroup member; and (b) the ratings of the ingroup member functioned as an anchor, and ratings of the outgroup member were contrasted with the ratings of the ingroup member.

**TMT and political ideology.** There is an expanding body of TMT literature that relates to the effects of mortality salience on political ideology. Taken as a whole, findings seemingly have been inconsistent: Although oftentimes results demonstrate that when mortality is salient, both liberals and conservatives more strongly adhere to their own ideologies (e.g., Anson et al., 2009; Castano et al., 2011; Chatard, Arndt, & Pyszczynski, 2010), there is extant evidence that mortality salience results in liberals evaluating conservatives less negatively (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992). However, the authors proposed that these findings actually might not be inconsistent with one another because the latter result might have been a consequence of

the engagement of cultural worldview defense as a death defense. Specifically, tolerance and open-mindedness are valued in the liberal cultural worldview and thus might have been activated when mortality was salient, resulting in more favorable evaluations of conservatives. Tolerance and open-mindedness are not particularly valued in the conservative cultural worldview, which might have resulted in the lack of increase in favorability of evaluations of liberals by conservatives.

Additional research also supports the argument that the high value that liberals place on tolerance results in terror management-related differences between liberals' and conservatives' patterns of evaluations of others who either share or do not share the perceiver's worldview. In one experiment, liberal and conservative participants rated their liking of the author of an essay that took either an evolutionist or a creationist perspective. According to prototypical liberal and conservative perspectives on the topic of the beginning of humankind, the essays therefore were consistent with the worldviews of liberals or conservatives, respectively. Results indicated that when mortality was salient, there was no difference between liberals' liking of the evolutionist and the creationist authors. In contrast, conservatives liked the evolutionist author significantly less when mortality was salient than when it was not (Castano et al., 2011, Experiment 4).

The present research expanded on past findings by testing the effects of mortality salience on how perceiver political ideology and party impact stereotyping of ingroup and outgroup political targets (conservative Republicans or liberal Democrats). It tested the hypothesis that there should be more stereotyping when mortality is salient than when it is not. This hypothesis was proposed for three reasons. The first reason was generated

from Gailliot, Schmeichel, & Baumeister's (2006) finding that coping with thoughts of death depletes self-regulatory resources. Because these depleted self-regulatory resources are important for the processing, integration, and use of complex information, coping with mortality salience-induced anxiety might lead to a preference for basic information and simple solutions to complex problems. In turn, this might lead to a bias in favor of previously-held explanations that are not cognitively taxing (Anson et al., 2009). Because stereotyping functions as a heuristic and hence simplifies the complex social world, it might be induced by the depletion in self-regulatory resources that results from mortality salience. The second reason that mortality salience was hypothesized to cause stereotyping was based on the increased adherence to the cultural worldview that results from mortality salience. Stereotypes implicitly constitute an element of the cultural worldview (Schimel et al., 1999). Therefore, it was predicted that if people adhere more closely to the cultural worldview when mortality is salient, stereotyping should increase. The final reason was that this would be consistent with past findings (Greenberg et al., 1990; Schimel et al., 1999).

### **Entitativity**

Another dimension of the present research was the perceived entitativity of the target groups. Campbell (1958) defined *entitativity* as the "groupness" of a group, or the extent to which an aggregate of individuals is perceived as a group. The *Entitativity Continuum* later was introduced as a continuum along which groups are perceived to have a place based on how much entitativity is perceived in the group (Hamilton, Sherman, & Lickel, 1998). According to this theory, a group's placement along the Entitativity Continuum determines how information about the group and group members

is obtained, processed, and used. Among the group characteristics posited to influence the group's placement along the Entitativity Continuum were coherence, consistency, unity, group history, and group members' shared goals and interdependence.

In addition to that theoretical work, Lickel et al. (2000) performed an empirical investigation of the degree of entitativity that was perceived in various groups, which properties of social groups determined perceptions of group entitativity, and whether group types could be identified based on entitativity ratings. In this series of studies, participants rated 40 groups on 9 group properties (e.g., amount of interaction between group members). Participants also sorted the 40 groups into categories. The properties that were found to most strongly influence perceptions of entitativity were perception of interaction between group members, common goals of group members, common outcomes for group members, group member similarity, and importance of the group to its members. The group types that were identified were intimacy groups (e.g., families), task-oriented groups (e.g., coworkers working together on a project), social groups (e.g., women), and loose associations (e.g., people in line at the bank).

**Mortality salience and perceived entitativity.** Although the effect of mortality salience on perceived outgroup entitativity has not yet been explored, this effect as it relates to ingroups has been investigated. Past research has examined the effect of mortality salience on perceived ingroup entitativity (Castano et al., 2002). Participants were assigned to a mortality salience or a control condition, rated their national ingroup on entitativity, and assigned trait ratings to their national ingroup and a national outgroup. Participants in the mortality salience condition judged the ingroup to be more entitative than did participants in the control condition. In addition, the analysis of the trait ratings



revealed greater ingroup bias when mortality was salient than when it was not salient. Perceived ingroup entitativity mediated the relationship between mortality salience and ingroup bias.

As noted earlier, empirical evidence also has demonstrated that coping with thoughts of death depletes self-regulatory resources (Gailliot et al., 2006). The mortality salience-related depletion in self-regulatory resources might result in a preference for basic information and simple solutions to complex problems (Anson et al., 2009). Perhaps this desire for simplified cognitive processing that results from the depletion in self-regulatory resources is fulfilled by perceiving groups to be entitative (as well as by stereotyping, as discussed above). This might be the case because perceiving a collection of individuals as a group is cognitively less taxing than perceiving them as an aggregate of individuals. If the individuals are perceived as a group, heuristics such as stereotyping can be applied, while these cognitive shortcuts cannot be employed if the perceiver does not view the individuals as a group. The finding that people perceive ingroups to be more entitative when mortality is salient should extend to outgroups because perceiving any group as entitative should simplify cognitive processing.

Based on this rationale and relevant extant literature (Castano et al., 2002), it was hypothesized that mortality salience would cause increased perceived entitativity of both a political ingroup and a political outgroup. Although research has examined the intersection of perceived entitativity and political parties with respect to such constructs as group identification (Hogg, Sherman, Dierselhuis, Maitner, & Moffitt, 2007) and perceived polarization of attitudes between the ingroup and the outgroup (Sherman, Hogg, & Maitner, 2009, Study 2), the present research differed from prior research in this

area because of its foundation in TMT. In addition, the effect of target political ideology on the perceived entitativity of the target political groups (conservative Republicans and liberal Democrats) was a novel topic to explore; past research has used political parties (Republicans and Democrats) as target groups but has not specified whether the targets were conservative or liberal.

**Perceived entitativity and stereotyping.** An experiment that manipulated group entitativity instead of using perceived entitativity as a dependent measure demonstrated that perceivers assimilate into the group individual members of higher-entitativity groups to a greater extent than individual members of lower-entitativity groups or collections of individuals. This may be because perceived entitativity leads to the perception of interchangeability among group members based on the transference to the group of perceptions about traits, attributes, and abilities possessed by the individual group members, regardless of whether the other group members have behaved in a way that is consistent with those perceptions (Crawford, Sherman, & Hamilton, 2002). In turn, the resulting perceived interchangeability of group members causes impressions of group members that are less unique (Crawford et al., 2002; Hamilton, Sherman, Crump, & Spencer-Rodgers, 2009). The increased perceived homogeneity and interchangeability of group members suggests that perceived entitativity might result in stereotyping because groups that are comprised of individuals who are viewed as interchangeable and homogeneous are more likely to be stereotyped than those that are composed of individuals who are viewed as heterogeneous and not interchangeable.

In the first study to examine the effects of perceived entitativity on stereotypes of existing social groups, Spencer-Rodgers, Hamilton, and Sherman (2007a, Experiment 2)

found that perceived entitativity was a strong predictor of stereotyping. In addition, perceived entitativity was significantly correlated with other variables (homogeneity, essence, role differentiation, and agency) that also predicted stereotyping. Perceived entitativity mediated the relationships between these other variables and stereotyping.

Another program of research that found perceived entitativity to be associated with stereotyping examined cultural differences between Chinese and American participants. In this research, stereotyping was operationalized as the internal consistency of perceptions of group personalities. In addition to the association between entitativity and stereotyping, results indicated that Chinese participants perceived groups to be more entitative and stereotyped targets more than did American participants. Perceived entitativity mediated the relationship between participant culture and stereotyping (Spencer-Rodgers, Williams, Hamilton, Peng, & Wang, 2007b).

**Perceived entitativity as an explanation for mortality salience-induced stereotyping.** Mortality salience has been shown to increase stereotyping (Greenberg et al., 1990; Schimel et al., 1999) and to lead to greater perceptions of ingroup entitativity (Castano et al., 2002). Other research has revealed positive relationships between perceived entitativity and stereotyping (Spencer-Rodgers et al., 2007a; Spencer-Rodgers et al., 2007b). The finding that increased perceived entitativity leads to the perception of interchangeability among group members (Crawford et al., 2002) bolsters the results that have shown that increased perceived entitativity relates to greater stereotyping. Finally, ingroup entitativity has been shown to mediate the relationship between mortality salience and ingroup bias on trait ratings (Castano et al., 2002). Taken together, these findings suggest that perceived entitativity should mediate the relationship between

mortality salience and stereotyping (see Figure 1 for mediation model). This specific hypothesis had not been tested prior to the present research. Therefore, the present investigation of this hypothesis constituted a novel expansion of relevant extant research.

## **Hypotheses**

Hypothesis 1: Both target groups should be stereotyped more when mortality is salient than when it is not salient.

Hypothesis 2: Mortality salience should increase the perceived entitativity of both target groups.

Hypothesis 3: Perceived entitativity should mediate the predicted relationship between mortality salience and stereotyping.

## **Methods**

### **Participants**

Participants were employees of Mechanical Turk, an online “marketplace for work” hosted by amazon.com in which workers complete online surveys and other measures in exchange for a small amount of money. Data were collected from 477 participants, each of whom were paid 40 cents for participating. Data from participants who left the whole survey blank ( $n = 120$ ); left at least 10 questions blank ( $n = 17$ ); completed the survey in less than 10 minutes ( $n = 24$ ) (this timeframe was based on what amount of time was reasonable for a participant to take to complete the survey based on the number of questions that were administered; see Appendix A for results of the analysis that included participants who completed the survey in less than 10 minutes); did not respond to at least one essay question ( $n = 3$ ); copied the instructions for the essays as

responses to the essays ( $n = 1$ ); or took a close guess of the purpose of the study ( $n = 1$ ) were discarded.

There were two questions built into the survey that allowed for confirmation that the participant was from the U.S. The first was, “If you had to spend 25 cents using one coin, which coin would you use?” The second was, “Who is Mitt Romney?” The second question also functioned as a way to ensure that participants had at least a minimal amount of political knowledge. Data from participants who could not answer one or both of these questions were discarded ( $n = 13$ ).

Also, to ensure that only data from participants who paid attention to the instructions were retained, three items with instructions to respond with a number that did not make sense in the context of the question were embedded in the questionnaire; participants would have had to have read the instructions to answer the question correctly. The items were, “How much do you weigh,” “What is the current year,” and “In which year were you born?” The corresponding correct responses were 4, 2, and 10, respectively. Data from participants who did not respond accordingly were discarded because these participants might not have been paying attention to other instructions in the questionnaire ( $n = 15$ ).

In addition, because the survey for each condition was posted separately on Mechanical Turk, some people participated in both conditions (mortality salient or television [TV] salient). Participants who participated in both conditions were identified by cross-checking IP addresses in the two conditions. When an IP address appeared in both conditions, the times at which the surveys were started were compared to determine the condition in which the participant participated first. In addition, the times at which

participants completed their participation were examined to ensure that the participants who participated in both conditions finished the first survey before beginning the next one (all of them did so). Because all such participants finished the survey that they started second after they finished the survey that they started first, data from all participants who participated in both conditions were eliminated only from the condition that was started second (TV salient:  $n = 8$ ; mortality salient:  $n = 6$ ). In addition, participants who participated twice in the same condition as determined by the same IP address appearing twice in the same condition (mortality salient:  $n = 7$ ; TV salient:  $n = 0$ ).

This left a final sample of 262 participants, 138 of whom were in the TV salient condition and 124 of whom were in the mortality salient condition. The sample was comprised of 110 White, 107 Hispanic/Latino, 15 Black, 10 Indian or Pakistani, 9 East Asian or Pacific Islander, and 8 mixed race participants, and 3 participants who identified with another racial or ethnic group. There were 155 female and 107 male participants in the sample. The mean age was 36.45. The political composition of the sample was 105 moderates; 83 liberal Democrats; 37 conservative Republicans; and 37 participants who did not know their political ideology and/or party, were affiliated with a different political party, or did not respond to one or both of the political affiliation questions.

### **Experimental Design**

This experiment had a 2 (mortality salience: mortality salient vs. TV salient) X 2 (target political ideology/party: conservative Republicans vs. liberal Democrats) X 3 (participant political ideology/party: conservative Republican vs. moderate vs. liberal Democrat) mixed-model design. Mortality salience and participant political

ideology/party were between-subjects factors. Target political ideology/party was the within-subjects factor.

### **Stimuli and Measures**

**Stimuli.** Stimuli were either writing prompts that induced mortality salience or parallel control writing prompts that made salient watching TV. The mortality salience writing prompts were: (a) “Please describe the emotions that the thought of your own death arouses in you”; and (b) “Write down as specifically as you can, what you think will happen to you physically when you die, and what will happen to you once you are dead” (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). The TV salience writing prompts were: (a) “Please describe the emotions that the thought of watching television arouses in you”; and (b) “Write down as specifically as you can, what you think will happen to you physically as you watch television next time, and what you will feel after you watch television.”

**Measures.** Participants completed the Positive and Negative Affect Schedule–Expanded Form (PANAS-X) (Watson & Clark, 1992; see Appendix B for PANAS-X). The PANAS-X is a 60-item questionnaire that has 13 subscales (positive affect, negative affect, fear, hostility, guilt, sadness, joviality, self-assurance, attentiveness, shyness, fatigue, serenity, and surprise). In TMT studies, it is used to assess the effects of mortality salience on affect and to determine whether affect can account for mortality salience findings. In addition, it constitutes a delay between the mortality salience manipulation and the main dependent measures. The delay is important because with no delay between the mortality salience manipulation and the dependent measures, the

effects of mortality salience on the dependent measures weaken or dissipate (Burke, Martens, & Faucher, 2010).

The items for the stereotyping measure were chosen from a larger pool of items that were pilot tested on Mechanical Turk ( $N = 36$ ). In the pilot test, participants made separate estimates of what percentage of conservative Republicans and liberal Democrats endorsed given political views (e.g., “What percentage of [conservative Republicans/liberal Democrats] wants the government to be doing more?”), what percentage had specific demographic characteristics (e.g., “What percentage of [conservative Republicans/liberal Democrats] is currently employed?”), and what percentage was characterized by given personality traits (e.g., “What percentage of [conservative Republicans/liberal Democrats] is extraverted?”). All of the items were unidirectional: They required estimates of the percentage of members of the target group that endorsed the given political view or that was characterized by the given demographic characteristic or personality trait. This way of defining stereotyping is supported by research that has found that group members are expected to have more similar beliefs and to act more similarly than members of aggregates or different groups (Wilder, 1978).

The pilot test was administered to fulfill two goals. The first was to ascertain that on the chosen items, the mean estimated percentages of conservative Republicans and liberal Democrats who fit the given description were different from one another. This goal was obtained by subjecting the mean percentage estimates for all questions on the pilot survey to paired-samples *t*-tests. The mean percentage estimates for conservative Republican and liberal Democrat targets significantly differed from one another on all of the chosen items,  $t_s > 2.74$ ,  $p_s < .01$  (see Appendix C for all chosen items). All of the



chosen items related to political views. The means for all of the chosen items except one indicated that the percentage estimates were higher for liberal Democrat targets than for conservative Republican targets. The one exception was an item that was reverse-coded for the analysis (“What percentage of [conservative Republicans/liberal Democrats] supports basing American laws on Christian values?”). The fact that (with the noted exception) means for all of the chosen items were higher for liberal Democrat targets than for conservative Republican targets showed that for the most part, participants believed that liberal Democrats espoused the given political views to a greater extent than did conservative Republicans. This was in accordance with expectations because with the one noted exception, the political views that were measured were consistent with liberal Democrat views and consequently not with conservative Republican views.

The second goal of the pilot test was to ensure that differences in the stereotypes of the two target groups were not so large or so small in the absence of mortality salience that any potential effect of mortality salience on these differences would be undetectable. This was accomplished by only selecting items from the pool of qualified items—as determined by significance on the paired-samples *t*-tests—that had moderate mean percentage estimate differences between the two target groups. Mean differences for the selected items ranged from 17.14 to 33.21 percentage points. The selected items were originally planned to be those that had 20- to 30-point mean differences, but not enough items met this exact criterion for it to be used.

As a measure of perceived group entitativity, participants made separate ratings of conservative Republicans and liberal Democrats on eight perceived entitativity dimensions on a scale of 1-9 (see Appendix D for entitativity measure). The dimensions

were: (a) how cohesive the groups are, (b) how important the groups are to their members, (c) how organized the groups are, (d) how much group members feel like part of the group, (e) how interdependent group members are to achieve their goals, (f) the extent to which the group qualifies as a group, (g) how similar group members are to one another, and (h) how much group members interact<sup>1</sup> (Lickel et al., 2000; Spencer-Rodgers et al., 2007a; Spencer-Rodgers et al., 2007b).

Participants also completed demographic items. They indicated their age, gender, race/ethnicity, religion, political party, and political ideology. In addition, they were probed for suspicion (see Appendix E for demographic and suspicion probe items).

## **Procedure**

Two links to this study were posted on Mechanical Turk: one to the mortality salient survey and one to the TV salient survey. The surveys were hosted by Qualtrics. Upon accessing one of the surveys, participants gave informed consent. Then, they answered either the mortality salience or the TV salience writing prompts. Next, they completed the PANAS-X. After completing the PANAS-X, they answered the stereotyping items, followed by the perceived entitativity questions. Finally, they completed the demographic items, were probed for suspicion, and were debriefed.

## **Results**

### **Preliminary Analysis**

Cronbach's alpha separately assessed the internal consistency of the conservative Republican and the liberal Democrat stereotyping items. The initial analysis indicated

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<sup>1</sup>The first five dimensions of perceived entitativity were adapted from Spencer-Rodgers et al. (2007a) and Spencer-Rodgers et al. (2007b); the last three items were derived from Lickel et al. (2000).

that, according to the reliability cutoff of  $\alpha \geq .70$ , including in the scales all six stereotyping items that were chosen from the pilot test yielded sub-optimal internal consistency for both scales,  $\alpha_{\text{conservativeRepublicans}} = .61$ ,  $\alpha_{\text{liberalDemocrats}} = .63$ . Discarding one of the items—the item related to basing American laws on Christian values, which was consistent with conservative Republican ideology—resulted in scales with almost-acceptable internal consistency for the conservative Republican target,  $\alpha = .68$ , and acceptable internal consistency for the liberal Democrat target,  $\alpha = .71$ . Therefore, a stereotyping scale was calculated for each target group by summing responses to the five remaining items. Initially, higher scores on both of the scales indicated that the target group was stereotyped as subscribing to political beliefs that were more strongly in accordance with those of liberal Democrats, and lower scores reflected stereotyping of the target group as holding political views that were more strongly in agreement with those of conservative Republicans. However, this was changed by reverse-coding scores on the conservative Republican stereotyping scale so that higher scores on this scale indicated greater agreement with conservative Republican views. Thus, for both stereotyping scales, a higher score indicated that the participant's stereotypes of the political views of the target group were more consistent with the prototypical political views of that group. Potential values for the stereotyping scales ranged from 0 to 500: If on all 5 items a participant responded that 0% of the group members endorsed the political view, the participant's score would be 0. Likewise, if on all 5 items a participant responded that 100% of the group members endorsed the political view, the participant's score would be 500 (see Table 1 for means and standard deviations of all main dependent variables).

In addition, separate reliability analyses were performed on the perceived entitativity items for each group. The items demonstrated excellent internal consistency for both target groups,  $\alpha_{\text{conservativeRepublicans}} = .88$ ,  $\alpha_{\text{liberalDemocrats}} = .86$ . Therefore, they all were retained. Potential values for the perceived entitativity scales ranged from 8 to 72, with a higher score representing greater perceived entitativity of the target group.

Another score that was computed was the participant political ideology/party score. Based on this score, participants were categorized as conservative Republicans or liberal Democrats for the main analysis. To do so, the political ideology and political party responses for each participant who responded between 1 and 7 (8 was “don’t know” for the ideology question and “something else” for the party question, and 9 was “don’t know” for party) were summed. These summed responses were divided into three categories based on the totals: 2-5 was liberal Democrat, 6-10 was moderate, and 11-14 was conservative Republican. Although the fact that ideology and party responses were combined meant that participants who identified with a given political ideology or party might have been categorized in the group that included the other political ideology or party, this did not compromise the integrity of the data because the political ideology and party variables were highly correlated,  $r = .70$ .

## **Main Analysis**

**Affect.** A 2 (mortality salience: mortality salient vs. mortality not salient) X 2 (participant political ideology/party: conservative Republican vs. liberal Democrat) between-subjects MANOVA was performed with 11 of the 13 subscales of the PANAS-X as the dependent measures. Results indicated that participant political ideology/party did not impact any of these affective dimensions,  $F_s(2, 197) < 0.97$ , *ns*, and that mortality

salience had no effect on 5 of the 11 affective dimensions that were used,  $F_s(1, 197) < 1.69$ , *ns* (see Table 2 for complete MANOVA results). However, mortality salience significantly impacted self-assurance,  $F(1, 197) = 9.19$ ,  $p = .003$ , and shyness,  $F(1, 197) = 4.08$ ,  $p = .045$ , and had a marginally significant effect on fatigue,  $F(1, 197) = 3.86$ ,  $p = .051$ , joviality,  $F(1, 197) = 2.93$ ,  $p = .09$ , attentiveness,  $F(1, 197) = 3.23$ ,  $p = .07$ , and surprise,  $F(1, 197) = 2.74$ ,  $p = .099$ . Specifically, participants were more self-assured in the mortality salient condition,  $M = 15.61$ , than in the TV salient condition,  $M = 13.21$ , and were more shy in the mortality salient condition,  $M = 6.34$ , than in the TV salient condition,  $M = 5.14$ . Further, there was a trend for participants to be more fatigued in the TV salient condition,  $M = 9.42$ , than in the mortality salient condition,  $M = 8.13$ , for participants to be more jovial in the mortality salient condition,  $M = 19.72$ , than in the TV salient condition,  $M = 17.67$ , for participants to be more attentive in the mortality salient condition,  $M = 13.43$ , than in the TV salient condition,  $M = 12.46$ , and for participants to be more surprised in the mortality salient condition,  $M = 4.75$ , than in the TV salient condition,  $M = 4.19$ .

The positive and negative affect subscales of the PANAS-X are not completely independent from the other subscales because the items that comprise the positive and negative affect subscales are a combination of items from the other subscales. Therefore, if the positive and negative affect subscales were included in the MANOVA with the other 11 subscales, several of the individual items from the PANAS-X would be included in two of the dependent variables in the MANOVA. To avoid this, in addition to the MANOVA, 2 (mortality salience: mortality salient vs. TV salient<sup>2</sup>) X 3 (participant

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<sup>2</sup> A coding scheme (TV salient = 0, mortality salient = 1) was applied to the mortality salience variable for all analyses in which it was involved.

political ideology/party: conservative Republican vs. moderate vs. liberal Democrat) between-subjects ANOVAs were performed on the positive and negative affect subscales. Results indicated that neither participant political ideology/party nor mortality salience had an effect on negative affect,  $F(2, 215) = 0.55$ , *ns*, and  $F(1, 215) = 0.91$ , *ns*, respectively. Likewise, participant political ideology/party had no effect on positive affect,  $F(2, 215) = 0.23$ , *ns*. However, mortality salience had a significant effect on positive affect,  $F(1, 215) = 4.43$ ,  $p = .04$ . The means revealed that participants experienced greater positive affect in the mortality salient condition,  $M = 28.06$ , than in the TV salient condition,  $M = 25.47$ . Although somewhat inconsistent with past findings that mortality salience does not impact affect, the present findings related to affect only found significant effects on 3 out of 13 PANAS-X subscales and marginally significant effects on 4 out of the 13 subscales, indicating overall consistency with past results. Despite their significance or marginal significance, these subscales were still excluded from the remaining analyses because in general, past findings have shown that affect has no impact on mortality salience effects.

**Stereotyping.** Hypothesis 1 predicted that both target groups would be stereotyped more when mortality was salient than when TV was salient. To test this hypothesis, the stereotyping scales were subjected to a 2 (mortality salience: mortality salient vs. TV salient) X 2 (target political ideology/party: conservative Republicans vs. liberal Democrats) X 3 (participant political ideology/party: conservative Republican vs. moderate vs. liberal Democrat) mixed-model ANOVA<sup>3</sup>. Mortality salience and

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<sup>3</sup> Participants who did not have a party/ideology score (i.e., those who responded “don’t know” to the political ideology item and/or “don’t know” or “something [other than Democrat or Republican]” to the political party affiliation item) were excluded from the main ANOVAs because that score was the basis of

participant political ideology/party were between-subjects factors. Target political ideology/party was the within-subjects factor.

A significant main effect for mortality salience with higher stereotyping scale means in the mortality salient condition than in the TV salient condition would have supported the hypothesis. However, this main effect was nonsignificant,  $M_{\text{MortalitySalient}} = 342.06$ ,  $M_{\text{TVsalient}} = 351.58$ ,  $F(1, 217) = 1.26$ , *ns*. This indicated that participants in the mortality salient condition did not stereotype to a smaller or larger extent than participants in the TV salient condition.

Because of the nonsignificance of the mortality salience main effect and the nonsignificance or only marginal significance of the interactions involving mortality salience, the mortality salience factor was dropped from the remaining stereotyping analyses; the ANOVA was performed as a 2 (target political ideology/party: conservative Republicans vs. liberal Democrats) X 3 (participant political ideology/party: conservative Republican vs. moderate vs. liberal Democrat) mixed-model. Target political ideology/party was the within-subjects factor and participant political ideology/party was the between-subjects factor. Although irrelevant to the hypotheses, the main effect for target political ideology/party was significant,  $M_{\text{conservativeRepublicans}} = 332.01$ ,  $M_{\text{liberalDemocrats}} = 363.68$ ,  $F(1, 220) = 15.71$ ,  $p < .001$ ,  $\eta = .18$ , indicating that, averaging across all participant ideology/political party categories, liberal Democrats were stereotyped more than were conservative Republicans. In addition, there was a significant participant political ideology/party main effect,  $M_{\text{conservativeRepublicans}} = 357.88$ ,  $M_{\text{moderates}} = 333.23$ ,  $M_{\text{liberalDemocrats}} = 352.42$ ,  $F(2, 220) = 3.85$ ,  $p = .02$ ,  $\eta = .13$ , indicating that, averaging

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the participant political ideology/party factor in the main ANOVAs. These exclusions resulted in the main ANOVAs having lower *ns* than the regressions.

across both target groups, there were differences between participant political ideology/party groups in terms of how much they stereotyped.

These main effects were qualified by a significant participant political ideology/party X target political ideology/party interaction,  $F(2, 220) = 6.20, p = .002, \eta^2 = .16$ . Although averaging across all participant political ideology/party categories, liberal Democrats were stereotyped more than were conservative Republicans, this was, in fact, only true for conservative Republican and moderate participants; the mean stereotyping scores were nonsignificantly higher for conservative Republican targets than for liberal Democrat targets among liberal Democrat participants,  $t(220) = -0.19, ns$  (see Figure 2 for a plot of the interaction). However, due to its nonsignificance and the small  $t$  value, this difference was inconsequential. Although  $p < .03$  for the difference between the conservative Republican target and the liberal Democrat target among moderate participants,  $t(220) = 2.26$ , with Bonferroni's correction that difference became nonsignificant because Bonferroni's correction resulted in the critical alpha being changed from .05 to .017. With this criterion, the only significant difference between conservative Republican and liberal Democrat targets was among conservative Republican participants,  $t(220) = 4.08, p = .0001$ . The discrepancy between the sizes of the differences in percentage estimates (i.e., stereotyping) can be seen on the plot of the interaction (see Figure 2).

**Perceived entitativity.** Hypothesis 2 posited that mortality salience would cause increased perceived entitativity of both target groups. To test this hypothesis, the perceived entitativity scales were subjected to a 2 (mortality salience: mortality salient vs. TV salient) X 2 (target political ideology/party: conservative Republicans vs. liberal



Democrats) X 3 (participant political ideology/ party: conservative Republican vs. moderate vs. liberal Democrat) mixed-model ANOVA. A significant main effect for mortality salience with greater mean perceived entitativity in the mortality salient condition than in the TV salient condition would have supported the hypothesis. However, that main effect was nonsignificant,  $M_{\text{MortalitySalient}} = 53.41$ ,  $M_{\text{TVsalient}} = 53.63$ ,  $F(1, 204) = 0.02$ , *ns*. This indicated that participants for whom mortality was salient did not perceive either more or less group entitativity than participants for whom TV was salient. Because of the nonsignificance of the main effect and interactions in which mortality salience played a role, the analysis was rerun as a 2 (target political ideology/party: conservative Republicans vs. liberal Democrats) X 3 (participant political ideology/party: conservative Republican vs. moderate vs. liberal Democrat) mixed-model ANOVA. None of the main effects or interactions in this analysis were significant or marginally significant,  $F_s < 0.72$ , *ns*.

**Mediation analysis.** Hypothesis 3 predicted that perceived entitativity should mediate the expected relationship between mortality salience and stereotyping. The four-step mediation analysis technique developed by Baron & Kenny (1986) tested this hypothesis. The results of the regression for Step 1 of the analysis—the regression of stereotyping on mortality salience—for the conservative Republican target indicated that mortality salience did not predict stereotyping of conservative Republicans,  $b = -3.74$ ,  $\beta = -.03$ ,  $t(259) = -0.40$ , *ns*. In the regression for Step 1 for the liberal Democrat target, mortality salience did not predict stereotyping of liberal Democrats,  $b = -1.63$ ,  $\beta = .01$ ,  $t(258) = -0.15$ , *ns*<sup>4</sup>.

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<sup>4</sup> In the regressions, the reason for the uneven *df* for the conservative Republican and liberal Democrat targets is that, while preparing the data for the regression analysis, data were discarded only for the target

In the regression for Step 2—the regression of perceived entitativity on mortality salience—for conservative Republicans, mortality salience did not significantly predict perceived entitativity of conservative Republicans,  $b = -1.55$ ,  $\beta = -.06$ ,  $t(254) = -1.00$ , *ns*. Likewise, in the regression for Step 2 for liberal Democrats, mortality salience did not significantly predict perceived entitativity of liberal Democrats,  $b = 0.89$ ,  $\beta = .04$ ,  $t(250) = 0.65$ , *ns*.

In the regression for Step 3—the regression of stereotyping on mortality salience and perceived entitativity—for conservative Republicans, controlling for mortality salience, perceived entitativity did not predict stereotyping of conservative Republicans,  $b = -0.21$ ,  $\beta = -.04$ ,  $t(252) = -0.55$ , *ns*. In the regression for Step 3 for liberal Democrats, when controlling for mortality salience, perceived entitativity of liberal Democrats significantly predicted stereotyping of that group,  $b = 2.55$ ,  $\beta = .32$ ,  $t(247) = 5.37$ ,  $p < .001$ ,  $R^2 = .11$ ,  $F(2, 247) = 14.43$ ,  $p < .001$ . Despite the significance of Step 3 for liberal Democrats, the mediation was not tested because of the nonsignificance of Steps 1 and 2. Similarly, the significance of Step 3 for conservative Republicans was not tested because Steps 1, 2, and 3 were nonsignificant.

### Discussion

The results of this study did not support the hypotheses. The first hypothesis was that participants would engage in more stereotyping when mortality was salient than when TV was salient. The reasons for this hypothesis were as follows: (a) past research has found that mortality salience enhances stereotyping (Greenberg et al., 1990; Schimel et al., 1999); (b) coping with thoughts of death depletes cognitive resources (Gailliot et

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group for which there were missing data from individual participants; data from those participants were retained for the other target group.

al., 2006), thereby causing people to prefer simpler rather than more complex information and cognitive processing (Anson et al., 2009); and (c) mortality salience causes an increased need to adhere to the cultural worldview, which includes political stereotypes. However, mortality salience did not cause significantly increased stereotyping of either target group.

It is possible that one reason for the difference between present and past findings that relate to this hypothesis is the fact that the targets that participants evaluated in the present research were not similar to those that were evaluated in prior research that examined mortality salience and stereotyping. In the research discussed above, the targets were Christian and Jewish individuals (Greenberg et al., 1990, Experiment 1), Germans and Italians (Schimel et al., 1999, Experiment 1), and men and women (Schimel et al., 1999, Experiment 2). In addition, previous research examined ratings of personality traits (Greenberg et al., 1990, Experiment 1; Schimel et al., 1999, Experiment 1) and explanations for behavior (Schimel et al., 1999, Experiment 2), while in the present research participants estimated the percentage of the target groups that endorsed political views. The differences between past and present operationalizations of stereotyping also might have resulted in different findings.

In addition, it was predicted that mortality salience would increase the perceived entitativity of both target groups, regardless of ingroup versus outgroup status. This prediction was based on past findings and theory suggesting that (a) coping with thoughts of death indirectly evokes a preference for simple cognitive processing, and (b) mortality salience increases the perceived entitativity of ingroups (Castano et al., 2002). Results did not confirm the hypothesis.

One reason for this might be the type of target group in the present research differed from that used in past research. The target groups in past research that has examined the effect of mortality salience on perceived ingroup entitativity were participants' national ingroup (Italians) and a national outgroup (Germans) (Castano et al., 2002), while in the present research, the target groups were political groups.

The final hypothesis was that perceived entitativity would mediate the relationship between mortality salience and stereotyping. This prediction was based on past findings that indicated at least partial relationships among the three constructs involved in the mediation model (e.g., Castano et al., 2002; Crawford et al., 2002; Greenberg et al., 1990; Schimel et al., 1999; Spencer-Rodgers et al., 2007a; Spencer-Rodgers et al., 2007b). However, the predicted mediating role of perceived entitativity could not be tested because results indicated that mortality salience was not a significant predictor of stereotyping of either group.

Despite the lack of support for the hypotheses, some unpredicted, significant findings emerged. Firstly, the stereotyping ANOVA revealed a significant main effect for participant political ideology/party. The means revealed that, averaging across both target groups, moderates stereotyped the least, followed by liberal Democrats, and that conservative Republicans stereotyped the most. However, it is possible that not all of these differences reached significance (but this was not tested).

In addition, the target political ideology/party main effect was significant. The direction of the means indicated that, averaging across conservative Republican participants, moderate participants, and liberal Democrat participants, the liberal Democrat target group was stereotyped to a greater extent than was the conservative

Republican target group. The two significant main effects that were discussed were qualified by a significant participant political ideology/party X target political ideology/party interaction. The interaction revealed that conservative Republican participants stereotyped the liberal Democrat target group significantly more than they did the conservative Republican target group and that, after performing Bonferroni's correction, moderate participants and liberal Democrat participants stereotyped neither target group more than the other. However, in absolute terms, liberal Democrats stereotyped conservative Republicans nonsignificantly more than they did liberal Democrats and moderates stereotyped liberal Democrats nonsignificantly more than they did conservative Republicans. In fact, using a critical alpha of .05, moderate participants' stereotyping would be significant, but due to Bonferroni's correction, the critical alpha was set to .017, and therefore the alpha of .025 for moderate participants' stereotyping was considered nonsignificant. Because of the  $p$ -level of .025 for moderates' stereotyping, this result should not be considered inconsequential despite its technical nonsignificance.

The finding that conservative Republicans stereotyped liberal Democrats more than they did fellow conservative Republicans was not surprising because it was consistent with the political stereotyping literature. However, the results of the stereotyping analysis for moderates—that moderates nonsignificantly yet *not* inconsequentially stereotyped liberal Democrats more than they stereotyped conservative Republicans—was unexpected. Moderates, as members of neither target group (conservative Republicans and liberal Democrats) should have followed societal stereotypes in their judgments, and the stereotype of liberal Democrats is that they value

open-mindedness, flexibility, and tolerance. Moderates' judging liberal Democrats to a greater extent as rigidly holding certain beliefs (the operationalization of stereotyping in the present research) goes against the stereotype of liberal Democrats being open-minded, flexible, and tolerant, rather than following it. If moderates had judged conservative Republicans to a greater extent as rigidly holding certain beliefs, that would have followed the stereotype. It is possible that liberal Democrats were stereotyped (i.e., judged to rigidly hold certain beliefs) to a greater extent than were conservative Republicans because people did not strongly believe liberal Democrats to be open-minded, flexible, and tolerant. It is also a possibility that people stereotyped liberal Democrats (i.e., judged them to rigidly hold certain beliefs) more because this research was done with a liberal Democrat—Barack Obama—as the President of the United States. His views are televised and otherwise broadcasted frequently and pervasively. This makes it more likely that the example of a liberal Democrat that people had in mind was Barack Obama, who by the nature of his job has unusually strong views compared with other liberal Democrats. This example may have colored perceptions of all liberal Democrats.

### **Limitations and Future Directions**

One limitation to this research is that it lacked random assignment to experimental condition because the surveys for the two conditions were posted separately on Mechanical Turk. The decision to post the surveys separately was made because, although it is possible for Qualtrics (the software that was used to construct the surveys) to randomly assign participants to experimental conditions, tests of the randomization capabilities of Qualtrics indicated that it unevenly assigned participants to the two

conditions. However, despite the benefit of providing an equal initial number of participants in the two experimental conditions, there is a chance that there was a systematic difference in the way that people chose which survey to complete based on the order in which the links appeared on Mechanical Turk, especially because workers can choose from among several different sorting orders (e.g., newest first, highest reward first). However, precautions were taken to make this outcome less likely: the two surveys were given the same title, the same keywords were used for the two surveys, participants received the same amount of money for participating, and the surveys were posted at almost exactly the same time.

Another limitation is that the research was conducted online, which is a less controlled setting for the administration of surveys than is a laboratory or a classroom. Participants may have engaged in distracting activities (e.g., watching television, etc.) while completing the surveys. The influence that this may have had on the results was minimized by discarding data from participants who did not complete the survey within a relatively limited timeframe, but individual differences in cognitive abilities may have allowed data from some participants who were engaged in distracting tasks to remain in the sample, while causing data from other participants who were not engaged in distracting tasks to be discarded.

Although the hypotheses were not supported, significant findings from this research should be further investigated in future research. One such finding was that liberal Democrats were stereotyped more than were conservative Republicans by moderates. In this research, this meant that they were judged as holding rigid beliefs. This is an important finding to explore in future research because of the counterintuitive

nature of the finding; liberal Democrats are reputed to be flexible, tolerant, and open-minded, which does not logically lead to them being judged as holding rigid beliefs. This is in contrast with conservative Republicans, who should be more likely to be stereotyped given their rigid, intolerant reputation. Future research should investigate why liberal Democrats were stereotyped more than were conservative Republicans by moderates despite liberal Democrats' reputation as open-minded and conservative Republicans' standing as intolerant and rigid.

### **Implications**

Although there exists in the literature evidence that mortality salience leads to stereotyping (Greenberg et al., 1990; Schimel et al., 1999) and research has investigated the mechanism by which mortality salience may lead to stereotyping (Renkema, Stapel, Maringer, & van Yperen, 2008), the evidence is not in abundance. The fact that there is exiguous evidence in support of the argument that mortality salience engenders stereotyping leaves open a window for debate about the topic. The present research may constitute support for the opposing argument: that mortality salience does not increase stereotyping.

### **Conclusions**

This research is important because it draws upon topics that have “real-world” significance. Firstly, TMT has been supported with studies resembling situations that occur outside of the laboratory and with non-student participants. In one such experiment, municipal judges (hypothetically) assigned bonds to a woman who was accused of prostitution (Rosenblatt et al., 1989). When mortality was salient, judges assigned bonds that were more than nine times higher than when mortality was not salient



( $M_s = \$455$  and  $\$50$ , respectively). Mortality salience has also been shown to be a determinant of a plethora of other legal outcomes (for a review, see Arndt, Lieberman, Cook, & Solomon, 2005). For instance, mortality salience led to (a) harsher recommended sanctions for hate crime perpetrators when hate crimes were discussed in abstract terms, (b) more negative views of hate crimes, and (c) more lenient punishments for hate crime perpetrators whose hate crimes were directed against victims who threatened the cultural worldview (Lieberman, Arndt, Personius, & Cook, 2001).

Because of its pervasive influence on social interactions, it is also crucial to study stereotyping. The fact that the present research examined two phenomena (TMT and stereotyping) that have real-world significance increased its importance. Its importance was further heightened by the fact that, before the present research, perceived entitativity had not yet been explored in combination with TMT and stereotyping; although the related hypothesis was not supported, this alone was information that was previously unknown.

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Table 1

*Means and standard deviations for stereotyping and perceived entitativity measures*

Measure	Mortality salience		Participant political ideology/party		
	Mortality salient	Television salient	Liberal Democrat Participant	Moderate Participant	Conservative Republican Participant
	<i>M</i> ( <i>n</i> ), <i>SD</i>	<i>M</i> ( <i>n</i> ), <i>SD</i>	<i>M</i> ( <i>n</i> ), <i>SD</i>	<i>M</i> ( <i>n</i> ), <i>SD</i>	<i>M</i> ( <i>n</i> ), <i>SD</i>
<b>Perceived entitativity:</b> conservative Republican targ.	<b>52.27</b> (102), 12.92	<b>54.39</b> (108), 12.55	<b>53.58</b> (81), 14.32	<b>52.48</b> (95), 11.81	<b>55.27</b> (34), 11.34
<b>Perceived entitativity:</b> lib. Democrat target	<b>53.28</b> (102), 11.25	<b>52.97</b> (108), 10.04	<b>54.25</b> (81), 10.03	<b>52.30</b> (95), 10.87	<b>52.77</b> (34), 11.35
<b>Stereotyping:</b> conservative Republican targ.	<b>330.57</b> (106), 77.90	<b>335.73</b> (117), 70.33	<b>353.54</b> (83), 63.16	<b>321.28</b> (104), 76.20	<b>321.19</b> (36), 81.59
<b>Stereotyping:</b> liberal Dem. target	<b>353.68</b> (106), 89.80	<b>357.01</b> (117), 81.07	<b>351.30</b> (83), 71.25	<b>345.17</b> (104), 91.50	<b>394.56</b> (36), 86.80

**Note.** Potential values for perceived entitativity measure ranged from 8-72. Potential values for stereotyping measure ranged from 0-500.

Table 2

*PANAS-X MANOVA*

Subscale	Mortality salient: <i>M</i> , <i>SD</i>	TV salient: <i>M</i> , <i>SD</i>	Mort. salience main effect <i>F</i> (1, 197)	Part. pol. ideo/ party main effect <i>F</i> (2, 197)	Mort. sal X part. ideo/ party <i>F</i> (2, 197)
Fear	<b>9.26</b> , 4.38	<b>8.33</b> , 3.91	1.69	0.44	0.18
Sadness	<b>9.47</b> , 4.63	<b>9.06</b> , 4.82	0.44	0.52	0.01
Guilt	<b>9.83</b> , 4.81	<b>8.95</b> , 4.25	1.10	0.51	0.17
Hostility	<b>9.22</b> , 4.57	<b>8.57</b> , 4.25	0.34	0.21	0.90
Shyness	<b>6.30</b> , 3.01	<b>5.59</b> , 2.23	4.08*	0.97	0.35
Fatigue	<b>8.23</b> , 3.82	<b>9.44</b> , 4.56	3.86 <sup>†</sup>	0.97	0.29
Joviality	<b>19.12</b> , 8.12	<b>17.83</b> , 7.33	2.93 <sup>†</sup>	0.32	1.12
Self-assurance	<b>15.40</b> , 5.27	<b>13.00</b> , 5.03	9.19*	0.54	1.77
Attentiveness	<b>13.31</b> , 3.33	<b>12.45</b> , 3.63	3.23 <sup>†</sup>	0.25	1.24
Serenity	<b>9.75</b> , 2.87	<b>9.67</b> , 3.06	0.18	0.15	0.21
Surprise	<b>4.70</b> , 2.33	<b>4.14</b> , 2.00	2.74 <sup>†</sup>	0.64	0.05

\* $p < .05$ . <sup>†</sup> $p < .10$

**Note.** Part. pol. ideo/party = participant political ideology/party. The different subscales had different ranges of potential values, depending on how many questions comprised the subscale.

Table 3

*Stereotyping ANOVA*

	<i>df</i>	<i>F</i>	<i>η</i>	<i>p</i>
Between-subjects effects				
Mortality salience	(1, 217)	1.26	.05	.26
Part. ideo/party	(2, 217)	3.58	.13	.03
MS X part. ideo/party	(2, 217)	2.53	.11	.08
Within-subjects effects				
Target ideo/party	(1, 217)	16.81	.18	< .001
Target ideo/party X MS	(1, 217)	0.22	.02	.64
Target ideo/party X part. ideo/party	(2, 217)	6.04	.16	.003
Target ideo/party X MS X part. ideo/party	(2, 217)	1.01	.06	.37

**Note.** Part. ideo/party = participant political ideology/party. MS = mortality salience. Target ideo/party = target political ideology/party. See Table 1 for means and standard deviations.

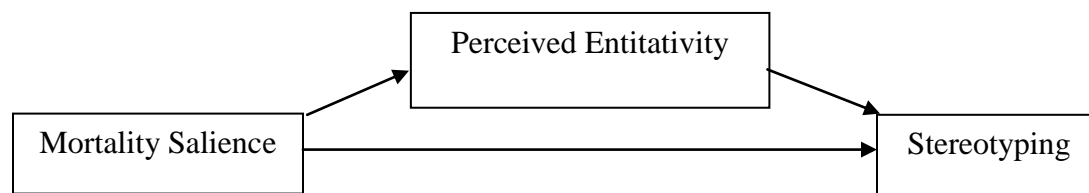


Table 4

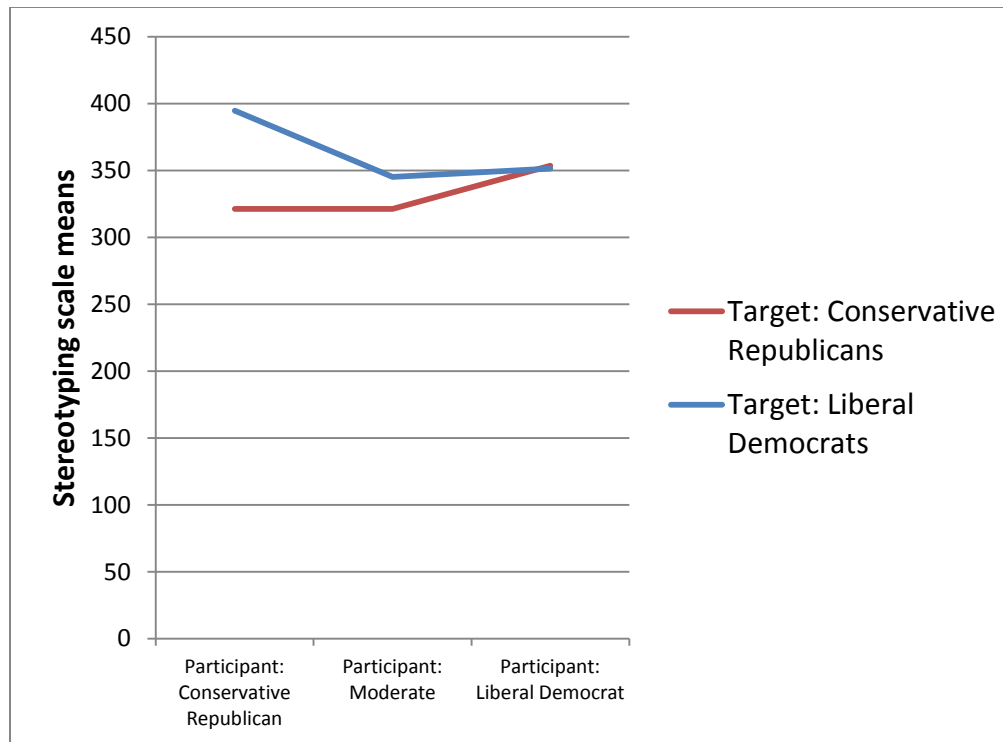
*Perceived entitativity ANOVA*

	<i>df</i>	<i>F</i>	<i>η</i>	<i>p</i>
Between-subjects effects				
Mortality salience	(1, 204)	0.02	.01	.88
Part. ideo/party	(2, 204)	0.62	.06	.54
MS X part. ideo/party	(2, 204)	0.88	.07	.42
Within-subjects effects				
Target ideo/party	(1, 204)	0.21	.02	.65
Target ideo/party X MS	(1, 204)	1.63	.05	.20
Target ideo/party X part. ideo/party	(2, 204)	<0.76	.05	.47
Target ideo/party X MS X part. ideo/party	(2, 204)	0.63	.05	.53

**Note.** Part. ideo/party = participant political ideology/party. MS = mortality salience. Target ideo/party = target political ideology/party. See Table 1 for means and standard deviations.



*Figure 1.* Mediation model. Data for liberal Democrat targets were subjected to this analysis.



*Figure 2.* Stereotyping of conservative Republicans and liberal Democrats as a function of participant political ideology/party. Conservative Republican and moderate participants both stereotyped liberal Democrats more than they stereotyped conservative Republicans, while liberal Democrats stereotyped conservative Republicans more than they stereotyped fellow liberal Democrats. However, the difference between the amount of stereotyping that occurred for each target group was only significant when participants were conservative Republicans.

## Appendix A

### Results Including Participants Who Completed the Survey in Less Than 10 Minutes

**Affect.** A 2 (mortality salience: mortality salient vs. mortality not salient) X 2 (participant political ideology/party: conservative Republican vs. liberal Democrat) between-subjects MANOVA was performed with 11 of the 13 subscales of the PANAS-X as the dependent measures. Results indicated that participant political ideology/party did not impact any of these affective dimensions,  $F_s(2, 215) < 1.11$ , *ns*, and that mortality salience had no effect on 5 of the 11 affective dimensions that were used,  $F_s(1, 215) < 2.62$ , *ns*. However, mortality salience significantly impacted self-assurance,  $F(1, 215) = 12.83$ ,  $p < .001$ , surprise,  $F(1, 215) = 5.19$ ,  $p = .02$ , shyness,  $F(1, 215) = 5.05$ ,  $p = .03$ , joviality,  $F(1, 215) = 5.02$ ,  $p = .03$ , and attentiveness,  $F(1, 215) = 4.88$ ,  $p = .03$ , and had a marginally significant effect on fatigue,  $F(1, 215) = 3.58$ ,  $p = .06$ . Specifically, participants were more self-assured in the mortality salient condition,  $M = 15.98$ , than in the TV salient condition,  $M = 13.22$ ; were more surprised in the mortality salient condition,  $M = 5.05$ , than in the TV salient condition,  $M = 4.26$ ; were more shy in the mortality salient condition,  $M = 6.75$ , than in the TV salient condition,  $M = 5.73$ ; were more jovial in the mortality salient condition,  $M = 20.25$ , than in the TV salient condition,  $M = 17.68$ ; and were more attentive in the mortality salient condition,  $M = 13.50$ , than in the TV salient condition,  $M = 12.34$ . Further, there was a trend for participants to be more fatigued in the TV salient condition,  $M = 9.60$ , than in the mortality salient condition,  $M = 8.36$ .

In addition to the MANOVA, 2 (mortality salience: mortality salient vs. TV salient) X 3 (participant political ideology/party: conservative Republican vs. moderate vs. liberal Democrat) between-subjects ANOVAs were performed on the positive and

negative affect subscales. Results indicated that neither participant political ideology/party nor mortality salience had an effect on negative affect,  $F(2, 234) = 0.25$ ,  $ns$ , and  $F(1, 234) = 1.76$ ,  $ns$ , respectively. Likewise, participant political ideology/party had no effect on positive affect,  $F(2, 235) = 0.42$ ,  $ns$ . However, mortality salience had a significant effect on positive affect,  $F(1, 235) = 6.55$ ,  $p = .01$ . The means revealed that participants experienced greater positive affect in the mortality salient condition,  $M = 28.39$ , than in the TV salient condition,  $M = 25.35$ . Although somewhat inconsistent with past findings that mortality salience does not impact affect, the present findings related to affect only found significant effects on 6 out of 13 PANAS-X subscales and marginally significant effects on 1 out of the 13 subscales, indicating overall consistency with past results. Despite their significance or marginal significance, these subscales were excluded from the remaining analyses because in general, past findings have shown that affect has no impact on mortality salience effects.

**Stereotyping.** Hypothesis 1 predicted that both target groups would be stereotyped more when mortality was salient than when TV was salient. To test this hypothesis, the stereotyping scales were subjected to a 2 (mortality salience: mortality salient vs. TV salient) X 2 (target political ideology/party: conservative Republicans vs. liberal Democrats) X 3 (participant political ideology/party: conservative Republican vs. moderate vs. liberal Democrat) mixed-model ANOVA. Mortality salience and participant political ideology/party were between-subjects factors. Target political ideology/party was the within-subjects factor.

A significant main effect for mortality salience with higher stereotyping scale means in the mortality salient condition than in the TV salient condition would have

supported the hypothesis. However, this main effect was nonsignificant,  $M_{\text{MortalitySalient}} = 343.89$ ,  $M_{\text{TVsalient}} = 345.72$ ,  $F(1, 238) = 0.06$ , *ns*. This indicated that participants in the mortality salient condition did not stereotype to a smaller or greater extent than participants in the TV salient condition.

Because of the nonsignificance of the mortality salience main effect and the nonsignificance or only marginal significance of the interactions involving mortality salience, the mortality salience factor was dropped from the remaining stereotyping analyses; the ANOVA was performed as a 2 (target political ideology/party: conservative Republican vs. liberal Democrat) X 3 (participant political ideology/party: conservative Republican vs. moderate vs. liberal Democrat) mixed-model. Target political ideology/party was the within-subjects factor and participant political ideology/party was the between-subjects factor. Although irrelevant to the hypotheses, the main effect for target political ideology/party was significant,  $M_{\text{conservativeRepublicans}} = 331.98$ ,  $M_{\text{liberalDemocrats}} = 357.76$ ,  $F(1, 239) = 9.83$ ,  $p = .002$ ,  $\eta = .14$ , indicating that, averaging across all participant ideology/political party categories, liberal Democrats were stereotyped more than were conservative Republicans. In addition, there was a significant participant political ideology/party main effect,  $M_{\text{conservativeRepublicans}} = 349.49$ ,  $M_{\text{moderates}} = 330.12$ ,  $M_{\text{liberalDemocrats}} = 355.00$ ,  $F(2, 239) = 3.95$ ,  $p = .02$ ,  $\eta = .13$ , indicating that, averaging across both target groups, there were differences between participant political ideology/party groups in terms of how much they stereotyped.

These main effects were qualified by a significant participant political ideology/party X target political ideology/party interaction,  $F(2, 239) = 3.94$ ,  $p = .02$ ,  $\eta = .12$ . Although averaging across all participant political ideology/party categories, liberal

Democrats were stereotyped more than were conservative Republicans, this was, in fact, only true for conservative Republican and moderate participants; the mean stereotyping scores were nonsignificantly higher for conservative Republican targets than for liberal Democrat targets among liberal Democrat participants,  $t(241) = -0.27$ , *ns*. However, due to its nonsignificance and the small  $t$  value, this difference was inconsequential.

Although  $p = .04$  for the difference between the conservative Republican target and the liberal Democrat target among moderate participants, and  $t(241) = 2.13$ , with Bonferroni's correction that difference became nonsignificant because the critical alpha was changed to .017. With this criterion, the only significant difference between conservative Republican and liberal Democrat targets was among conservative Republican participants,  $t(241) = 3.10$ ,  $p = .002$ .

**Perceived entitativity.** Hypothesis 2 posited that mortality salience would cause increased perceived entitativity of both target groups. To test this hypothesis, the perceived entitativity scales were subjected to a 2 (mortality salience: mortality salient vs. TV salient) X 2 (target political ideology/party: conservative Republicans vs. liberal Democrats) X 3 (participant political ideology/ party: conservative Republican vs. moderate vs. liberal Democrat) mixed-model ANOVA. A significant main effect for mortality salience with greater mean perceived entitativity in the mortality salient condition than in the TV salient condition would have supported the hypothesis. However, that main effect was nonsignificant,  $M_{\text{MortalitySalient}} = 53.05$ ,  $M_{\text{TVsalient}} = 53.78$ ,  $F(1, 224) = 0.33$ , *ns*. This indicated that participants for whom mortality was salient did not perceive either more or less group entitativity than participants for whom TV was salient. Because of the nonsignificance of the main effect and interactions in which

mortality salience played a role, the analysis was rerun as a 2 (target political ideology/party: conservative Republican vs. liberal Democrat) X 3 (participant political ideology/party: conservative Republican vs. moderate vs. liberal Democrat) mixed model ANOVA. None of the main effects or interactions in this analysis were significant or marginally significant,  $F_s < 1.43$ , *ns*.

**Mediation analysis.** Hypothesis 3 predicted that perceived entitativity should mediate the expected relationship between mortality salience and stereotyping. The four-step mediation analysis technique developed by Baron & Kenny (1986) tested this hypothesis. The results of the regression for Step 1 of the analysis—the regression of stereotyping on mortality salience—for the conservative Republican target indicated that mortality salience did not predict stereotyping of conservative Republicans,  $b = -5.00$ ,  $\beta = -.03$ ,  $t(283) = -0.56$ , *ns*. In the regression for Step 1 for the liberal Democrat target, mortality salience did not predict stereotyping of liberal Democrats,  $b = -4.18$ ,  $\beta = .02$ ,  $t(283) = -0.39$ , *ns*.

In the regression for Step 2—the regression of perceived entitativity on mortality salience—for conservative Republicans, mortality salience did not significantly predict perceived entitativity of conservative Republicans,  $b = -1.78$ ,  $\beta = -.07$ ,  $t(276) = -1.21$ , *ns*. Likewise, in the regression for Step 2 for liberal Democrats, mortality salience did not significantly predict perceived entitativity of liberal Democrats in the second block,  $b = 0.71$ ,  $\beta = .03$ ,  $t(275) = 0.54$ , *ns*.

In the regression for Step 3—the regression of stereotyping on mortality salience and perceived entitativity—for conservative Republicans, controlling for mortality salience, perceived entitativity did not predict stereotyping of conservative Republicans,



$b = -0.08, \beta = -.01, t(273) = -0.21, ns$ . In the regression for Step 3 for liberal Democrats, after controlling for mortality salience, perceived entitativity of liberal Democrats significantly predicted stereotyping of that group,  $b = 2.60, \beta = .32, t(272) = 5.56, p < .001, R^2 = .10, F(2, 274) = 15.54, p < .001$ . Despite the significance of Step 3 for liberal Democrats, the mediation was not tested because of the nonsignificance of Steps 1 and 2. Similarly, the significance of Step 3 for conservative Republicans was not tested because Steps 1, 2, and 3 were nonsignificant.

Appendix B  
PANAS-X

The following questions are words and phrases that describe different feelings and emotions. Please read each item and then select the answer choice that indicates to what extent you feel that way **right now**.

1 = Very slightly or not at all, 2 = A Little, 3 = Moderately, 4 = Quite a bit, 5 = Extremely

1. Cheerful
2. Disgusted
3. Attentive
4. Bashful
5. Sluggish
6. Daring
7. Surprised
8. Strong
9. Scornful
10. Relaxed
11. Irritable
12. Delighted
13. Inspired
14. Fearless
15. Disgusted with self
16. Sad
17. Calm
18. Afraid
19. Tired
20. Amazed
21. Shaky
22. Happy
23. Timid
24. Alone
25. Alert
26. Upset
27. Angry
28. Bold
29. Blue
30. Shy
31. Active
32. Guilty
33. Joyful
34. Nervous
35. Lonely
36. Sleepy

37. Excited
38. Hostile
39. Proud
40. Jittery
41. Lively
42. Ashamed
43. At ease
44. Scared
45. Drowsy
46. Angry at self
47. Enthusiastic
48. Downhearted
49. Sheepish
50. Distressed
51. Blameworthy
52. Determined
53. Frightened
54. Astonished
55. Interested
56. Loathing
57. Confident
58. Energetic
59. Concentrating
60. Dissatisfied with self

*Note.* PANAS-X items were presented in random order.

### Appendix C Stereotyping Scale

Please answer the following questions about the opinions of conservative Republicans and liberal Democrats.

1. Some people say that because of past discrimination, Blacks should be given preference in hiring and promotion. Others say that such preference in hiring and promotion of Blacks is wrong because it gives Blacks advantages they haven't earned. What percentage of conservative Republicans supports giving Blacks preference in hiring and promotions?
2. Some people say that because of past discrimination, Blacks should be given preference in hiring and promotion. Others say that such preference in hiring and promotion of Blacks is wrong because it gives Blacks advantages they haven't earned. What percentage of liberal Democrats supports giving Blacks preference in hiring and promotions?
3. What percentage of conservative Republicans supports allowing illegal immigrants to remain in the U.S.?
4. What percentage of liberal Democrats supports allowing illegal immigrants to remain in the U.S.?
5. What percentage of conservative Republicans wants the government to be doing more?
6. What percentage of liberal Democrats wants the government to be doing more?
7. What percentage of conservative Republicans supports the recent "Occupy Wall Street" protests?
8. What percentage of liberal Democrats supports the recent "Occupy Wall Street" protests?
9. What percentage of conservative Republicans supports basing American laws on Christian values?\*
10. What percentage of liberal Democrats supports basing American laws on Christian values?\*
11. What percentage of conservative Republicans supports requiring religious schools and charities to provide employees with health insurance that includes free birth control?
12. What percentage of liberal Democrats supports requiring religious schools and charities to provide employees with health insurance that includes free birth control?

\*Question not used in analysis.

*Note.* Stereotyping scale items were presented in random order.

## Appendix D

### Perceived Entitativity Scale

Please answer the following questions about conservative Republicans and liberal Democrats.

1. Please rate the extent to which conservative Republicans qualify as a “group.”  
[Anchors: 1 = Not at all a group; 9 = Very much a group]
2. Please rate the extent to which liberal Democrats qualify as a “group.”  
[Anchors: 1 = Not at all a group; 9 = Very much a group]
3. Please rate how cohesive (in other words, united) a group liberal Democrats are.  
[Anchors: 1 = Not at all cohesive; 9 = Very cohesive]
4. Please rate how cohesive (in other words, united) a group conservative Republicans are.  
[Anchors: 1 = Not at all cohesive; 9 = Very cohesive]
5. Please rate how frequently conservative Republicans interact.  
[Anchors: 1 = Do not interact at all; 9 = Interact very frequently]
6. Please rate how frequently liberal Democrats interact.  
[Anchors: 1 = Do not interact at all; 9 = Interact very frequently]
7. Please rate the extent to which liberal Democrats are interdependent (in other words, that they rely on one another) to achieve their goals.  
[Anchors: 1 = Not at all interdependent; 9 = Very interdependent]
8. Please rate the extent to which conservative Republicans are interdependent (in other words, that they rely on one another) to achieve their goals.  
[Anchors: 1 = Not at all interdependent; 9 = Very interdependent]
9. When considering conservative Republicans as a group, please rate the extent to which individual conservative Republicans feel like part of the group.  
[Anchors: 1 = Do not at all feel like part of the group; 9 = Very much feel like part of the group]
10. When considering liberal Democrats as a group, please rate the extent to which individual liberal Democrats feel like part of the group.  
[Anchors: 1 = Do not at all feel like part of the group; 9 = Very much feel like part of the group]
11. Please rate how similar liberal Democrats are to each other.  
[Anchors: 1 = Not at all similar; 9 = Very similar]

12. Please rate how similar conservative Republicans are to each other.  
[Anchors: 1 = Not at all similar; 9 = Very similar]
13. When considering conservative Republicans as a group, please rate how important the group is to individual conservative Republicans.  
[Anchors: 1 = Not at all important; 9 = Very important]
14. When considering liberal Democrats as a group, please rate how important the group is to individual liberal Democrats.  
[Anchors: 1 = Not at all important; 9 = Very important]
15. Please rate how organized liberal Democrats are as a group.  
[Anchors: 1 = Not at all organized; 9 = Very organized]
16. Please rate how organized conservative Republicans are as a group.  
[Anchors: 1 = Not at all organized; 9 = Very organized]

Appendix E  
Demographic and Suspicion Check Items

1. What is your age?
2. What is your gender?  
[Male; female]
3. What is your ethnicity?  
[East Asian or Pacific Islander; Indian or Pakistani; Black/African-American; Hispanic/Latino; White/Caucasian; mixed race; other]
4. On a continuum from extremely liberal to extremely conservative, how would you describe your political beliefs?  
(1 = extremely liberal; 2 = liberal; 3 = slightly liberal; 4 = middle of the road; 5 = slightly conservative; 6 = conservative; 7 = extremely conservative; 8 = don't know)
5. Do you usually think of yourself as a Democrat, a Republican, an Independent, or something else?  
[1 = strong Democrat; 2 = moderate Democrat; 3 = independent Democrat; 4 = independent; 5 = independent Republican; 6 = moderate Republican; 7 = strong Republican; 8 = something else; 9 = don't know]
6. Which best describes your religious beliefs?  
[agnostic; atheist; Buddhist; Christian; Hindu; Jewish; Muslim; Other]
7. What was the purpose of this study?