



Evidence for the specificity of control motivations in worldview defense: Distinguishing compensatory control from uncertainty management and terror management processes

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ABSTRACT

Research inspired by the compensatory control model (CCM) shows that people compensate for personal control threats by bolstering aspects of the cultural worldview that afford external control. According to the CCM these effects stem from the motivation to maintain perceived order, but it is alternatively possible that they represent indirect efforts to bolster distally related psychological structures described by uncertainty management theory (self-relevant certainty) and terror management theory (death-transcendence). To assess whether compensatory control processes play a unique role in worldview defense, we hypothesized that personal control threats would increase affirmation of cultural constructs that specifically bolster order more so than constructs that bolster distally related structures. The results of 5 studies provide converging support for this hypothesis in the context of attitudes toward diverse cultural constructs (Study 1: national culture; Studies 2 and 3: consumer products; **Studies 4a and 4b**: political candidates). Also supporting hypotheses, uncertainty salience and mortality salience elicited greater affirmation of identity- and immortality-conferring targets, respectively, compared to order-conferring constructs. Discussion focuses on the value of different perspectives on existential motivation for predicting specific forms of worldview defense.

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A growing body of findings shows that threatening people's sense that they have control over outcomes in their life heightens reliance on sources of control outside the self. For example, personal control threats increase people's investment in a controlling God (Kay, Gaucher, Napier, Callan, & Laurin, 2008), political and institutional sources of order (Kay et al., 2008; Rutjens, van Harreveld, & van der Pligt, 2010), and even powerful enemy figures viewed as controlling negative life events (Sullivan, Landau, & Rothschild, 2010). These findings have been interpreted as providing support for the compensatory control model (CCM; Kay, Whitson, Gaucher, & Galinsky, 2009), which posits that perceiving the self as in control, and perceiving external systems as in control, are intersubstitutable means of maintaining a consistent level of perceived order (versus randomness) in one's environment. Put simply, the CCM views the perception that "I am in control" as functionally equivalent to the perception that "things, in general, are under control" for the purposes of maintaining perceived order and avoiding threatening cognitions about randomness.

Do compensatory control processes play a unique role in worldview defense?

Critically, the CCM posits that threatening personal control heightens compensatory control affirmation because external control sources are viewed as specifically lending *order* to one's environment (Kay, Gaucher, McGregor, & Nash, 2010). There are reasons, however, to question this account. Other theoretical perspectives on existential motivation propose alternative motivations underlying people's adherence to political ideologies, religious beliefs, and other aspects of their cultural worldview. All of these perspectives portray cultural worldview adherence as serving the individual's need to maintain a specific psychological structure, but they offer different perspectives on what that psychological structure is. According to terror management theory (TMT; Solomon, Greenberg, & Pyszczynski, 2004; Greenberg, Solomon, & Arndt, 2008), faith in a cultural worldview serves to maintain a psychological buffer against death-related anxiety by providing routes to symbolic or literal continuance beyond death. Uncertainty management theory (UMT; McGregor, Zanna, Holmes, & Spencer, 2001; van den Bos, Poortvliet, Maas, Miedema, & van den Ham, 2005) posits that cultural worldviews manage feelings of uncertainty about the self by providing definite conceptions of one's convictions and identity. Most recently, proponents of the meaning maintenance model (MMM; Heine,

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Proulx, & Vohs, 2006) claim that cultural worldviews serve the individual's need to maintain meaning (i.e., a network of expected relations). Importantly, empirical assessments of these theories show that threats to these psychological structures elicit worldview defense in ways that parallel the effects of personal control threats. For example, while personal control threats increase religious convictions (Kay et al., 2008), so does increasing the salience of mortality (Jonas & Fischer, 2006) and personal uncertainties (Hogg, Adelman, & Blaff, 2010).

What are the implications of this empirical overlap for the CCM? It may suggest that diverse psychological threats activate the same core motivation and, in this way, elicit essentially the same defensive reactions, with the implication being that personal control threats have no unique psychological significance. This possibility is suggested by Proulx and Heine's (2006) claim that the motivations proposed by TMT, UMT, and related perspectives to underlie worldview adherence and defense essentially represent varied manifestations of a single, highly general motive (for them, to maintain meaning), and that people can compensate for diverse threats in a "fluid" or indirect manner by affirming cultural constructs that bolster distally related psychological structures. Consistent with this claim is evidence that threats can elicit forms of worldview defense that have little superficial resemblance to those threats. For example, Proulx and Heine (2008) found that participants reacted to violations to expected relations in their visual perception by derogating a moral transgressor.

This work suggests that the previously reported effects of personal control threats on increasing compensatory control affirmation may not be specifically due to threatened perceptions of order and a consequent motive to restore order, as the CCM proposes; rather, these effects may be due to people's efforts to indirectly compensate for a personal control threat by affirming cultural constructs that bolster meaning, a certain identity, or a buffer against mortality concerns. Indeed, prior research assessing the CCM is especially vulnerable to this alternative interpretation because it has typically examined people's attitudes toward cultural constructs which are multifaceted and may be seen as facilitating the maintenance of diverse psychological structures. Belief in God and religious control, for example, may bolster perceived order, but it may also bolster the sense that life has purpose, or that death does not signal annihilation of the self.

Disentangling compensatory control effects

One empirical strategy for addressing this alternative possibility is to assess whether the effects of personal control threats on compensatory control affirmation are mediated by the increased salience of concerns with randomness, as the CCM posits. Accordingly, Kay et al. (2008; Study 2) found that the effect of a personal control threat on belief in a controlling God was mediated by heightened fears about randomness. However, even these findings are susceptible to the alternative interpretation under consideration. That is, even though control threats demonstrably increases randomness concerns, it could still be the case that people compensate for randomness concerns by affirming constructs (e.g., God) that bolster psychological structures other than order per se.

In order to test whether compensatory control affirmation stems specifically from a motive to maintain orderly perceptions of the world, we designed the current studies to empirically dissociate direct and indirect defensive responses to threat. For our current purposes, direct responses to threat involve the affirmation of cultural constructs that restore or bolster the threatened psychological structure, while indirect responses involve the affirmation of constructs that, through a process of fluid compensation, bolster a distally related psychological structure.

We theorized that insofar as the motivation to maintain a certain psychological structure uniquely contributes to worldview defense, people will be more likely to compensate for a given threat directly by affirming cultural constructs that specifically bolster the threatened psychological structure than they will be to compensate indirectly by

affirming cultural constructs that bolster a distally related structure. Alternatively, if the motivations posited to underlie worldview defense are traceable to a single, highly fluid motivation, then people should be equally likely to compensate for a given threat by means of direct and indirect defensive responses.

Based on this theorizing, we hypothesized that if the motivation to maintain order uniquely contributes to worldview defense in the form of compensatory control affirmation, then personal control threats (compared to other types of threat) should lead people to most strongly affirm cultural constructs framed specifically as restoring order. Conversely, personal control threats should have attenuated effects on affirmation of cultural constructs framed as bolstering distally related structures (e.g., symbolic immortality, identity). If, alternatively, compensatory control affirmation simply reflects a fluid means of bolstering psychological structures other than order, then personal control threats should have equally strong effects on the affirmation of cultural constructs framed as bolstering order as those framed as bolstering distally related structures.

We assessed this broad hypothesis in five experiments that compared the effects of different threats on different forms of worldview defense. Specifically, we compared personal control threats with either the salience of self-relevant uncertainties (Studies 1–3) or personal mortality (Studies 4a and 4b). We then assessed participants' attitudes toward their national culture (Study 1), consumer products (Studies 2 and 3), and a political leader (Studies 4a and 4b). Importantly, we manipulated whether the target cultural constructs were framed as bolstering order versus another psychological structure: a valued social identity (Study 1), a sense of personal uniqueness (Study 2), and routes to symbolic immortality (Studies 4a and 4b). In Study 3, we measured rather than manipulated the extent to which a target was seen as offering control.

These designs allowed us to make specific predictions about the effects of different threats on different forms of worldview defense on the basis the theories under consideration. Based on the CCM, we predicted that personal control threat, relative to other threat inductions, should lead to increased affirmation of cultural constructs that bolster perceived order. In contrast, control threat should have a weaker influence on attitudes toward the same constructs when they are framed as bolstering a valued social identity, enhancing personal uniqueness, or offering routes to symbolic immortality.

Similarly, based on UMT (McGregor et al., 2001) and TMT (Greenberg et al., 2008), we predicted that, relative to personal control threats, uncertainty salience would lead people to affirm cultural constructs that bolster a valued social identity and a sense of personal uniqueness and value, while mortality salience should lead people to affirm cultural constructs that afford opportunities to transcend death; however, these two threats should be less likely to heighten affirmation of cultural constructs framed as bolstering order. Support for these predictions would not only provide evidence that compensatory control affirmation reflects a distinct motive to maintain order; it would furthermore demonstrate the utility of comparing direct and indirect responses to threats for empirically teasing apart the roles played by different motive systems in contributing to worldview defense.

Before turning to the studies, it is important to clarify our conceptual claims in order to properly situate the current research in the existential motivational literature. At a broad theoretical level, we are not claiming that the motivation to maintain perceived order in the world is psychologically independent of the motivation to maintain certainty, meaning, or equanimity in the face of death. Nor are we questioning the usefulness of approaches that focus on identifying the psychological commonalities underlying different motive systems (e.g., McGregor, Nash, Mann, & Phills, 2010) or those that attempt to subordinate multiple motive systems under a general need (Proulx & Heine, 2006). Rather, we claim that, insofar as the motivation to maintain perceived order plays a unique role in worldview defense, then people will prefer to compensate for personal control threats by affirming cultural

constructs that specifically confer order. To the extent that this claim is supported in the current studies, it would suggest more broadly that the current emphasis on investigating the fluidity of defensive responses to threats can and should be complemented by mid-range theories of motivation (e.g., the CCM) that are capable of predicting specific forms of worldview defense.

Study 1

Based on the CCM, we hypothesized that a control threat will heighten affirmation of one's national culture because certain aspects of national culture, such as imposed rules and norms, lend order to everyday life and thereby compensate for perceptions of low personal control. UMT, on the other hand, posits that affirming one's national culture provides a certain sense of valued social identity, which serves to compensate for feelings of uncertainty about one's personal identity. It is possible, therefore, that contrary to the CCM, people fluidly compensate for control threat by affirming their national culture not because of the order it imposes but because of the certain social identity it provides. In other words, fluidly compensating for control threat may be just as preferable or effective as more direct routes to compensation.

As Fiske (2002) has noted, one's culture includes a wide host of variables, including "practices, competencies, ideas, schemas, symbols, values, norms, institutions, goals, constitutive rules, artifacts, and modifications of the physical environment." As such, observations that people bolster the value of their national cultural practices following threats other than just control threat may not necessarily indicate that all threats are equal, but instead simply reflect the multifaceted nature of "national culture." Therefore, it is possible that while affirming one's national culture may serve to satiate multiple motivations, specific components of national culture may be more important than others in satiating specific motives. To assess the merits of this prediction, and thus provide a stronger test that the motive to maintain order underlies worldview defense in the form of compensatory control affirmation, we hypothesized that a control threat would lead people to affirm their national culture specifically when it bolsters order, but not when it bolsters a distally related psychological structure, such as a valued social identity. In contrast, the salience of personal uncertainties should lead people to bolster their national culture when it is framed as conferring a valued social identity more strongly than when it is framed as conferring order.

In Study 1, we recruited Canadian participants and measured worldview defense in the form of affirmation of Canadian culture. We manipulated whether participants were exposed to a framing of Canadian culture that emphasized those aspects that confer order (socially prescribed norms for behavior) or those which confer personal identity (national history and heritage). Because social norms enforced by the nation serve to create social order, people in need of perceiving order may find solace in knowing that their culture enforces clear guides to behavioral norms, ensuring that other people will behave in predictable ways. As such, we predict that participants under control threat will be most likely to affirm this component of Canadian culture. On the other hand, emphasizing Canadian heritage, which is more explicitly tied to a valued personal identity, should not be as responsive to control threat, and should instead be increasingly affirmed following an uncertainty salience induction. Support for both hypotheses would provide evidence that the motives to maintain order and the motives to maintain a valued social identity play distinct roles in worldview defense.

Method

Participants and design

Seventy-five Canadian-born undergraduates (35 men, 40 women) participated for partial fulfillment of course requirements. We recruited only Canadian-born participants to ensure that: a) our Canadian-specific dependent variables would be relevant to the participants; and

b) that participants were uniformly thinking of Canadian culture when responding. Participation involved completing a set of questionnaires online. Participants were randomly assigned to conditions in a 2 (threat: control threat vs. uncertainty salience) \times 2 (national culture framing: order vs. value) design.

Threat manipulation

Participants first received either a control threat induction or an uncertainty salience induction, both of which were described as projective personality assessments. Participants in the control threat condition were asked to "please recall a particular incident in which something happened and you did not have any control over the situation. Please describe the situation in which you felt a complete lack of control—what happened, how you felt, etc." (Whitson & Galinsky, 2008).

Participants in the personal uncertainty salience condition completed an induction modeled after a "temporal discontinuity" induction used by McGregor et al. (2001; see also Hogg, Sherman, Dierselhuys, Maitner, & Moffitt, 2007) to induce personal uncertainty by focusing participants on the ephemeral nature of significant life events. Specifically, participants in this condition responded to two open-ended items: "Think about a memorable childhood possession that you do not have any more. Discuss your thoughts and feelings about not having this thing anymore, and where you think it is now," and "Think about a place or thing in your past that was important to you, and that you have fond memories of. Discuss the ways that this place or thing may have lost its specialness since then, and discuss your feelings about this."

Construct framing manipulation

Immediately following the threat manipulation was a questionnaire asking participants about their views toward Canadian culture. Participants in the order frame condition completed 7 items assessing their support for the social norms prescribed by Canadian society, such as "Canada's social norms are not for everyone" (reverse-scored), "It is critical that people closely follow social norms in order for the day to day aspects of society to run smoothly," and "I like to see people break the rules and do things that our society is not used to seeing" (reverse-scored). Responses were made on a 9-point scale (1 = *Strongly Disagree*, 9 = *Strongly Agree*) and were averaged to create a composite cultural affirmation score ($\alpha = .77$).

Participants in the value frame condition completed 7 items assessing their affirmation of Canada's heritage, such as "I find Canada's history and heritage to be fascinating," and "Our culture is mostly made up of played out stereotypes, as opposed to something that is deeper and more meaningful" (reverse-scored). Responses were also made on a 9-point scale and were averaged to create a composite cultural affirmation score ($\alpha = .88$).

Results and discussion

One-way ANOVAs tested the effects of threat induction on our measures of cultural support (see Fig. 1). Supporting predictions, when Canadian culture was framed as prescribing clear norms for conduct, participants in the control threat condition evidenced stronger affirmation of their national culture ($M = 5.63$, $SD = 1.16$) than did participants in the uncertainty salience condition ($M = 4.67$, $SD = .73$), $F(1, 37) = 8.79$, $p = .006$. In contrast, when Canadian culture was framed as offering a valued heritage, participants under uncertainty salience showed a marginally significant increase in cultural affirmation ($M = 5.88$, $SD = 1.57$) compared to participants under control threat ($M = 4.88$, $SD = 1.72$), $F(1, 36) = 3.51$, $p = .069$.

These results support our hypothesis that control threat and uncertainty salience uniquely contribute to worldview defense by increasing affirmation of a cultural construct framed as bolstering the specific psychological structure under threat. Participants under control threat (vs. uncertainty salience) showed stronger affirmation of their national culture when it was framed as conferring order through the

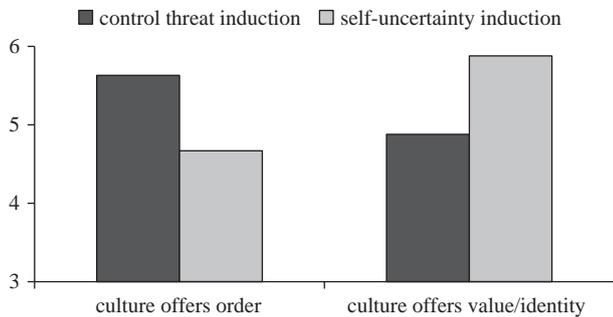


Fig. 1. Mean level of cultural affirmation as a function of threat condition and framing of Canadian culture (Study 1).

prescription of norms, as compared to when their culture was framed as bolstering a sense of collective value through a special and shared heritage. In contrast, uncertainty salient participants tended to affirm their culture when it offered a valued social identity, but not when it conferred order.

Study 1 does not include a baseline control condition, thus making it impossible to show any evidence of indirect/fluid compensation (e.g., the extent to which uncertainty salience increased support for cultural norms from baseline). While a baseline condition is included in Study 3, the general absence of this condition in our studies reflects our focus on providing evidence for the unique value of the CCM and the psychological preference for direct compensation, as opposed to arguing against the existence of indirect forms of compensation, which is clearly supported in the literature (e.g., Heine et al., 2006; Proulx & Heine, 2006, 2008). Therefore, Study 1 provides a clear test of our primary hypothesis: that control threats will have a distinct effect from uncertainty threats on order-conferring constructs. These findings provide initial evidence that worldview defense in the form of compensatory control affirmation stems from a motivation to maintain orderly perceptions of the world, and does not stem primarily from a motivation to maintain a valued social identity. We attempt to conceptually replicate this effect in Study 2 by testing the effects of control threat and uncertainty salience on feelings toward a consumer product framed as bolstering order versus a sense of personal uniqueness.

Study 2

Study 2 was similar in design to Study 1, but here the target cultural construct was a consumer product rather than the nation. Specifically, we chose to test our broad hypothesis in the context of exposure to advertisements for the iPhone, because popular marketing campaigns for it and similar products (e.g., the Blackberry) tend to focus on both the products' order-conferring benefits (e.g., providing a daily activities planner and reminders of important dates and times) and their identity-relevant benefits (e.g., providing an outlet for individual expression). In addition, rather than assessing explicit defense and endorsement as our dependent measure of interest (which is susceptible to demand characteristic interpretations), we examined the extent to which framing the iPhone as providing order versus identity engenders a) broad confidence in the self, and b) an increase in expected engagement with the phone. Previous research has demonstrated that individuals tend to feel better about themselves when they experience a match between the environment and a given motivational state. Also, when people are provided with the ideal means for goal attainment they tend to experience positive affective outcomes including enthusiasm, elation, and excitement (Carver & Scheier, 1990; Higgins, 2000, 2005). These prior lines of work suggest that examining differences in self-confidence and positivity is a useful way to assess whether the characteristics of a given cultural construct satisfy a particular motivation. More specifically, when people are confronted with a threat to a psychological structure, and are then asked to imagine owning an iPhone which has

characteristics that bolster that structure (vs. a distally related structure) they should a) feel more positively toward themselves and their ability to engage the world, and b) show an increased willingness to use the iPhone.

Based on the CCM we predicted that these outcomes would occur when people are under control threat and the iPhone is depicted as conferring order (by affording external control). Based on UMT we predicted that these outcomes would occur when people are under uncertainty salience and the iPhone is depicted as conferring a unique personal identity (by expressing individuality).

Method

Participants and design

Seventy-four undergraduates (30 men, 44 women) at a Canadian University participated in the current study, online, for partial completion of course credit. They were randomly assigned to conditions in a 2 (threat: control threat vs. uncertainty salience) × 2 (product framing: order vs. uniqueness) design.

Control variables

Participants were first asked to answer a series of questions about cell phone use, and questions about the iPhone, so that we could control for these sources of variance in participants' ratings of the iPhone following our manipulations. Participants responded to three items assessing their familiarity and interest in the iPhone (1 = *Not at all*, 9 = *Very*), and overall impression of the iPhone (1 = *Very negative*, 9 = *Very positive*). Responses to these items formed a reliable composite of positivity towards the iPhone ($\alpha = .85$). Participants were also asked whether or not they own an iPhone, and to rate the importance they place on owning a cell phone.

Threat manipulation

Next, participants were randomly assigned to complete either the control threat induction or the uncertainty salience induction described in Study 1.

Construct framing manipulation

Participants were then presented with one of two iPhone advertisements that we created using Adobe Photoshop. The advertisements were nearly identical in appearance, and efforts were taken to enhance their apparent legitimacy (no participant expressed suspicion about the advertisements during post-experimental interviews). Both advertisements contained a picture of the iPhone performing various functions against a backdrop depicting over 50 phone application icons. Critically, we manipulated the tagline at the bottom of the advertisements which played on the "there's an app for that" ad campaign. This iPhone campaign emphasized the many thousands of applications available for the phone, and the many functions it can perform (e.g.: "if you want to check how many calories there are in your lunch, there's an app for that").

Participants in the order frame condition read the tagline: "Directing your own life...there's an app for that." With an emphasis on "directing your own life," we intended to depict the iPhone as a provider of external control. In contrast, participants in the unique personal identity frame condition read the tagline: "Being your unique self, expressing your individuality...there's an app for that," thus emphasizing the iPhone as a means of asserting one's unique identity.

Participants were then asked to imagine how the phone would make them feel if they owned it by rating the seven adjectives that followed: good about myself, stable, inspired, secure, creative, ready to take on the world, like the kind of person who can get things done.¹ For each

¹ While adjectives such as "secure" may appear to be related to control, it could just as easily refer to being secure about one's self and identity as well. Again, the adjectives in our measure are intended to reflect positive affect following an increase in the perceived ability to strive toward goals and engage with the world.

adjective, participants described how the phone would make them feel on a 9-point scale (1 = *Strongly Disagree*, 9 = *Strongly Agree*). Scores on these items were averaged to form a composite measure of participants' positive self-feelings associated with owning an iPhone ($\alpha = .92$).

Finally, participants completed our measure of engagement with the iPhone. Participants were asked to rate "the extent to which you would engage in the following behaviors if you owned this phone." These behaviors included: "Spend time setting all of the options to meet my specific specifications and needs", "Use it to get important things done throughout the day, like send emails, look up information online, etc.", and "Load all of my music on it and create custom playlists." Ratings were made on a 9-point scale (1 = *Not at all*, 9 = *Very much*). Scores on these three items were averaged to form a composite score of expected engagement with the phone ($\alpha = .53$).

Results and discussion

Again, the prediction is that when the iPhone offers the acquisition of resources that are relevant to approaching situationally active existential motives (i.e., to maintain control vs. enhance uniqueness), the individual should feel increasingly better about themselves and her ability to engage with the world. Analyses were conducted on a residualized score of participants' average self-positivity, as well as a residualized average engagement score. The 3-item composite assessing participants' impression of the iPhone, along with whether or not they own an iPhone, and the importance they place on owning a cell phone, were submitted to regression predicting participants' mean level of positive feelings. The unstandardized residual from this analysis was saved, and then added to the grand mean. This same procedure was carried out on participants' engagement scores. These scores formed the dependent variables for subsequent analyses.

Feeling good about the self

A 2 (control threat vs. uncertainty salience) \times 2 (order frame vs. personal uniqueness frame) between-subjects ANOVA revealed no main effects, while the predicted interaction emerged, $F(1, 67) = 12.39$, $p < .01$ (adjusted means are depicted in Fig. 2). Supporting predictions, when the iPhone was framed as a source of external control, participants in the control threat condition felt more positive about themselves when they imagined owning the product ($M = 5.51$, $SD = 1.31$) than did participants in the uncertainty salience condition ($M = 4.59$, $SD = 1.17$), $F(1, 34) = 4.64$, $p = .04$. In contrast, when the iPhone was framed as a means of asserting one's unique identity, those in the uncertainty salience condition felt more positive when imagining owning the product ($M = 5.87$, $SD = 1.01$) than did participants in the control threat condition ($M = 4.68$, $SD = 1.58$), $F(1, 36) = 8.00$, $p < .01$. Pairwise comparisons also revealed that those in the control threat condition felt marginally more positive about the self when the phone offered external control ($M = 5.51$, $SD = 1.31$), as opposed to when it offered a unique identity ($M = 4.68$, $SD = 1.58$), $F(1, 37) = 3.28$, $p = .078$. In

contrast, those in the uncertainty salience condition felt more positive when the phone offered a unique identity ($M = 5.87$, $SD = 1.01$) as opposed to when it offered control ($M = 4.59$, $SD = 1.17$), $F(1, 33) = 12.04$, $p < .01$.

Engagement with the phone

A 2 (control threat vs. uncertainty salience) \times 2 (order frame vs. personal uniqueness frame) between-subjects ANOVA revealed no main effects, while the predicted interaction emerged, $F(1, 67) = 7.67$, $p < .01$ (adjusted means are depicted in Fig. 3). Supporting predictions, when the iPhone was framed as a source of external control, participants in the control threat condition saw themselves as marginally more likely to engage in using the phone ($M = 7.11$, $SD = 1.62$) than did participants in the uncertainty salience condition ($M = 6.08$, $SD = 1.71$), $F(1, 34) = 3.37$, $p = .075$. In contrast, when the iPhone was framed as a means of asserting one's uniqueness, those in the uncertainty salience condition saw themselves as significantly more likely to engage in using the phone ($M = 6.90$, $SD = .76$) than did participants in the control threat condition ($M = 6.19$, $SD = 1.12$), $F(1, 36) = 5.34$, $p = .03$. Pairwise comparisons also revealed that those in the control threat condition were more interested in engaging in iPhone use when the phone offered control ($M = 7.11$, $SD = 1.62$), as opposed to when it offered a unique identity ($M = 6.19$, $SD = 1.12$), $F(1, 37) = 4.13$, $p = .05$. In contrast, those in the uncertainty salience condition were marginally more interested in engaging in iPhone use when the phone offered a unique identity ($M = 6.90$, $SD = .76$) as opposed to when it offered control ($M = 6.08$, $SD = 1.71$), $F(1, 33) = 3.65$, $p = .065$.

As in Study 1, Study 2 illustrates the extent to which control motivations can be dissociated from other existential motivations. In this case, however, this was accomplished through comparing the extent to which imagining the same type of product (i.e., an iPhone) led to different feelings about the self, and one's desire to use the product, as a function of how the product was framed and which motive was made salient. Similar to past research (Heine, Harihara, & Niiya, 2002; Heine et al., 2008), we found that existential threats led to more positivity associated with a high-status product. However, this effect was moderated by the features of the product that were made contextually salient. When asked to imagine how they would feel if they owned the phone, those in the control threat condition felt better about themselves and their ability to engage with the world, and showed more interest in using the phone, when the iPhone was depicted as a provider of order and control, as compared to those in the uncertainty salience condition. In contrast, those in the uncertainty salience condition felt better about themselves, and showed more interest in using the iPhone, when the iPhone was depicted as an extension of one's unique identity. In other words, when participants imagined owning the iPhone, the positivity of their self-assessments and of the phone depended on the extent to which the phone was framed as satisfying the existential motivation currently under threat.

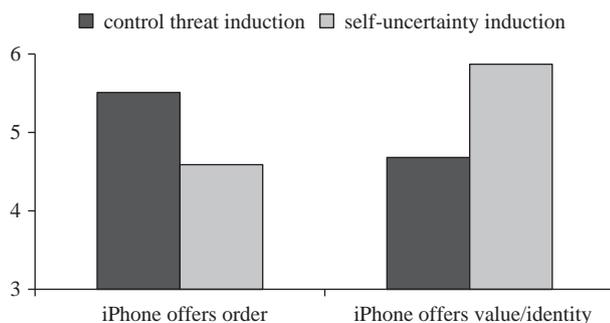


Fig. 2. Mean level of positive feelings after exposure to the iPhone as a function of threat condition and framing of the iPhone (Study 2).

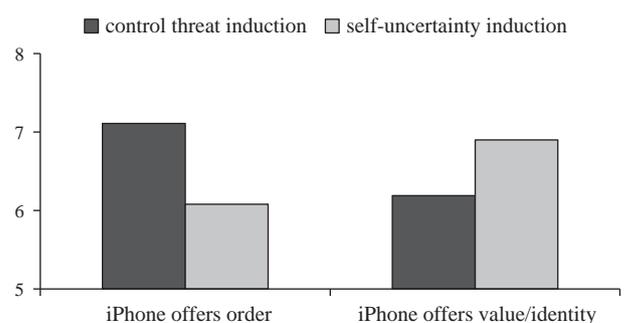


Fig. 3. Mean level of anticipated engagement with the iPhone after exposure to the iPhone, as a function of threat condition and framing of the iPhone (Study 2).

Study 3

Study 3 was designed to further test whether threats to perceived personal control increase the attractiveness of a control-affording targets relative to other forms of threat (i.e. value threat) or a no-threat condition, but via a distinct methodology—one that does not rely on experimental framing of the target cultural construct, but instead assesses the extent to which people who view a given outlet as more and less useful for navigating their lives will differentially endorse that outlet following control threat (vs. value threat and baseline conditions). First, participants generated as many uses for a pen as they could as a measure of its perceived functional utility—that is, the extent to which it is actually useful. Next, participants were asked to think of an important personal goal and then contemplate either uncertainties about how they can personally achieve that goal (control threat), whether achieving that goal would truly make their lives valuable (value threat), or the events that led them to have that goal (no threat). Finally, participants rated their liking for the pen. We predicted that, compared to the value threat and no threat conditions, control threat would increase liking for the pen if it is seen as affording high, but not low, functional utility.

Method

Participants

Sixty American undergraduates (27 male, 33 female) participated in a study purported to be about personality and opinions.

Functional utility measure

After completing two filler questionnaires included to bolster the cover story of the study, participants received a sheet of paper with the following instructions at the top: “In the space below, list all the uses you can think of for the pen you are holding in your hand.” A count of non-redundant uses constituted our functional utility measure.

Threat manipulation

Then, in an ostensibly unrelated task, participants were asked to write an important personal goal. The following page served as our threat manipulation. Participants in the control threat condition were asked to describe three uncertainties they have as to how they will be able to meet the goal they just described; those in the value threat condition were asked to describe three uncertainties about whether meeting their goal would actually make them a valuable person; those in the no threat condition listed three factors that led them to have their goal. In this way we could ensure that participants in the no threat condition spent an approximately equal amount of time contemplating their personal goal as participants in the threat conditions.

Object liking measure

Participants then completed a single item assessing their liking toward the pen: “How much do you like the pen you're using?” (1 = not at all, 7 = very much).

Results

We predicted that control threat would heighten participants' liking for the pen as a function of the pen's perceived utility. We tested this hypothesis by conducting a hierarchical regression that represented the three threat conditions by two dummy-coded variables, one that captured the control threat vs. value threat comparison and one that captured the control threat vs. no threat comparison (with the control threat condition serving as the reference group). Hierarchical analysis was used because the test of each main effect or interaction involving threat condition needed to be represented as two terms entered together on a single step. Thus, the interaction between utility scores and threat condition predicting pen liking is tested as the change in R^2 for the step of the analysis including two interaction terms: utility ×

control threat vs. value threat; utility × control threat vs. no threat. On Step 1 of the analysis, we entered utility scores (continuous and centered) and the two aforementioned dummy-coded variables. In Step 2 we entered the aforementioned terms representing the utility × threat condition interactions.

Neither the main effect for utility nor the threat condition terms reached significance ($ps > .20$). The inclusion of the interaction terms in Step 2 contributed significantly to our ability to account for variance in pen liking, $\Delta R^2 = .11$, $F(54) = 3.30$, $p = .04$.

We then examined the two interaction terms entered in Step 2. The term representing utility × control threat vs. value threat was significant, $\beta = -.46$, $SE = .19$, $t(54) = -2.30$, $p = .03$, indicating that utility scores predicted pen liking differently in the control threat and value threat conditions. We plotted this interaction in Fig. 4. Simple slope analyses revealed that utility scores were positively and significantly associated with pen liking in the control threat condition, $\beta = .61$, $SE = .14$, $t(56) = 2.53$, $p = .01$, but utility scores did not predict pen liking in the VT condition, $\beta = -.13$, $SE = .13$, $t(56) = -0.59$, $p = .56$.

The term representing utility × control threat vs. no threat was also significant, $\beta = -.43$, $SE = .19$, $t(54) = -2.25$, $p = .03$. In contrast to the control threat condition, utility scores were not predictive of pen liking in the no threat condition, $\beta = -.12$, $SE = .13$, $t(56) = -0.56$, $p = .58$.

We then examined the effects of control threat at 1 SD above and below the centered utility mean. At high levels of utility, control threat led to increased liking for the pen compared to both value threat ($\beta = .60$, $SE = 1.06$, $t(56) = 2.13$, $p = .04$) and no threat ($\beta = .69$, $SE = .91$, $t(56) = 2.72$, $p = .01$). At low levels of utility, there were no significant differences in pen liking between the three threat conditions ($ts < 1.29$, $ps > .21$).

Discussion

Only following a control threat did participants' liking of an object depend on its perceived functional utility, even though the pen was unlikely to restore control over one's personal goals in any literal sense. The control threat did not simply render participants more materialistic, because it only increased liking for the pen to the extent that the pen was viewed as functionally useful. As importantly, participants who contemplated uncertainties about whether their personal goal will confer value did not subsequently like a control-affording object any more than participants who were not under threat.

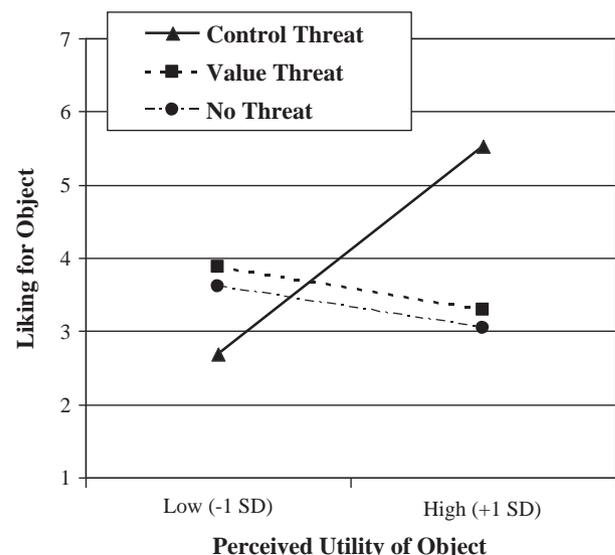


Fig. 4. Liking of pen as a function of condition and perceived utility of the pen (Study 3).

Study 4a

In *Study 4a*, we contrasted the effects of personal control threat with a different type of threat—mortality salience—and yet another target cultural construct—political leaders. Defending political leaders and maintaining perceptions of their integrity has been shown to be a consequence of the motivation to perceive control and order in the world (Banfield & Kay, 2011) and to allay fears associated with mortality (Landau, Greenberg, & Sullivan, 2009). Are these effects just two examples of the identical phenomenon? Or do control threats and mortality threats influence leader endorsement for distinct reasons? If processes of compensatory control are distinguishable from processes of terror management, and if people prefer direct (vs. indirect) responses to threats, then participants under personal control threat should more strongly prefer a candidate that espouses order, and participants under mortality salience should more strongly prefer a candidate that offers the opportunity to be a valued cultural member as a means of symbolically transcending death.

We tested these hypotheses in *Study 4a* by having participants read a statement in which, depending on condition, a politician portrays himself as either providing constituents with enhanced order and control in their lives or providing a means of identifying with a larger cultural entity that will survive one's individual death. If the motive to maintain order and the motive to manage mortality concerns are confounded or can be compensated for in a highly fluid manner, then a personal control threat and a mortality salience induction should engender parallel effects, leading to stronger positive attitudes toward the politician framed either as conferring order or symbolic immortality. If, however, these motive systems are dissociable, as we claim, then a control threat and a mortality salience induction should engender unique effects on attitudes toward the political leader as a function of how that leader is portrayed. Specifically, a control threat should engender more positive evaluations of a candidate who claims to offer control and order, while mortality salience should lead to more positive evaluations of a candidate who offers routes to achieving a lasting personal significance that survives death.

Method

Participants and design

Fifty undergraduates (24 men, 25 women, 1 unidentified) participated for partial fulfillment of course requirements. All participants were born or had spent most of their life in Ontario, Canada.

Threat manipulation

Participants were administered a packet of questionnaires. The order of questionnaires varied as a function of condition. In the mortality salience condition, participants first completed two open-ended items pertaining to one's death (used in prior TMT research; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989): "Please briefly describe the emotions that the thought of your own death arouses in you"; "Jot down, as specifically as you can, what you think will happen to you physically as you die and once you are physically dead." Participants were then asked to complete the sixty-item Positive and Negative Affect Schedule—Expanded Form (PANAS-X; Watson & Clark, 1992), and a neutral filler questionnaire. Inclusion of these latter two questionnaires allowed us to create a delay and distraction period between the mortality salience induction and the dependent measure, which has been shown in prior research to be necessary for the effects of explicit mortality reminders to emerge (see Arndt, Cook, & Routledge, 2004).

In the control threat condition, participants first completed the 60-item PANAS-X and a filler questionnaire followed by a control threat induction, since prior research shows that a delay period is not necessary for the effects of a control threat induction to emerge (e.g.,

Kay et al., 2008). In order to seek converging support for our broad hypothesis using slightly different methods, we replaced the control threat induction used in *Studies 1 and 2* with an induction used by Kay et al. (2008) to threaten perceived personal control. Specifically, this induction asks participants to briefly recall a positive event "that happened to you in the past few months that was not your fault (i.e., that you had absolutely no control over)." This manipulation has been shown to decrease perceptions of personal control, without affecting self-esteem or mood (Kay et al., 2008).

Construct framing manipulation

Participants were then told that they would read a statement ostensibly from an Ontario Member of Provincial Parliament (MPP) who is planning on running for Premier in Ontario in the next provincial election. Participants were told that "while it is too early yet for potential candidates to give a specific platform, candidates have begun to express their main goals for the province, which will likely guide their platform and policies." On the next page, participants were presented with a photo of the MPP, and a paragraph-long statement that ostensibly quoted him. Participants were randomly assigned to read one of two statements, with one addressing order and control needs, and the other addressing symbolic immortality needs. The order-conferring statement was as follows:

"I believe that Ontarians are living with too much uncertainty in their daily lives. Our economy is becoming more and more dependent on the markets of other nations, and with the troubles in the economy, many Ontarians are not sure where they will be living next year, or where they will be working. Worse still, many wonder if they even will be working a year from now. There are increasing concerns over how Ontarians will afford higher energy and housing costs, let alone the seemingly random fluctuations in gas and food prices. Overall, many Ontarians sense an instability and disorder in their lives that is unsettling. I have fought for such Ontarians, and if elected Premier, I will continue to do so. I believe that we need practical leadership. Leadership that will get a hold of an economy that is falling out of our hands. We need leadership that will bring order and stability to the daily life of Ontarians, where the average citizen does not need to stress over how they will manage their lives. As the premier of Ontario, I would make it my duty to make sure that people are taken care of. I will strive to secure the jobs in Ontario, and to keep the economy in check. Ultimately, under my leadership, I want to look after your concerns, and your worries today to benefit your life now."

The "symbolic immortality" statement read:

"Ontarians need not feel like they are a part of a second rate society, or a province that is just 'good enough.' My vision for Ontario is one of an enduring legacy. I want Ontarians to feel proud to be Ontarians. I want the citizens of Ontario to feel good knowing that they are valued as contributing members of society, and that they can play a valuable role in society and our economy, regardless of their career or 'status.' Everyone has something to contribute, and I believe that emphasizing that will ultimately advance Ontario's economy and our quality of life. Ontarians need to be allowed to live their lives in the way that works for them and society, and it is our job to support our citizens in what they do, to give them incentives to pursue their educational and occupational goals. Through this, we can all play a vital part in creating a society that can lead us successfully into the future; after all, I don't just want to help the Ontario of today, I want to help the Ontario of tomorrow. This approach is how I envision my time as premier of Ontario, because during this critical time in our history, and the issues that we face, I want future generations to look back on us positively in knowing that we worked to create a society that would not only benefit ourselves, but generations to come. Our

children and grandchildren should be able to feel a sense of pride and appreciation toward us, not disdain.”

As can be seen, both statements provide a framework for how to deal with practical and economic issues currently facing the country. However, while the former affords enhanced order by claiming to deal with “randomness” and “unpredictability” through controlling the economy and securing jobs, the latter affords the opportunity to identify with a larger cultural entity that will ensure the enduring significance of their lives.

After reading the statement, participants completed sixteen items assessing their evaluation of the candidate and the candidate's plan for the province. Items tapped into the extent to which participants agreed with the candidate's plan for the province (e.g., “His plan for Ontario should benefit the province”, “I liked the direction that he wants to take Ontario in”, “If he was the Premier, good things would happen in the province”), and approved of him as a leader (e.g.: “He seems to have good character”, “He was well spoken”, “He ‘looks’ like a leader”). Responses were made on a 9-point scale (1 = *Strongly Disagree*, 9 = *Strongly Agree*). The sixteen items formed a highly reliable composite ($\alpha = .95$).

Results and discussion

A 2 (condition: control threat vs. mortality salience) \times 2 (leader framing: order vs. symbolic immortality) between subjects ANOVA was conducted on evaluations of the leader. No main effects emerged, but the predicted significant two-way interaction reached significance, $F(1, 46) = 9.41$, $p = .004$ (relevant means are depicted in Fig. 5). When the candidate's plan for the province focused on creating order and stability, participants in the control threat condition were more favorable toward the candidate ($M = 6.58$, $SD = 1.07$) than those in the mortality salience condition ($M = 5.36$, $SD = 1.50$), $F(1, 23) = 5.40$, $p = .03$. In contrast, when the candidate's plan for the province focused on offering people death-transcending significance, those in the mortality salience condition showed more favorable evaluations of him ($M = 6.00$, $SD = 1.12$) than those in the control threat condition ($M = 5.17$, $SD = .93$), $F(1, 22) = 4.03$, $p = .057$. In addition, pairwise comparisons revealed that those in the control threat condition liked the order-conferring candidate ($M = 6.58$, $SD = 1.07$) more than the “symbolic immortality” candidate ($M = 5.17$, $SD = .93$), $F(1, 23) = 11.91$, $p = .002$, while there was a non-significant trend for those in the mortality salience condition to like the “symbolic immortality” candidate ($M = 6.00$, $SD = 1.12$) more than the order-conferring candidate ($M = 5.36$, $SD = 1.50$), $F(1, 24) = 1.52$, $p = .23$.

The results of Study 4a provide further evidence for the incremental value of the compensatory control model in explaining worldview defense. This was achieved using a different manipulation of personal control from that of our other studies, as well as a different comparison condition. Consistent with the CCM, this study showed that those who have a heightened need to perceive things as generally in control are more likely to affirm external sources of control and

order, while being relatively indifferent to affirming cultural constructs that bolster other psychological structures. Following a control threat, participants were more favorable toward the political candidate when he specifically addressed their control-related needs, as compared to those in the mortality salience condition, who instead showed increased concerns for symbolic immortality (for related research, see Rutjens & Loseman, 2010)².

There is, however, one important limitation to Study 4a. Study 4a attempted to test both the CCM and TMT according to their methodological conventions: dozens of TMT studies show that the effects of an explicit mortality reminder on defense of the cultural worldview (and self-esteem) occur when there is a delay and distraction period between the induction and the dependent variable assessment, and furthermore shows that mortality salience produces distinct and in some cases diverging effects depending on whether there is a delay or not (e.g., Routledge, Arndt, & Goldenberg, 2004). In contrast, studies testing CCM have shown that the effects of personal control threats on compensatory control affirmation do not depend on a delay. Therefore, in Study 4a we included a delay following mortality salience, but not personal control threats, in order to maximize the chances of both types of induction to produce reliable effects on worldview defense.

However, this experimental design also introduced new differences between our conditions—namely, whether or not there is a delay, and the order in which participants completed the PANAS-X and filler questionnaire. As such, it is possible that this confound, and not the different motivational states, is the reason why participants in the mortality salience condition did not show similar effects to those in the control threat condition on attitudes towards the order-conferring leader. Although this interpretation is rendered somewhat less plausible by the fact that the mortality salience manipulation did exert a strong effect when the leader was framed as providing symbolic mortality, given this is the only experiment that compares control threat to mortality salience, we thought it prudent to include an additional study—Study 4b—that addresses this potential confound.

Study 4b

In Study 4b we sought to replicate the finding that threats to personal control, compared to mortality salience, will lead participants to more positively evaluate a political candidate who explicitly emphasizes a goal to establish order. But, given that this experiment was designed to address a specific potential confound from Study 4a—namely, that the PANAS was administered following the mortality salience condition but not the control threat condition—some changes were made to our experimental design. In Study 4a, we included the 60-item PANAS so as to ensure a lengthy delay in the mortality salience condition, since past research suggests this is necessary when using the typical mortality salience induction (Arndt et al., 2004). Recent research, however, has established that if a shorter version of the mortality salience induction is used, a lengthy delay is not necessary to obtain reliable mortality salience effects (Dechesne et al., 2003; Landau & Greenberg, 2006). We therefore employed this shorter manipulation instead of the longer mortality salience manipulation used in Study 4a, and introduced a short delay (an abridged, 20-item version of the PANAS) to both the control threat and mortality salience conditions. Doing so provided a means for comparing the two threats without a significantly longer delay in only one condition. It also allowed us to

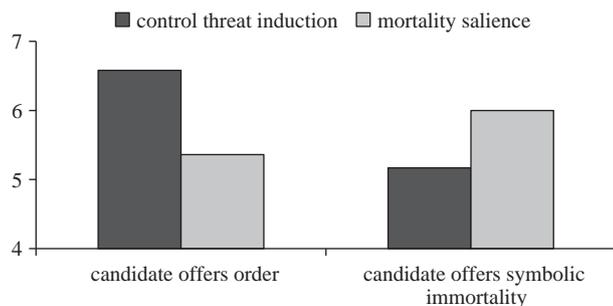


Fig. 5. Mean support for candidate as a function of threat condition and framing of the politician's statement (Study 4a).

² Rutjens and Loseman (2010) assessed the differential effects of an ego-depletion induction (interpreted as a manipulation of personal control) and a mortality salience induction on worldview defense. However, this research contrasted the effects of control and terror management needs on entirely different means of worldview defense rather than the same domain, as we have done here, and also did not threaten personal control, specifically.

ensure that participants in the mortality salience condition and control threat condition responded to identical items in the delay period. Finally, because this study was only conducted to rule out a specific alternative interpretation from Study 4a—namely, that the mortality salience manipulation did not increase endorsement of the order-conferring leader to the same extent as the control threat manipulation because participants in the former condition experienced an extra long delay and a mood measure (that participants in the latter condition did not experience) before measurement of the dependent measure—we only assessed attitudes towards the order-conferring leader in this study.

Method

Participants and design

Thirty-five undergraduates (15 men, 19 women, 1 unidentified) participated for partial fulfillment of course requirements. All participants were born or had spent most of their life in Ontario, Canada.

Threat manipulation

Our control threat manipulation was the same as in Study 4a. To induce mortality salience, participants were asked to “Please write down the first sentence that comes to your mind when thinking about your own death” (Dechesne et al., 2003; Landau & Greenberg, 2006). In both conditions, the manipulation was followed by the twenty-item PANAS (Watson, Clark, & Tellegen, 1988).

Dependent measure

Participants then read the same order-conferring political statement and completed the same items assessing their evaluation of the politician as in Study 4a.

Results and discussion

A one-way ANOVA was computed to test if those in the control threat condition supported the order-conferring leader more than those in the mortality salience condition. Replicating the pattern of results from Study 4a, control threat led to higher evaluations of the order-conferring leader ($M = 6.02$, $SD = 1.05$) than did mortality salience ($M = 5.13$, $SD = 1.33$), $F(1, 33) = 4.81$, $p = .035$.

General discussion

Across five studies, we provide converging evidence for a central tenet of the compensatory control model that, until now, has yet to be directly tested: that the substitutability between personal and external sources of control and order represents a unique motivational process that is not merely redundant with other models of threat and affirmation. Although control, self certainty, and mortality threats each exerted significant or near-significant effects on affirmation of the same broad categories of cultural constructs (nation, consumer products, political figures) across all of our studies, these effects were moderated by the specific aspect of these broad categories that we experimentally isolated. In Study 1, we isolated the aspects of one's national culture that provide order and control (i.e., social norms and rules), and those that provide a valued personal identity (i.e., heritage and history). When one's national culture was framed as a set of rules and norms that guide behavior, it was affirmed more vociferously following control threat than following the salience of personal uncertainties; when it was framed as providing a unique heritage and history, uncertainty salience tended to have a stronger effect on national affirmation.

In Study 2, when a high-status product was framed as providing order and structure to people's lives, people under control threat (vs. uncertainty salience) felt more positively about themselves when they imagined owning that product, and showed more interest in using the

product; when the same product was framed as providing an opportunity for enhancing personal uniqueness, the reverse was true. Study 3 built on these results, showing that when even an object as simple as a pen is seen as showing high utility, people like it more when personal control is threatened as opposed to one's sense of value. Study 3 also introduced a baseline condition with which to compare our results. In this particular instance, no evidence of fluidity or indirect affirmation was found, in that no differences were found between the value threat and no threat conditions.

Study 4a found further support for the incremental value of the CCM in the context of comparing control threat effects with mortality salience effects. When a politician espoused an ideology that prioritized the establishment of order, he was rated as more likable following a control threat than a mortality threat; when he espoused ideals that prioritized values that were more directly related to symbolic immortality, the reverse was true (also see Rutjens & Loseman, 2010). Finally, Study 4b replicated the differential effects of control threat and mortality salience on evaluations of an order-conferring leader, holding delay type and length constant across conditions.

Taken together, the findings from these five studies represent the first experimental evidence that control threat engenders a unique search for compensatory resources that specifically re-establish order. In the absence of such evidence, it is possible to interpret previous empirical demonstrations of compensatory control affirmation as the result of control threat inductions activating other motive systems that have been implicated in similar threat-affirmation processes. By isolating specific aspects of broad cultural constructs, we were able to demonstrate that while control threat and other types of existential threat can all heighten efforts to affirm aspects of one's cultural worldview, the effects of these individual threats appear to be tuned to the specific aspects of these domains that most directly match the threat.

It is important to note that this does not suggest that accounts that seek to integrate these various effects into one over-arching model are incorrect (Heine et al., 2006; McGregor, 2006; McGregor et al., 2010). We did not seek to demonstrate that control threats have *no* effect on the defense of superficially unrelated cultural constructs, or that the affirmation of order-conferring constructs occurs *only* in response to control threat. Rather, what we have observed here is that compensatory control threat effects, in general, are strongest when the compensatory resource directly addresses control and order concerns. As such, the current findings support the unique, incremental value of the CCM – insofar as it demonstrates that compensatory control processes can be distinguished from identity-maintenance and terror management processes. The current results provide evidence that more direct means of compensating for threat are more effective than indirect strategies for managing threat, thus implying that motive systems related to existential concerns can be differentiated from one another, despite overlapping effects across research, and any common ground that various motive systems might share.

The relative benefits of integrative vs. proximal models of threat and defense

Proponents of TMT have argued that the need to shield the self from the anxiety engendered by the awareness of one's mortality not only plays a major role in diverse social psychological phenomena (e.g., adherence to cultural meaning systems and the striving for self-worth), but also serves as a “core motive” underlying other, more specific psychological motives (Greenberg, Solomon, & Pyszczynski, 1997). Although this claim has been met with criticism (see *Psychological Inquiry*, 1997, Vol. 8) it is substantiated by a large and growing body of empirical evidence. The MMM (Heine et al., 2006) represents the same theoretical approach toward integration of motive systems, but it posits that the need to maintain meaning (i.e., orderly relations in the world), rather than equanimity in the face of mortality, underlies the various existential threats that have been identified in the threat-affirmation

literature. As a final example of emerging trends toward motive unification, McGregor et al. (2010) proposed that compensatory reactions to threat—regardless of the source of the threat—can be understood as reflecting the same underlying motive for approach or “promotion focused” reactions. From this perspective, the specific content of the threat is irrelevant; the focus is instead on the self-regulatory system that has developed to help people cope with threats.

Although these theoretical models are distinct in important respects, they all carry the implication that the compensatory control phenomena observed in past research (Kay et al., 2008, 2009; Sullivan et al., 2010) reflects the operation of a more basic or fundamental motive system. We do not dispute this claim or take issue with the models just discussed. Given the breadth of these models, it is entirely feasible that the motive to maintain perceived order can be subsumed under a more general framework. We do contend, however, that if adopted too zealously, this current unifying zeitgeist in the literature runs the risk of obscuring the utility of more proximal models of threat and affirmation, such as the CCM. As the data presented here vividly illustrate, control threats do sometimes exert measurably distinct effects on worldview defense when compared to other, related threats. Thus, while there may be important commonalities between the processes that underlie all forms of threat and affirmation phenomena, they can also be distinguished from another, at least when measuring their explicit manifestations. To continue advancing our understanding of the contextual precursors to a range of motivated beliefs, therefore, we believe it is important to continue investigating people’s specific needs for order and control, the social and cultural contexts that heighten these needs, and the extent to which various worldviews and belief systems satiate them.

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