
Does Threatening Valued Components of Cultural Worldview Alter Explicit and Implicit Attitudes About Death?

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ABSTRACT - The goal of the present study was to test the hypothesis derived from Terror Management Theory, that cultural worldview acts as a buffer against death anxiety. University students ($N = 76$) were randomly assigned to read either an essay that described marriage as an antiquated and untenable social institution, an essay that described America's status as world superpower as transitory, or a no threat control essay about the difference between an encyclopedia and a dictionary. Next, all participants completed the revised Death Anxiety Questionnaire and a version of the Implicit Association Test that measured the degree to which they associated death more with self or other people. Worldview threat did not affect participants' explicit death anxiety but participants in the marriage threat condition did show greater implicit death concern than those in the control condition. Implications for future research on Terror Management Theory are discussed.

The goal of the present study was to further examine the premise put forth in Terror Management Theory (TMT; Pyszczynski, Greenberg, & Solomon, 1997) that cultural worldview acts as a buffer against death anxiety. If cultural worldview acts as a buffer against death anxiety then threatening valued aspects of cultural worldview ought to weaken this buffer making people more prone to mortality related anxiety. Although cultural worldviews have many components, the present study focused on romantic relationships and national identity because these have been the most extensively studied in previous literature (cf., Solomon, Greenberg, & Pyszczynski, 2004).

Terror Management Theory

In TMT, Solomon, Greenberg, and Pyszczynski (1991) posit that people are in the unique but perhaps unenviable position of being driven by a goal for

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continued existence (a drive shared with all other animals) while saddled with the specifically human knowledge that this goal is ultimately unsustainable. From the perspective of TMT, the recognition that personal extinction is at some point inevitable and always possible could produce a state of hyper-vigilant anxiety (terror) that if left unchecked by some psychological defense mechanism would interfere with daily functioning to such an extent as to be completely debilitating. These theorists further asserted that people are able to function in day-to-day life with little concern about death because of a psychological buffer composed of cultural worldview and self-esteem that ameliorates death anxiety. Cultural worldview and self-esteem offer a symbolic protection against death by allowing people to view themselves as important contributors in the grand scheme of a meaningful universe.

Two experimentally testable hypotheses have been derived from TMT. The first, called the mortality salience hypothesis, states that reminders of personal death should intensify strivings for self-esteem and enhance the vigor with which people defend the validity of their particular worldview. The second, called the anxiety buffer hypothesis, states that lowering self-esteem or damaging the validity of cultural worldview should result in increased anxiety.

Evidence supporting the mortality salience hypothesis

Although there is a large body of research showing that subtle reminders of death increase cultural worldview defense in a number of diverse domains, the most commonly assessed are national identity and personal relationships (cf., Solomon et al., 2004). Among American university students, reminders of mortality have been repeatedly demonstrated to increase liking for those who praise America and decrease liking for those who criticize America (Arndt, Greenberg, Pyszczynski, & Solomon, 1997; Greenberg et al., 1990; Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). Further, mortality salience has been shown to increase relationship strivings (Taubman Ben-Ari, Findler, & Mikulincer, 2002), increase the desire for intimacy with a romantic partner (Hirshberger, Florian, & Mikulincer, 2003), and to lower standards as to what is acceptable in a potential mate (Hirshberger, Florian, & Mikulincer, 2002). Taken together this evidence suggests that personal relationships and national identity are valued components of most people's cultural worldview and that reminders of mortality prompt people to enhance those components of their worldview in order to ward off death anxiety.

Evidence supporting the anxiety buffer hypothesis

If cultural worldview acts as a buffer against death anxiety then threatening the validity of a person's cultural worldview should make them more prone to experience death anxiety. Support for this hypothesis regarding personal relationships comes from the findings that both thinking about problems in relationships and imagining separation from a romantic partner lead to increased

accessibility of death thoughts and consequently greater potential for death anxiety (Florian, Mikulincer, & Hirshberger, 2002; Mikulincer, Florian, Birnbaum, & Malishkevich, 2002).

Goals of the Present Study

The present study aimed to show that threatening valued components of cultural worldview results not just in increased death thought accessibility but also in increased actual concern about death. This is an important distinction that requires further clarification. In their most recent reformulation of TMT, Greenberg, Arndt, Simon, Pyszczynski, and Solomon (2000) describe a temporal sequence involving two types of defenses to assuage terror of death.

Proximal defenses are enacted immediately when thoughts of death enter conscious awareness. These proximal defenses involve attempting to suppress the unwanted thoughts of mortality or to distract one's self from them by reasoning that death is a distant future event that need not be of concern at present. While these initial responses allow one to put off anxiety for the time being, they have the ironic effect of making thoughts of death hyper-accessible over time or with distraction (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). What is needed is then some mechanism that not only postpones death anxiety but that dissipated death related thoughts altogether. Cultural worldview defense has been identified as such a mechanism. Participants reminded of death and then distracted showed an increase in death thought accessibility but participants reminded of death who were allowed to defend their cultural worldview by derogating those who criticized the US showed no such increase (Greenberg, Arndt, Schimel, Pyszczynski, & Solomon, 2001).

Based on these findings, previous researchers have deemed death thought accessibility an adequate means of testing the death anxiety buffer. For example, if personal relationships act as buffer against death anxiety then threatening them should increase the accessibility of death related thoughts making it more likely that these thoughts will enter consciousness and cause actual anxiety if not dissipated by some distal defensive response. However, the author of the present study asserts that it is also important to demonstrate that threatening cultural worldview leads to an increase in actual anxiety when participants are forced to confront their mortality.

The problem with using self-reported measures to assess the anxiety buffer hypothesis is that people may under-report the anxiety they actually feel which in itself would be a form of proximal defense. Stated differently, when thoughts of death are made conscious by the task of completing a death anxiety measure, participants may attempt to reduce the anxiety the task engenders by suppressing death concerns or focusing on the temporal distance of death, both of which are likely to result in biased responding. To circumvent this problem, the present study utilized the Implicit Associations Test (IAT, Greenwald, McGhee, & Schwartz, 1998). The IAT assesses the mental association between two target

concepts by measuring the relative speed with which people can respond while pairing two concepts with a particular response. The IAT is a robust and well-replicated procedure that has been used to measure individual differences in a wide array of domains (cf., Greenwald & Nosek, 2001).

Bassett and Dabbs (2003) used the IAT to measure the mental link between death and self versus other people. These researches found that implicit denial of death (as evidenced by faster reaction times when pairing death with other people) was associated with greater self-reported death anxiety as well as less interest in donating blood, having a living will or making pre-arrangements for one's funeral. This same measure was used in the present study along with a self-report measure of death anxiety. It was hypothesized that threats to cultural worldview would result in lower self-reported death anxiety, representing a form of proximal defense, but in greater implicit denial of death as measured by the IAT.

Method

Participants

Participants were 76 students enrolled in introductory psychology classes at Southeastern Louisiana University. Participants received credit towards the partial fulfillment of a class research participation requirement. Of the participants, 56 were women 19 were men and 1 failed to respond to the gender item. Further, 17 participants identified their race as Black, 1 as Hispanic, and 58 as White. The mean age of participants was 21.4 years ($SD = 6.3$).

Materials and Procedure

Participants arrived one at a time to a social psychology laboratory where they were informed that the experiment was investigating the relation between personality and language skill. After signing consent forms, participants completed a packet of questionnaires containing the 36-item Experience in Close Relationships Scale (ECR; Brennan, Clark, & Shaver, 1998), four items taken from the Collective Self-Esteem Scale (Luhtanen & Crocker, 1992) modified to measure the importance of being an American to participant's self-concept (e.g., "Being an American is an important reflection of who I am"), and some questions assessing demographic information. Next participants were presented with a page labeled "reading comprehension task" with the instructions that they should read the passage carefully and that they might be asked questions about it later in the experiment. Participants were randomly assigned to read one of three passages (nationalism threat, marriage threat, or no threat control). All passages were similar in length containing about 280 words. The no threat control passage was a description of the difference between dictionaries and encyclopedias (Whitcut, 1996). The nationalism threat essay was compiled from modified excerpts from an essay describing threats to America's status as the sole world superpower (Kupchan, 2002) and from a letter by John Adams

describing the transient nature of governments in general (McCullough, 2001). The marriage threat was modified from an essay describing marriage as an untenable and outdated social institution that restricts personal freedom (Kipnis, 2003).

After reading the essay, participants completed measures of both explicit and implicit death concern. Explicit death anxiety was measured using the revised Death Anxiety Scale (DAS-R) a widely used measure of death anxiety with established reliability (Chronbach's $\alpha = .83$; Thorson & Powell, 1994). Implicit death concern was assessed using a version of the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998). The IAT is typically administered on a desktop computer, but in the present study we used a Palm Pilot administration of the IAT described by Dabbs, Bassett, and Dyomina (2003). The desktop computer IAT has a split half reliability of .9 (Greenwald & Nosek, 2001) and a test-retest reliability ranging from .17-.50 (Cunningham, Preacher, & Banaji, 2001). The Palm Pilot IAT showed reliability comparable to the desktop administration (Dabbs, Bassett, & Dyomina, 2003). The Palm Pilot task measured the relative speed with which participants could respond when pairing death-words (death, die, dying) with self-words (me, my, mine) versus when pairing death-words (death, die, dying) with other-words (they them theirs). Support for the construct validity of this measure comes from the fact that it has been demonstrated to distinguish between mortuary and university students and to correlate with self-reported death concerns (Bassett & Dabbs, 2003).

The order of completing the dependent measures was counterbalanced with one half of participants completing the DAS-R before the IAT task and the other half of participants completing the IAT task before the DAS-R. All participants performed the IAT tasks in the same order, first pairing death with others and then pairing death with self. This order was selected because previous research suggests stronger IAT effects when the compatible condition is performed before the incompatible condition (Greenwald, McGhee, & Schwartz, 1998).

Results

The first set of analyses focused on the DAS-R measure of explicit death anxiety. The DAS-R scores were subjected to a treatment x gender x order ANOVA. Although none of the effects reached statistical significance, there was a marginally significant main effect for treatment, $F(2, 63) = 2.6, p = .08$, with participants reporting nominally less death anxiety in the national threat ($M = 48.1, SD = 16.7$) and marriage threat ($M = 41.9, SD = 21.3$) conditions than in the control condition ($M = 55.4, SD = 20$).

The second set of analyses focused on the IAT measure of implicit denial of death. The IAT scores were subjected to a treatment x gender x order ANOVA. The results revealed only an omnibus main effect for treatment, $F(2, 63) = 3.7, p < .05$. Tukey-Kramer post hoc comparisons revealed that participants in the

marriage threat condition ($M = 55.4, SD = 16.5$) showed greater implicit denial of death than did participants in the control condition ($M = -13.8, SD = 16.2$). No other comparisons were statistically significant.

Discussion

The results of the present study offer further support for the death anxiety buffering function of personal relationships. Participants who read the marriage threat essay showed greater denial of death on the IAT measure. Although the effect of essay on self-reported death anxiety did not reach statistical significance, it was in the predicted direction, with the marriage threat essay producing less death anxiety than the neutral essay. Taken together, this pattern of results seems to indicate that when a valued component of cultural worldview (marriage) is threatened, people are more vulnerable to the existential terror associated with acknowledging personal mortality. Consequently, people enact proximal defenses to manage this terror by denying their vulnerability to death. This interpretation is limited by the fact that no data on the importance of marriage were collected in the present study. Although the author assumes that disparaging marriage represented a threat to a valued component of cultural worldview, there is no direct evidence that participants valued marriage, leaving open an alternate interpretation that the marriage threat impact death attitudes for some other reason.

In contrast to the large body of literature showing that reminders of death increase nationalistic bias and that defending one's national identity leads to the dissipation of death related thoughts (Arndt, Cook, & Routledge, 2004), threat to national identity in the present study had no impact on death concerns. This incongruence likely stems from the nature of the national identity threat used in the present study. The idea that America's status as the dominant global power will be compromised likely seemed too alien or distant a notion. The failure to demonstrate that threatening national identity leads to increased death related concerns might be remedied in future research by using a more immediate threat (such as reading criticism of the US for being excessively greedy).

Although the results of the present study were only partially consistent with the hypotheses, they do add an important piece of support to TMT because they represent the first demonstration that threatening worldview leads to an increase in denial of death rather than just increased death thought accessibility. There are some important implications of this difference, particularly in the current political environment in which not only is death particularly salient but America is garnering increasing disfavor abroad. For as Pyszczynski, Solomon, and Greenberg (2003) noted, the September 11th terrorist attacks represented a psychological double whammy because not only did they make mortality extremely salient they also undermined an important component of our death anxiety buffer by threatening America's status as a nation so great as to be immune to such attacks. These authors further argued that the ensuing increase

in patriotism could be interpreted as cultural worldview defense in response to mortality salience. However, there is another side to the coin. A perceived weakening in America's strength could also leave people more vulnerable to death anxiety and therefore more reliant on proximal defenses.

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