TERROR MANAGEMENT AND HELPING BEHAVIOR

Thesis
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ABSTRACT

Terror management theory posits that the ability of people to envisage their ultimate death creates the potential of extreme terror. As a way of buffering this potential terror, people have created attitudes, beliefs and values that impart meaning, order, permanence and stability into the world and which ultimately promise death transcendence to those who adhere to this cultural worldview. Terror management studies that have investigated the role of the cultural worldview as a buffer to existential anxiety have shown that when individuals are forced to think about the possibility of their death, they are more likely to stand up for their beliefs and values which affirms their cultural worldview. It was expected in the current study that the opportunity to engage in a helping behavior might allow an individual to affirm their significance in the world, and boost their ability to confront thoughts of death. That is, individuals who were faced with a mortality salience manipulation would show a greater likelihood to offer help. In addition, it was expected that an affirmation to one's cultural worldview in the form of writing an essay on the benefits of college would mitigate the effect of the mortality salience manipulation on helping behavior. The results support the notion that thoughts of death cause increase likelihood to engage in prosocial behavior. Implications for this finding are discussed.

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INTRODUCTION

This is the terror: to have emerged from nothing, to have a name, consciousness of self, deep inner feelings and an excruciating yearning for life and self expression--and with all this yet to die.

Earnest Becker, *The Denial of Death*

Terror management theory (Greenberg, Pyszczynski, & Solomon, 1986) is based primarily on the views of cultural anthropologist, Earnest Becker, who attempted to coalesce ideas from a variety of social science disciplines into a coherent account of human behavior (Becker, 1962, 1971, 1973, 1975). Becker suggested that all animals are driven by a need for self-preservation and the avoidance of annihilation. Animals accomplish this by meeting their basic needs and avoiding noxious stimuli. What separates humans from the animal kingdom is that they have evolved with a cognitive complexity that allows humans to be self-conscious, that is, to be aware of their own existence (Mead, 1934; Duval & Wicklund, 1972). This advanced mental capacity allows individuals to delay behavior to consider alternative responses, to contemplate the past and ponder the future, and to imagine that which does not exist. Although these highly evolved intellectual abilities are beneficial for adapting to and surviving in a variety of situations, they also have put humans in a position of being aware of their vulnerability and ultimate mortality. This awareness, combined with the desire for self-perpetuation, places humans in a unique existential dilemma in which the potential for anxiety is ever-present. (cf. Kubler-Ross, 1969; Berger, 1967; Dobhzhansky, Ayala, Stebbins & Valentine, 1977; Rank, 1941). Erich Fromm (1941) writing in *Escape from Freedom* captured this sentiment by stating that:

> "The state of anxiety, the feeling of powerlessness and insignificance, and especially the doubt concerning one's future after death, represent a state of mind which is practically unbearable for anybody" (p. 110).

In response to this dilemma, humans have constructed a set of shared symbolic conceptions of the world that imbue reality with order and meaning, provide standards of value based on conceptions of reality, and promise security and death transcendence to participants (Greenberg, Psyzczynski, & Solomon, 1986). This human contrivance known as culture provides answers to questions such as what is the origin of the universe, what is the purpose of life, and what occurs when one's life is over. More specifically, culture consists of elements such as symbols, (e.g., in the United States, flags, monuments, historical and religious artifacts), rituals (e.g., Mass, singing the national anthem, watching television programs, going to theme parks and sporting events) facts (e.g., learning of history, news stories) and rules for behavior (e.g., laws, social roles) (Becker, 1973). These components vary widely from culture to culture but nonetheless convince the cultural adherents that they have an absolutely accurate representation of reality. When faith is maintained in a particular conception of reality, a chaotic universe becomes meaningful to the individual and the overwhelming potential of existential anxiety becomes much more manageable. Epstein, (1991) states:

"... people have a vested interest in maintaining the stability of their personal theories of reality, for they are the only systems they have for making sense of their world..." (p. 97).

Culture also allays anxiety by providing the opportunity for death transcendence through promises of literal immortality (e.g., immortal soul, afterlife, reincarnation), and symbolic immortality (e.g., live on through the family, the death-transcending nation or corporation and through culturally valued achievements) (see Lifton, 1979; Harrington, 1969; Drolet, 1990). The notion of an immortality motivation and its outlet in many areas of human culture has been proposed by many researchers. Behavior in groups (Sokol, 1992), and organizations (Denhardt,

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1987), consumerism (Hirschman, 1990), sport participation and viewing (Schmitt and Leonard, 1986), and religious belief (Schoenrade, 1989) have all been interpreted as an outlet where individuals can gain a sense of immortality to help them face their ultimate fate.

Terror management theory posits that for an individual to be able to buffer the potential anxiety that thoughts of one's annihilation can induce, two elements must exist: (a) an individual must have faith in a meaningful conception of reality (the cultural worldview), and (b) a belief that one is meeting the standards prescribed by that worldview (self-esteem). Because these two elements are ultimately cultural constructions, individuals continually need to validate and defend them against challenges. Given that people rely on social consensus to instill confidence in their conceptions of reality, (e.g., Festinger, 1954; Kelley, 1967), the broad range of beliefs, values, and behaviors to which people are exposed make maintaining faith in these two components a difficult and constant task. Faith in a particular worldview is maintained by participating in a variety of secular and social teachings, rituals, traditions and defensive behaviors when the worldview is threatened. A sense of self-esteem is maintained by living up to the standards of culturally valued attributes, behaviors and fulfilling prescribed social roles and defending self-esteem when threatened.

The Terror Management Function of Self-Esteem.

Self-esteem as defined by terror management theorists is predicated on the perception that one is a valuable member of a meaningful universe and one is living up to a particular set of cultural standards. It has the primary function of serving as a buffer to anxiety. This anxiety buffering property develops early in life when the young child is dependent on the parents for

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love, protection and need fulfillment. As the child matures, the gratification of these needs becomes increasingly contingent on meeting the parents' standards of value. The child ultimately learns that living up to parental standards leads to desirable outcomes (feelings of safety and security) and that failing to do so leads to undesirable outcomes (feelings of anxiety) (Bowlby, J. 1973).

It is at this time, usually around age three, when the child begins to learn about and become concerned with death, and vague anxieties about darkness and monsters become more and more linked to the realization that death is inevitable, and may represent annihilation (Yalom, 1980). Once the child grows older, the lifelong question of death necessitates the shifting of the security base from the parents to the culture at large. Culture teaches that goodness is associated with security through a range of teachings (e.g. myths, stories, fairy tales, religious teachings) in which the virtuous are rewarded and the evil are punished (Lerner, 1980).

The theory posits that self-esteem is a cultural phenomena that serves to keep anxiety at a manageable level for the cultural participants. Support for self-esteem as an anxiety buffer is supported by a tremendous amount of research which demonstrates a negative correlation between self-esteem and anxiety and anxiety-related physical and psychological disorders (Strauss, Frame, & Forehand, 1987, see Solomon, Greenberg, & Pyszczynski, 1991a for review). Evidence also shows that threats to self-esteem engender anxiety, such anxiety motivates defense of self-esteem, and that such defense reduces anxiety (Solomon, Greenberg, & Pyszczynski, 1991b).

Terror management theorists have conducted a series of studies that have shown the connection between self-esteem and anxiety and the relationship to terror management. In one

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experiment, subjects were given bogus personality feedback that either was very positive and designed to elevate self-esteem, or neutral. Following this manipulation, half the subjects were asked to watch a 10 minute video depicting death-related scenes and the other half witnessed a neutral video of the same length. Lastly, self-reported anxiety was assessed by having subjects complete the Spielberger State Anxiety Scale. The researchers found that subjects whose self-esteem was raised by the personality feedback reported less anxiety in response to the gory video (Greenberg, Solomon, Pyszczynski, Rosenblatt, Burling, Lyon, Simon, & Pinel, 1992).

A second study reported in the previous mentioned article is consistent with this finding. Self-esteem was manipulated by giving subjects bogus positive feedback on a supposed intelligence test (control subjects received no feedback). Threatened subjects then expected to receive a series of painful electric shocks (control subjects expected to view a series of colored lights). Anxiety was assessed by measuring skin conductance. The findings revealed that subjects in the raised self-esteem condition were less anxious in response to the threat of electric shock than neutral self-esteem subjects. Self-esteem in both of these studies acted as an anxiety buffering mechanism.

Other researchers have shown that people distort their perceptions and judgements so as to deny their vulnerability to serious illness and premature death (Jemmott, Ditto, & Croyle, 1986; Quattrone & Tversky, 1984). Greenberg, Psyzczynski, Solomon, Pinel, Simon and Jordan, (1993) demonstrated that simply by enhancing one's self-esteem, they could attenuate such biases. In their study, subjects were given positive or neutral personality feedback, and then given the opportunity to demonstrate vulnerability-denying defensive biases. To accomplish this, the experimenters led subjects to believe that high levels of emotionality were associated

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with either a long life expectancy or early death and were then asked to report on their own levels of emotionality. Thus to deny their vulnerability, subjects would be expected to report high levels of emotionality when emotionality was said to be associated with longevity and low levels of emotionality when it was said to be associated with premature death. This was the result for subjects in the neutral feedback condition. However, this tendency did not occur with subjects whose self-esteem had been experimentally increased. These subjects presumably experienced the anxiety buffering properties of enhanced self-esteem and had no need to employ any vulnerability-denying defensive biases.

Terror Management Function of Cultural Worldviews

Terror management theory has suggested that the primary role of cultural worldviews is to provide a set of beliefs about the nature of reality that helps reduce the anxiety associated with the awareness of vulnerability and death. To the extent that this is true, exposing individuals to the fact of their eventual mortality should motivate them to cling more tenaciously to their cultural worldview and consequently respond more negatively to those who challenge or threaten their worldviews and more positively to those who support or uphold them.

To test this hypothesis, the authors of terror management theory conducted several experiments. In these experiments, the researchers typically portray the study as an investigation of the relationship between personality traits and interpersonal judgements. Subjects complete some standardized personality assessments, wherein a supposed projective test of personality traits consisting of two open-ended questions is embedded. To force subjects to think about their inevitable death, subjects in this mortality salient condition are asked to write a few sentences

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about what they think will happen to them when they physically die, and the emotions that the thought of their own death arouses in them. Control subjects either do not complete the mortality salience questionnaire or respond to parallel questions about innocuous concerns such as eating a meal or watching television. Subjects are then asked to make judgements about individuals who threaten or bolster their cultural worldviews, which constitutes the primary dependent measure for each study.

In the earliest of these studies (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989), municipal court judges were asked to set bond for an alleged prostitute. Half of the judges were exposed to the mortality salience questionnaire prior to setting bond; the control subjects did not complete the questionnaire. The experimenters hypothesized that judges who had actively considered thoughts of their own death, would be more threatened by a moral transgression (i.e., prostitution) and have a greater need to affirm their cultural worldview. As expected, judges in this condition set a much higher bond for the prostitute than control subjects and presumably punished a cultural transgressor (mean bonds of $455 and $50 for mortality salient and control conditions respectively).

In the same set of studies, this finding was replicated with college students and with a different manipulation of mortality salience, Boyar's (1964) Fear of Death Scale. The authors also demonstrated that the setting of harsher bonds for prostitution occurs only when subjects had generally negative attitudes toward prostitution. This latter finding shows that the critical motivator for subjects faced with thoughts of their death is the violation of their particular worldview. If prostitution is seen as an unoffensive, viable behavior, subjects will not feel particularly threatened and will not need to defend their worldview. The final study in this

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article demonstrated that mortality salience increased the reward offered for a hero in a vignette who upheld general cultural values.

Terror management theory also provides a framework for understanding the large amount of research which suggests that people often have difficulty accepting others who are different than themselves. This finding is common in the literature on prejudice (e.g., Tajfel, 1982), the similarity-attraction relationship (e.g., Byrne, 1971), and reactions to those who violate cultural norms and values (e.g., Miller and Anderson, 1979, Schachter, 1951). The authors suggest that since cultural worldviews are essentially fragile symbols that can only be sustained by social consensus, the very existence of others with different views of reality threatens the absolute validity of one's perspectives. Attitudes such as prejudice then arise from the inability to tolerate the existence of different others while trying to maintain faith in a particular view of the world.

In a number of studies, the authors tested this framework by having subjects evaluate similar and dissimilar others in mortality salience and control conditions (Greenberg, Pyszczynski, Solomon, Rosenblatt, Veeder, Kirkland, & Lyon, 1990). They predicted that mortality salience conditions would cause subjects to exaggerate their preferences for a similar other and dislike for a dissimilar other. In study 1 they found the tendency for Christian subjects to rate Christian targets more positively and Jewish targets more negatively when exposed to mortality salience conditions. Study 2 found that American subjects rated a pro-American author more positively and an anti-American author more negatively when mortality was made salient.

To garner further support for the above findings, the terror management theorists have examined whether mortality salience always causes a negative reaction to dissimilar others, or

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only in certain conditions. If an individual has a worldview that is extremely tolerant and admiring of diversity, the authors reasoned, then confirming that perspective in the face of mortality concerns should not result in disparaging different others, something which would be incongruent with their beliefs. Greenberg, Simon, Pyszczynski, Solomon, & Chatel, (1992) selected American subjects who were either very liberal or conservative (determined by views on abortion, prayer in schools, whether flag-burning should be legal, and feelings about the Reagan presidency) and then asked them to judge liberal and conservative targets under mortality salient or control conditions. They predicted that since liberal ideology typically stresses the importance of recognizing and praising diversity, and since mortality salience encourages individuals to fulfill the standards of their cultural worldviews, liberal subjects would not be more derogating to different others and instead would be more tolerant than liberal subjects in the control condition. This pattern of findings was obtained.

In a second study using American subjects, the authors manipulated the salience of the value of tolerance instead of relying on individual differences in the advocacy of tolerance. If the value of tolerance is salient, mortality salience should then motivate people to live up to that value as well as to defend their beliefs; therefore, the priming of tolerance should reduce or eliminate the tendency for mortality salience to engender derogation of those who are critical of one's worldview. The results showed that mortality salience led to an especially large preference for a foreign student who praised the United States relative to a foreign student who was critical of the United States, except when the value of tolerance had first been made salient.

The studies mentioned above measured reactions to others who support or threaten a subjects' worldview and suggest that mortality salience engenders increased adherence to, and

defense of, those worldviews. Another terror management study provides more direct evidence of increased adherence to cultural worldviews under mortality salience conditions by measuring subjects' reactions when they are confronted with a problem that is most easily solved by violating a cultural norm. Greenberg, Simon, Porteus, Pyszczynski, and Solomon, (1993) conducted a study in which American subjects were asked to solve two creativity problems in which the best solutions required subjects to sift black dye through an American flag and to hammer a nail with a crucifix (in the control conditions, a white piece of cloth was substituted for the flag and a small block of wood was substituted for the crucifix). Subjects in the culturally valued objects condition, who also faced a mortality salience manipulation, took significantly longer to solve the problem, and reported that the task was more difficult and that they were more tense while performing it. This demonstrates that people are more uncomfortable violating cultural norms when their mortality is made salient.

These studies have demonstrated that in response to considerations of their inevitable death, subjects will attempt to bolster their cultural worldviews in a variety of ways. Recently, Pyszczynski, Becker, Vadeputte, Greenberg, and Solomon (1992) demonstrated that the process of strengthening one's worldview acts as a buffer to anxiety engendered by mortality salience. In the study, subjects generated arguments either supporting or refuting the morality of the United States' involvement in the Persian Gulf War, and were then asked to respond to a series of questions about either death or television while their skin conductance was assessed. As hypothesized, the death questions resulted in higher skin conductance and greater self-reports of anxiety for those who had generated arguments opposed to their position than those who had generated arguments in support of their position. This suggests that manipulations that support or

attack an important aspect of the individual's cultural worldview influence the capacity of death-related material to produce anxiety.

Helping Behavior

Throughout recorded history, helping others has often been held in the highest regard by civilized societies. The is true of American society where prosocial behavior is often an important part of one's value system and cultural worldview and usually is ingrained in an individual at a very young age. Children are geared toward this kind of behavior through exposure to mediums like their parents and school teachers, the Bible, children's stories such as Aesop's Fables, and shows like Sesame Street and Barney the Dinosaur. For adults, some of the most inspirational and emotionally moving stories are those that involve some kind of altruistic sacrifice. For example, Myers (1990) records:

> "It was two o'clock on a mid-summer's afternoon in 1983 when Joe Delaney, a football player with the Kansas City Chiefs, saw people standing around a huge hole that had filled with water. Three boys had waded in, unaware that a short way out the bottom dropped off. Suddenly they were in over their heads and thrashing and screaming for help. As Joe alone dashed for the pond a little boy asked, "Can you swim?" " I can't swim good," Joe answered, "but I've got to save those kids. If I don't come up, get somebody." One boy struggled back to safety. The other two--and Joe Delaney--were hauled out by rescuers a short while later, dead (pp. 447).

For a behavior that is so commonplace and esteemed in everyday life, it is not surprising that a large literature of research has developed around the phenomena of helping. Social psychologists have contributed greatly to this research by experimentally investigating aspects as who is likely to engage in a helping behavior, what type of environment this is most likely to occur, and what kinds of motivations provide the impetus (Eagly & Crowley, 1986). For example, researchers have suggested that situational factors such as the presence of others

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(Latane & Rodin, 1969), environmental conditions (Cunningham, 1979), and time pressures (Darley & Batson, 1973) impact helping behavior. Characteristics of the helper such as mood (Isen & Simmonds, 1978), motive (Eisenberg, 1991), and personality (Satow, 1975) also influence helping as well as characteristics of the person in need such as attractiveness (Benson, Karabenick, & Lerner, 1976), similarity (Dovidio, 1984), and judged deservingness (Bickman & Kamzan, 1973).

Many theories exist on why people help one another. Sociobiological theory explains helping as a behavior that insures a greater likelihood that one's genes will be passed on to succeeding generations (Ridley & Dawkins, 1981). Social norm theories such as the norm of reciprocity (Gouldner, 1960), the norm of equity (Walster, Walster, & Berscheid, 1978), and the norm of social responsibility (Berkowitz, 1972) suggest that cultural standards of conduct encourage people to behave according to those standards. Personality theory claims that certain personality traits predispose individuals to engage in helping behaviors (Rushton, 1981b). One theory that has received much attention is social exchange theory. This approach posits that individuals try to minimize the costs involved in an action and maximize the benefits (Foa & Foa, 1975). If an individual calculates that engaging in an altruistic behavior will provide more rewards than sacrifices, the individual is likely to follow through with the behavior. This motivation for helping another based on self-interest can express itself in different forms. Sometimes individuals seek external rewards through helping others in the form of recognition, appreciation and friendship (Krebs, 1970). Helping others can also lead to internal benefits such as calming one's own anxiety. Many research studies support the notion that emergencies are physiologically arousing. For example, in one series of studies, subjects watched a TV screen as

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a woman in the next room climbed onto a chair to set up a projection screen (Byeff, 1970). Suddenly, the woman appeared to fall over, out of the range of the TV camera, and subjects heard a loud crashing sound. Exposure to this emergency increased subjects' heart rates and galvanic skin responses. Krebs (1975) demonstrated that students from Harvard University, who had physiological responses and self-reports that revealed the most distress in response to another's dilemma, were the most likely to offer help to the person in need. In another study (Gaertner, & Dovidio, 1977), women overheard a female victim scream when a stack of chairs apparently fell on top of her. The correlation between subjects's heart rate increase and the amount of time they waited before intervening was -.58. The more physiologically aroused the women were by the accident, the more quickly they helped the victim. In these times of increased arousal and discomfort, if one cannot reduce the arousal by interpreting the event as something other than an emergency, investigating or offering help is one way to reduce the distress (Piliavin & Piliavin, 1973).

There may be many reasons why helping someone in distress reduces arousal. It may be that as a result of one's intervention, the victim is no longer in need and consequently, the situation is no longer as arousing. Terror management theorists have shown that increases in self-esteem often lead to direct decreases in anxiety. The fact that helping another individual is often praised and rewarded by American society, this behavior may result in an increased feeling of self-worth for some individuals and a greater ability to reduce anxiety. A second terror management theory explanation suggests that the anxiety reducing property of helping behavior might be seen as a result of behavior that confirms one's worldview. The research on terror management discussed above has shown that when an individual receives a boost to their

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particular worldview they are better able to confront and reduce anxiety. By helping another person in need, individuals are validating an important value in the American worldview and in the process are bolstering their particular view of reality. This affirmation of their worldview may be one reason why they are able to reduce anxiety.

The central theme to terror management theory is that individuals are motivated to reduce the anxiety that results from contemplations of one's own mortality. These individuals seek to buffer themselves from this anxiety by either bolstering their self-esteem or confirming their worldview. With this in mind, it might be expected that individuals in this state of anxiety might be more likely to engage in a helping behavior if the opportunity arose than individuals who are not in such a state. These mortality salient individuals might use the opportunity to help someone as a way to confirm their cultural worldview and as a result help them to mitigate their anxious state. Historical parallels can be found in the case of natural disasters. When a tornado or earthquake violently disrupts life in some city or country, the thought that one has just survived a close brush with death is extremely salient. Under this veil of death, individuals, who may have barely noticed their neighbors a day before, often rise up and heroically engage in altruistic acts.

To test the notion that anxiety from the thought of death will motivate helping behavior, the following experiment will be carried out. It was hypothesized that individuals who are confronted with their own mortality will be more likely to engage in a helping behavior. More specifically, it is expected that subjects who face a mortality salience manipulation will offer to volunteer their time for a future research project more than subjects in a control condition. It is also expected that subjects who are exposed to a cultural worldview boost, will be more immune

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to thoughts of their own death and consequently be less likely to engage in a helping behavior. If it is true that an important element in the helping behavior-anxiety reducing mechanism is the boost to one's values, then by introducing a promotion of one's value system to an individual before any opportunity to help exists, the individual should have less need to engage in the helping behavior to reduce anxiety. Specifically, it is expected that subjects who had earlier encountered a cultural worldview boost by writing an essay espousing the benefits of college will be buffered against the anxiety typically incurred in the mortality salience manipulations. These subjects should show lower scores on the Spielberger State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Lushere, 1970) and feel less need to offer to help in a future research project. Subjects who complete an essay critical of the benefits of college will not be any more resilient to thoughts of their own death and should show an increased amount of state anxiety and an increased likelihood of helping behavior.

METHOD

<u>Subjects</u>

Forty-five University of Dayton introductory psychology students were used as subjects. The students participated to fulfill their class requirement for research participation.

<u>Design</u>

A 2 x 2 factorial design was employed with the independent variables being cultural worldview argument (support or attack) and mortality salience (presence or absence).

<u>Procedure</u>

Subjects were led into a medium size room in groups of three to four at the beginning of the study. Each student was seated at a desk with dividers separating them from other students. The students were introduced to the study entitled "Personality and Attitudes" and given an informed consent sheet that explained their rights as a participant. After students completed the informed consent sheet, they were given a packet of sheets to complete for the study. The students were instructed to individually complete each sheet in the order they found it in the packet without looking ahead. Students were also instructed to stay in their seat and raise their hand when finished.

The first sheet in the packet was the state anxiety measure from the Spielberger State-Trait Anxiety Scale (Spielberger, Gorsuch, & Lushere, 1970). Students were asked to answer each question as honestly as possible. The second sheet in the packet was a cultural worldview argument form. In the supportive argument condition, students were asked to write a 300 word essay entitled "Reasons why going to college is a good choice". Students in the attack argument condition were asked to write a 300 word essay entitled "Reasons why going to college is a

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waste of time." This manipulation parallels a cultural worldview threat that Pyszczynski, Becker

Vadeputte, Greenberg, and Solomon (1992) employed in one of their studies. Instead of writing

about the positive or negative elements of going to college, they had subjects generate arguments

either supporting or refuting the morality of the United States' involvement in the Persian Gulf

War. It is assumed that in this study, writing about college will be just as central and important

to the cultural worldview of the subjects.

The next sheet in the packet contained the mortality salience manipulation. This

procedure duplicated the method frequently utilized by Greenberg et al., (1990) which uses a

brief two-item, open ended questionnaire entitled "Mortality Attitudes Personality Survey". It

explains that it is a new form of projective personality assessment in which open-ended

responses to questions about death will be content analyzed. It then asks subjects to write about

(a) what will happen to them as they physically die, and (b) the emotions that the thought of their

own death arouses in them. Control subjects were given a questionnaire asking them to write

about their favorite food. This is a control that Greenberg et al., (1990) have used successfully.

The mortality salience manipulation was followed by the Rotter Internal-External Locus

of Control Scale. This was used as a filler questionnaire. Greenberg, Pyszczynski, Solomon,

Simon, and Breus (1994) have shown that mortality salience effects occur outside of

consciousness and a filler questionnaire allows for thoughts of one's own death to drift outside of

awareness. The authors propose that thinking about death motivates both conscious and

unconscious processes. When people are conscious of the problem of death, they employ

specific defenses such as denying their vulnerability or pushing the problem into the distant

future. Once this is accomplished and thoughts of death are pushed outside of consciousness,

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terror management processes such as defending the worldview are invoked. It is only after the

threatening information has floated just outside conscious awareness that these terror

management processes are used . The filler questionnaire has been shown to serve this goal

(Greenberg, Pyszczynski, Solomon, Rosenblatt, Veeder, Kirkland, and Lyon, 1990). After

completing this scale, subjects completed the state anxiety measure once more.

Once students completed the packet and raised their hand, the experimenter walked over

to the subject's cubicle and said:

> "We are recruiting help for some other psychology experiments. We would like to know
> if you could volunteer some of your time to help out. Please read the information about
> the study on this paper and then sign your name at the bottom if you are interested."

At this point, the experimenter proceeded to pass out the helping behavior measure. This was a

half sheet of paper supposedly from an undergraduate honors student who was trying to

complete her senior thesis. It explained the details about a fictitious study and then asked

subjects to write their name, decision to help or not (yes or no), phone number and the number

of hours they could work (1-5). After subjects completed this request they were debriefed on the

purpose of the study, asked to sign course credit slips, thanked for their participation and

dismissed.

Dependent Variables

The first dependent variable was the overall mean scores on the final anxiety scale. The

possible range of scores was 20 (low anxiety) to 80 (high anxiety). This dependent measure has

been used by terror management theorists in other studies (Greenberg, Solomon, Pyszczynksi,

Rosenblatt, Burling, Lyon, and Simon, 1992). A second dependent measure was an anxiety

difference score. The overall anxiety score from the first scale was subtracted from the score on

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the final scale to measure the overall change in state anxiety from the beginning of the study to the end. The main dependent variable refers to helping behavior. Helping behavior was represented by the continuous variable, hours volunteered. The latter of these was on a scale from 0 (no hours volunteered) to 5 hours.

RESULTS

Helping Behavior

The main measure of helping behavior, hours volunteered was analyzed. This analysis tested the hypothesis that subjects in the mortality salience presence and cultural worldview attack argument condition would be more likely to volunteer more hours of helping behavior than subjects in any other condition. An analysis of covariance (ANCOVA) was used with the scores on the first anxiety scale as the covariate. This allowed the variability due to the initial mood state to be controlled while the effects of the two independent factors, college argument and mortality salience conditions, were analyzed. The dependent variable was hours volunteered, which consisted of a scale from zero, representing all subjects who declined to help, to five, the highest number on the 1 to 5 helping hours scale. The results reveal that there was a main effect for mortality salience, $F(1,39) = 5.683$, $p = .022$. As Table 1 suggests, subjects who were faced with thoughts of their own death were more likely to volunteer more hours of help than subjects who had not faced thoughts of death. There was not a significant interaction between mortality salience and cultural worldview conditions, $F(1,39) = .722$, $p = .401$, indicating that the cultural worldview argument did not mitigate or enhance the mortality salience manipulation. The effect for college argument was also not significant, $F(1,39) = .046$, $p = .832$. The anxiety covariate was significant, $F(1, 39) = 10.535$, $p = .002$.

Overall, there was a low base rate of helping; only 16 out of 45 (35.6%) subjects volunteered to help with the upcoming experiment.

Table 1

Adjusted Mean Hours of Help Volunteered by Students

		Mortality	Salience
		Absence	Presence
Cultural Worldview	Support	.06	.68
		(.10)	(.69)
		SD = .32	SD = 1.07
Argument	Attack	.20	.49
		(.10)	(.55)
		SD = .32	SD = .69

*note - unadjusted means in parentheses

Anxiety Measures

The second hypothesis predicted that subjects in the mortality salience presence and worldview attack argument condition would show a higher level of overall state-anxiety on the second State-Anxiety Scale. An ANCOVA was again performed to partial out the effects of individual differences in initial anxiety as measured by the first anxiety scale. Mortality salience and college argument conditions were used as factors, anxiety on the first scale was used as the covariate, and anxiety on the second scale was the dependent variable. There was not a significant interaction between mortality salience and college argument conditions, $F(1,38) = 1.971$, $p = .168$. The main effects for college argument and mortality salience conditions were not significant, $F(1, 38) = .929$, $p = .341$; and $F(1, 38) = .580$, $p = .451$; respectively. Table 2 below presents the mean anxiety scores for subjects. Anxiety on the first scale was a significant covariate, $F(1,38) = 135.23$, $p < .001$. These results suggests that anxiety on the second scale was not significantly affected by either the mortality salience or cultural worldview manipulations.

Table 2

Adjusted Mean Anxiety Scores on Second Scale

		Mortality	Salience
		Absence	Presence
Cultural Worldview	Support	33.81	34.78
		(35.50)	(33.75)
		SD = 7.63	SD = 11.14
Argument	Attack	37.71	34.20
		(34.70)	(36.55)
		SD = 11.66	SD = 11.88

*note - unadjusted means are in parentheses

A second measure of anxiety, the difference between scores on the second and first administrations of the scale, was also examined. An two-factor ANOVA using mortality salience and cultural worldview as independent factors did not show a significant interaction, $F(1,39) = 1.964$, $p = .169$. There was not a significant main effect for college argument, $F(1,39) = .955$, $p = .335$, or for mortality salience, $F(1,39) = .603$, $p = .442$. Table 3 below shows these difference scores. Again, mortality salience and cultural worldview argument conditions appeared to have no significant effect on subjects' anxiety.

Table 3

Mean Change in Overall Anxiety from Time 1 to Time 2

Cultural Worldview		Mortality	Salience
		Absence	Presence
Argument	Support	-1.50	-.58
		SD = 3.95	SD = 5.53
	Attack	+ 2.30	-1.09
		SD = 6.90	SD = 2.81

24

DISCUSSION

It was expected that writing about the positive or negative aspects of going to college would either strengthen or mitigate the effects of personal thoughts of death on an individual's likelihood to volunteer help and experience anxiety. This predicted interaction was not supported by the results. However, a significant finding in this study is that mortality salience influenced the likelihood to volunteer hours of help. That is, subjects who were made to think about their eventual death were more likely to volunteer more hours of help than subjects who did not think about death. This finding adds to the increasing literature on the effects that contemplating the idea of one's death has on behavior. In over 20 studies, terror management theorists have shown the wide variety of responses that such manipulations in the lab can engender. Some of these include: greater disliking of dissimilar others (Greenberg, Pyszczynski, Solomon, and Chatel 1992), meting out of harsher bonds (judges) (Rosenblatt, Greenberg, Solomon, Pyszczynski, and Lyon, 1989), greater defense of one's views (Solomon, Greenberg, & Pyszczynski, 1991a), increased prejudice (Greenberg, Pyszczynski, Solomon, Rosenblatt, Veeder, Kirkland, and Lyon, 1990), and greater use of vulnerability-denying actions (Greenberg, Pyszczynsksi, Solomon, Pinel, Simon, and Jordan, 1994). This current finding adds helping behavior to the number of phenomena that have been shown by terror management theorists to be affected by a death manipulation.

It was initially proposed that thoughts of one's death would cause increased arousal and anxiety and that this would lead to more helping behavior as a way to reduce that arousal. However, a lack of significant differences on the final anxiety measure after initial anxiety was covaried out suggests that thinking about death causes increased helping behavior due to

something other than an arousal reduction mechanism. Helping behavior might provide relief from thoughts of death because this behavior is highly valued and esteemed by most individuals in this culture and it affirms the basic values in one's cultural worldview. Terror management theory posits that this type of value and belief affirming behavior provides the chance for individuals faced with thoughts of death to reestablish their significance in the universe and ultimately be buffered from such thoughts of angst and dread.

The finding that thoughts of death cause increased helping is impressive when considered in light of the flaws in the methodology. The first of these relates to the anxiety measures. In studies by Greenberg and his colleagues, they have preferred to use physiological measures over self-reports when possible (Greenberg, Pyszczynski, Solomon, Rosenblatt, Veeder, Kirkland, and Lyon, 1990; Greenberg, Simon, Pyszczynski, Solomon and Breus, 1993). It would be expected that a physiological measure would be much more sensitive to slight changes in anxiety than would a self-report measure. However, Greenberg and his colleagues have successfully used the Spielberger State Anxiety Scale to find differences. In one study, (Greenberg, Solomon, Pyszczynksi, Rosenblatt, Burling, Lyon, and Simon, 1992) the authors provided positive and negative self-esteem feedback and then exposed subjects to the mortality salience condition. They predicted an interaction between self-esteem and mortality salience which parallels the current study. An analysis of their results shows an interaction occurring at a .04 probability level. This might be labeled a weak finding considering the fact that they employed a very strong mortality salience manipulation. They had subjects watch actual footage of a Faces-of-Death video. In the current study, subjects only had to write two essay questions on what they think will happen to them as they die, and the emotions that the thought of death

arouses in them. A future study might follow this example and provide a mortality manipulation that has more impact. If this occurs, self-report anxiety measures may show a greater effect and in turn, bolstering or undermining one's worldview might be more likely to either mitigate or enhance such a mortality manipulation.

The college essay also appears to have had no effect on the likelihood to help. One possible explanation is that the overall baserate of helping was very low, creating the possibility of a floor effect. Such an effect would render a measure very insensitive to any real differences in helping. One reason this might be is that the small groups of students used in the study completed their packets in less than completely segregated cubicles. Students worked at computer desks separated from other students by dividers that only extended out as far as the desk. This, combined with the fact that the closely packed computer desks sometimes caused some subjects to sit very close to one another, probably made the presence of others very salient. This may have contributed to a sense of diffusion of responsibility. This phenomena, often used as one explanation for the bystander effect, can mitigate one's efforts at gaining help. Individuals are aware of everyone else around them who could possibly offer help in a situation and consequently may feel less of a need to offer assistance. Studies in the future that would wish to imitate this procedure would be better off assigning students to individual lab rooms.

Perhaps the greatest reason that the cultural worldview argument had little impact was due to the fact that students may not have felt very threatened when writing about why college is a poor choice. An examination of the topics discussed in the essays revealed that most students talked about relatively minor problems with going to school. These included: academic pressures, financial costs, lack of real world experience, and lack of maturity among some

students. None of these concerns fundamentally challenged the worldview of students, that is, made students feel that their attitudes and beliefs about college and its benefits were mistaken. In addition, many students wrote the critical essay as if they didn't really believe it themselves. Many students wrote in the third person, suggesting that college was bad for some *other* students who, for example, fooled around or wasted time at school, but not for *themselves*. Perhaps a topic that was more narrow in focus and more emotionally charged would have provided a better opportunity to challenge one's worldview. For example, if a student believed very strongly that abortion was unlawful and unmoral, and this was central to his worldview, then an essay critical of this position might be more threatening and cause either a mitigation or enhancement of the mortality salience manipulation.

Finally, the extension of terror management theory into the area of helping behavior has some implications for our understanding of man. If future studies can indeed garner further evidence that being faced with the idea of one's fate causes increased likelihood of prosocial behavior, researchers might be able to begin to answer the question of whether at man's deepest core he is basically a good or evil creature. The notion that by confronting our own existence, we may become more charitable to humanity suggests that we can be optimistic about the nature of man after all, and that it would do us all a little good to think about how short our life on this planet really is. Robert Browning captured this sentiment in some pithy lines from The Ring and the Book:

> You never know what life means till you die:
> Even throughout life, 'tis death that makes life live.

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Mortality Attitudes Personality Survey

This form is a new type of projective personality assessment in which each question will be content analyzed. Please answer each question as honestly as possible, and try to write at least 4-5 sentences for each answer.

1. Please write about what will happen to you as you physically die.

2. Please write about the emotions that the thought of your own death arouses in you.

Food Attitudes Personality Survey

This form is a new type of projective personality assessment in which each question will be content analyzed. Please answer each question as honestly as possible, and try to write at least 4-5 sentences for each answer.

1. Please write about eating your favorite food.

2. Please write about the emotions that the thought of eating your favorite food arouses in you.

Appendix C: Cultural WorldviewSupport

Reasons Why Going To College Is A Good Choice

The researchers are collecting positive and negative statements about college for a future project. Please write a short essay of about 300 words on why going to college is a good choice. Don't worry about use perfect spelling or grammar, this is not a test and your essay is confidential

Appendix D: Cultural Worldview Attack

Reasons Why Going To College Is A Poor Choice

The researchers are collecting positive and negative statements about college for a future project. Please write a short essay of about 300 words on why going to college is a poor choice. Don't worry about use perfect spelling or grammar, this is not a test and your essay is confidential.

Social Reaction Inventory

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned.

I more strongly believe that:

1. _____ a.   Children get into trouble because their parents punish them too much.

   _____ b.   The trouble with most children nowadays is that their parents are too easy with them.

2. _____ a.   Many of the unhappy things in people's lives are partly due to bad luck.

   _____ b.   People's misfortunes result from the mistakes they make.

3. _____ a.   One of the major reasons why we have wars is because people don't take enough interest in politics.

   _____ b.   There will always be wars, no matter how hard people try to prevent them.

4. _____ a.   In the long run, people get the respect they deserve in this world.

   _____ b.   Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. _____ a.   The idea that teachers are unfair to students is nonsense.

   _____ b .   Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. _____ a. Without the right breaks one cannot be an
              effective leader.

   _____ b. Capable people who fail to become leaders have not taken advantage of their
              opportunities.

7. _____ a. No matter how hard you try some people just don't like you.

   _____ b. People who can't get others to like them don't understand how to get along with
              others.

8. _____ a. Hereditary plays the major role in
              determining one's personality.

   _____ b. It is one's experiences in life which
              determine what they're like.

9. _____ a. I have often found that what is going to happen will happen.

   _____ b. Trusting to fate has never turned out as well for me as making a decision to take
              a definite course of action.

10. _____ a. In the case of the well prepared student there is rarely if ever such a thing as an
               unfair test.

    _____ b. Many times exam questions tend to be so unrelated to course work that studying
               is really useless.

11. _____ a. Becoming a success is a matter of hard work, luck has little or nothing to do
               with it.

    _____ b. Getting a good job depends mainly on being in
               the right place at the right time.

12. _____ a. The average citizen can have an influence in
               goverment decisions.

    _____ b. This world is run by the few people in power, and there is not much the little
               guy can do about it.

13. _____ a. When I make plans, I am almost certain that I
        can make them work.

    _____ b. It is not always wise to plan too far ahead because many things turn out to be a
        matter of good or bad fortune anyhow.

14. _____ a. There are certain people who are just no
        good.

    _____ b. There is some good in everyone.

15. _____ a. In my case getting what I want has little or
        nothing to do with luck.

    _____ b. Many times we might just as well decide what to do by flipping a coin.

Appendix F: Helping Behavior Sign-up Sheet

Dear students,

I trying to recruit introductory psychology students to help out with my honors thesis. I am hoping to finish before May so that I can graduate on time. I am conducting a study on play behavior among children and need help rating some hours of videotape of children. What would be involved is spending some time on a Saturday of next month going through a short training session and then watching videos of children with other judges. If you could volunteer some of your time to help with this project I would be grateful. If you think you can participate, please put your name and phone number on the line below, and I will contact you. Also, please put the number of hours you would be able to stay (1 to 5 hours) so that I can schedule enough judges.

Thanks again

<div style="text-align:right">

Sincerely,

Laura Koontz

</div>

_____

Appendix G: Spielberger State-Trait Anxiety Inventory

The Feeling Questionnaire

1	2	3	4
Not at all	Somewhat	Moderately so	Very much so

1. I feel calm
   1 2 3 4
2. I feel secure
   1 2 3 4
3. I am tense
   1 2 3 4
4. I feel strained
   1 2 3 4
5. I feel at ease
   1 2 3 4
6. I feel upset
   1 2 3 4
7. I am presently worrying over possible misfortunes
   1 2 3 4
8. I feel satisfied
   1 2 3 4
9. I feel frightened
   1 2 3 4
10. I feel self-confident
    1 2 3 4
11. I feel comfortable
    1 2 3 4
12. I feel nervous
    1 2 3 4
13. I am jittery
    1 2 3 4
14. I feel indecisive
    1 2 3 4
15. I am relaxed
    1 2 3 4
16. I feel content
    1 2 3 4
17. I am worried
    1 2 3 4

18. I feel confused

    1 2 3 4

19. I feel steady

    1 2 3 4

20 I feel pleasant

    1 2 3 4

Appendix H: Debriefing Guide

This is a social psychological study which has the main purpose of investigating questions related to death. For many years psychologists have been interested in death and its implications for human behavior. The popularity of this research is evidenced by the fact that several journals have been formed to provide an outlet for these studies (e.g., Omega, Death Education/Death Studies). There have been many attempts to empirically examine reactions to the notion of death in a laboratory setting. These typically have relied on scales such as Templer's (1970) Death Anxiety Scale to measure death-related anxiety and projective measures such as Murray's Thematic Apperception Test which is assumed to indirectly reveal a person's preoccupation with thoughts of death. A more recent attempt to examine death related behavior in an experimental setting has come from the authors of Terror Management Theory (Greenberg, Psyzczynski, & Solomon 1986). They suggest that humans tend to shy away from confronting thoughts of their inevitable death, as not doing so would lead to unbearable 'existential' anxiety. One way that humans keep thoughts of death at bay is by creating meaning in one's world. This meaning is provided through one's culture or one's particular view of the world (cultural worldview). The cultural worldview answers important questions such as : what is my role in life, what is the origin of the universe, and what happens after I die. It also provides standards of value so that the individual can feel meaningful. For example, a male child growing up on a farm in Nebraska may learn that hard work on the land and providing for one's family are important goals to accomplish in life. If he can achieve these, he will feel valued and significant in his particular culture. Besides providing meaning and value to the cultural participant, the cultural worldview also promises death transcendence to its adherents. This can be either through symbolic

immortality (e.g., living on through one's works, family, or any organization or institution such as a corporation or nation) and literal immortality (e.g., reincarnation, Heaven, Nirvana).

Experimentally, the authors of terror management theory have shown that exposure to thoughts of one's death usually causes increased anxiety and stronger devotion to one's values (the cultural worldview). They have also demonstrated that if they reinforce one's values before exposure to thoughts of death, they can mitigate this anxiety. One purpose of this study was to replicate this finding. It was expected that subjects who wrote an essay espousing the benefits of college, would report less anxiety on the feeling questionnaire than students who wrote an essay critical of these benefits. A second element of this study is an examination of the role of death anxiety in promoting helping behavior. For example, in times of natural disasters, it is always striking how individuals who barely have escaped the throes of death often rise up and heroically engage in helping behaviors. One reason that this may occur is that seeing an individual in need causes anxiety and by helping the individual, one can reduce the arousal. With this in mind, it was expected that in this study, the anxiety caused by thinking of one's death would cause an increased desire to help as a way of reducing this uncomfortable state. To measure helping behavior, it was necessary to create a situation where students could volunteer to help. This was why we asked students if they would help with the Honors Project. This was a dependent measure of helping behavior. There really is not going to be a study and you will not have to participate in any research experiment. This part of the study used deception and it is important to point out that psychology studies only use deception if there is no other way to accomplish a particular end. The deception in this study allowed us to create a situation where students could respond as naturally as possible. If students had known that there really was not going to be a

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study, they may have responded in a different manner. If at any time you feel that your rights as a participant have been violated, you should feel free to talk to the head of the Ethics Committee, whose name is on your informed consent sheet.

The last hypothesis was that students who had affirmed their worldview by writing about the benefits of college would be less anxious from thoughts of death and consequently volunteer for less hours. It was assumed that for most college students, the thought that going to college is worthwhile and will provide many advantages for the future is something that is held in high regard. Writing about this value should lead to an affirmation of students' cultural worldview.

The implications for this research is to further strengthen the notion that culture helps people find meaning in their life and ultimately provide a buffer from the potential anxiety that thoughts of death can produce. One way that this buffer can work is by engaging in a behavior that confirms an important value in one's culture such as helping behavior. This mechanism may explain one reason out of many why people are likely to participate in selfless actions.

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    private self (pp. 189-212). New York: Springer-Verlag.

Informed Consent Form

Study Overview:

    Welcome to the study, "Attitudes and Feelings." The following is a reminder of your rights as a potential participant. It is important to keep in mind that this is a psychological research study. As in any such study, your participation is strictly voluntary. If, now or at any time during the study, you should decide that you do not wich to participate, please let an experimenter know and you will be given credit and dismissed. Also, please keep in mind that your name will not be associated with any of the information you provide during the study.

    This study is investigating the relationship between different attitudes and feelings. In this study you will be asked to complete several questionnaires. These will contain questions on how you feel at the moment, what your attitudes are on various social events and how you feel about death. You will also be asked to write a short essay about college. If you have any questions or concerns at this point, please let an instructor know of them.

For Further Information:

    The faculty member responsible for this study is Dr. Charles Kimble (Room 427 in St. Joseph's Hall, 229-2139). Any questions or concerns can be addressed to Dr. Kimble. Also, if you feel their is an ethical problem with this study, or with any study in which you participate, please contact the following individual:

<div align="center">

Dr. Greg Elvers, Chair
Research Review and Ethics Committee
312 SJ
phone: 229-2171

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    If you have decided that you would like to participate in this study, please sign in the space provided below. Your signature indicates that you are aware of the following: (1) the general procedure to be used in this study, (2) your right to discontinue at any time (3) the steps taken to insure confidentiality of the data you will provide during the study.

_____   _____

Signature   Date