Reactions to 9/11 as a Function of Terror Management and Perspective Taking

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ABSTRACT. The authors used terror management theory (TMT; T. Pyszczynski, S. Solomon, & J. Greenberg, 2003) to investigate people’s reactions to the terrorist attacks of 09/11/01. According to the theory, people have a primary need to eliminate or reduce existential terror in response to such horrific events as 9/11. The authors obtained people’s reactions to 9/11, an event in which the threat to one’s existence was more authentic than those of previous events that were imagined. The authors of the present study collected data two weeks after 9/11 from young adults on a large university campus in the U.S. Midwest. The authors asked participants about their proximal and distal reactions to 9/11 and their reasons or motives for those reactions. The results indicated that the vast majority of participants’ proximal reactions to 9/11 were shock and/or disbelief, whereas their distal reactions included performing altruistic or prosocial behavior, searching for meaning or value in life, seeking or sharing information, spending time in talking to others, and making bigoted remarks about Arab Muslims. The main finding was that interpersonal communication is an important means of eliminating or reducing existential terror.

Key words: 9/11, interpersonal behavior, perspective taking, terror management theory

TERROR MANAGEMENT THEORY (TMT; Pyszczynski, Solomon, & Greenberg, 2003) states that people have a universal need to cope with their awareness of their inevitable death by engaging in certain social actions and upholding a particular set of beliefs and values. Therefore, the management theory provides useful explanations for human behavior, especially when people perceive an actual or
imagined imminent threat to their lives (Pyszczynski et al., 2003). The events known as 9/11 primed Americans’ thoughts about vulnerabilities to danger and death. When Americans experienced attacks on or threats against some of their pinnacle institutions (the World Trade Center, the Pentagon, and potentially the White House), they began to realize that they are not exempt from hostile terrorist attacks and calamity. Subsequently, many Americans reacted in a manner that seemingly confirmed a TMT-construed prediction: that people manage their awareness and fear of death by engaging in self-esteem–bolstering and worldview-defending behaviors (Pyszczynski et al., 2003).

Investigations have supported TMT for a variety of social situations, including those involving prosocial attitude and behavior (Jonas, Schimel, Greenberg, & Pyszczynski, 2002), interpersonal evaluation (Greenberg, Pyszczynski, Solomon, Rosenblatt et al., 1990), romantic relationships (Florian, Mikulincer, & Hirschberger, 2002), adjudicating moral transgressors (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989), and aggressive behavior (McGregor et al., 1998). In McGregor et al., as those investigators predicted, when reminded of their vulnerability to death (i.e., when mortality salience becomes high), people became more aggressive toward worldview-challenging persons (e.g., anti-American essay writers), whereas they became more generous to worldview-confirming targets (e.g., U.S. charities). However, most prior research was conducted in a laboratory setting and involved forced choices assigned by researchers, and none of the researchers investigated whether or not TMT has utility in a real-life situation from the participants’ perspective. Specifically, it is not known which terror management (TM) strategy people will use most often under real-life circumstances such as those of 9/11. More importantly, it is not known whether people who are faced with events such as those of 9/11 will be able to express a TM need as a motivation for those reactions and coping strategies.

Although TMT has received empirical support for a wide range of situations, research has shown that the personality attributes of high self-esteem and a secure attachment (i.e., interpersonal bond) modify the degree of defensive reactions (e.g., Florian & Mikulincer, 1998; Greenberg, Solomon, et al., 1992; Harmon-Jones et al., 1997). For example, high self-esteem tended to reduce defensive reactions to inductions of mortality salience (MS; Harmon-Jones et al.). Perspective taking (PT) is a critical factor enabling one to consider all factors involved in another’s situation by putting oneself in the other’s shoes (Long, 1993). PT is positively associated with self-esteem (Davis, 1983), so that PT can weaken the effect of MS induction and reduce defensive reactions. In the context of interpersonal or intergroup crisis, perspective taking has been found to be a useful index (e.g., Davis, 1983; Long, 1993; Oswald, 2002). While PT appears to have implications regarding people’s reactions to events like 9/11, no study has directly tested the impact of PT within the framework of TMT. It is uncertain whether PT induced people to empathize with those involved in the 9/11 incidents (i.e., victims and even terrorists) and whether PT affects TMT-related motives and reactions.
Because of the tremendous impact of 9/11 as an MS-inducing event on our lives and the paucity of research on TMT in real-life situations, the purpose of the present study was to identify specific TM behaviors that people enacted in reaction to the 9/11 disasters and to test the utility of TMT in the context of the post-9/11 United States. Also in question is the extent to which one’s TM reaction style is due to his or her personality disposition (e.g., perspective taking). By investigating TM strategies used in an authentic MS-inducing condition (in this case, the 9/11 incidents), in the present study we intended to expand the extant TMT-related scholarship.

Terror Management Theory

Scholars agree that human communication is a need-driven activity in which people strive for survival, safety, and control of their environment through interaction and relationship building. The basic assumption of TMT is that human behaviors are motivated by a self-preservation need like that of other animals but that unlike other animals, humans are well aware of their ultimate and inescapable annihilation (i.e., death), which induces in them an existential terror (e.g., Pyszczynski, Greenberg, & Solomon, 1999). To deal with this paradox, humans have invented a meaningful and indestructible defense system to keep themselves symbolically immortal even after their unavoidable death, by perpetuating a way of life, e.g., their culture, political system, and religion. According to TMT, these psychological and symbolic defense devices buffer the fear of death by maintaining or boosting self-esteem and alleviating feelings of powerlessness, vulnerability, and entrapment (Pyszczynski et al., 1999). According to Jonas et al. (2002), when encountered with an MS induction (e.g., when people are interviewed near a funeral home) versus no MS induction condition, people (a) displayed more favorable attitudes than otherwise toward charities of their choosing and (b) further gave more money to a charity supporting a specifically “American” cause. However, MS had no effect on the amount of money donated to a charity for a foreign cause. It appears that TM concerns lead people to engage in actions that they believe will reinforce their sense of self-worth by perpetuating their culture and its values in an otherwise uncertain and dangerous world (Jonas et al.).

Pyszczynski et al. (1999, 2003) described two general modes of TM reactions, called the dual terror management model. The dual model concerns immediate (proximal) and long-term (distal) effects of TM reactions. The two modes of defense depend on the type of stimulus involved in an MS induction, which is either subliminal or explicit (Pyszczynski et al., 1999). In general, the two modes are distinct in that for the proximal mode of defense, MS stimulus is salient, and people are conscious of it, whereas for the distal mode, MS stimulus is implicit and exists in people’s subconscious memory.

Proximal defenses refer to conscious and rational, anxiety-reducing strategies (Pyszczynski et al., 1999, 2003). These are initial reactions to mortality
salience, involving cognitive distortions to deny one’s vulnerability by indulging in distractions or by relying on logic and evidence.

By contrast, *distal defenses* refer to cultural worldview–defending and self-esteem–enhancing strategies. These “address the problem of death in a more indirect symbolic manner by providing a sense that one is a valuable contributor to a meaningful, eternal universe” (Pyszczynski et al., 1999, p. 839). Humans are well aware that denying mortality (proximal defense) is not a real solution to the problem of death and have therefore created a functional model of mortality defense that assigns meaning and value to their experience while alive. People conceive symbolic immortality even after physical death by sustaining particular cultural worldviews (Pyszczynski et al., 1999). Distal terror defenses represent unconscious attempts to diffuse the consciousness and fear of death in everyday life. They are typically displayed in the form of active involvement in activities that demonstrate or bolster one’s faith in cultural values and beliefs and thus are activated when one is faced with matters related to self-esteem (rather than matters that are direct reminders of death; Pyszczynski et al., 1999).

Distal defense usually is activated by MS induction after a delay or distraction rather than instantly after explicit MS induction (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). In a study by Greenberg, Arndt, Simon, Pyszczynski, and Solomon (2000), after participants were reminded of their mortality, they rated and compared the degrees of proximal and distal defense. Greenberg et al. (2000) found that when one’s vulnerability to death is salient, proximal defense is high, and distal defense is low. Greenberg et al. (2000) first informed the participants that one’s emotionality is linked to either a long life expectancy or a short one. Following this treatment, Greenberg et al. (2000) measured the participants’ self-reported emotionality and asked them to read pro- and anti-American essays and evaluate the writers. The results showed that the participants engaged in proximal defense (e.g., denied their vulnerability to death, when the threat was in immediate attention, by biasing their self-reports of emotionality) but not in distal defense (e.g., not showing strong favoritism toward pro-American essayists as opposed to anti-American essayists). Distal defense was prevalent only when there was a delay between MS induction and measurement of TM defenses, that is, when the thought of death became subconscious and implicit.

Consistent with TMT-based projections, Pyszczynski et al. (2003) observed a similar pattern in the aftermath of 9/11. Most Americans initially reacted with disbelief and shock and then moved on to other behaviors to identify the personal meaning of 9/11, while engaged in mundane everyday activities, to prove that they were not threatened, that is, that their cultural values and structures were intact and indestructible (Pyszczynski et al., 2003). Over time, however, patriotic and nationalistic attitudes and reactions became more prevalent through an effort to preserve the “American way of life,” which they believed had been under attack (Pyszczynski et al., 2003). These activities distantly followed ini-
tial denial and shock. However, Pyszczynski et al.’s (2003) observations are yet to be subjected to empirical scrutiny.

As anecdotal and media evidence suggests (Pyszczynski et al., 2003), since 9/11 Americans have experienced a wide gamut of proximal and distal reactions. Individuals became more involved in prosocial endeavors (e.g., rescue and charitable activities), spent more time working on close relationships and their families, and continued everyday activities. Such a continuation is considered desirable in the U.S. culture. And at that time of crisis, in particular, the U.S. president (a role model and authority figure) strongly encouraged it. In addition, people showed empathy to people directly or indirectly affected by the disastrous events and offered helping hands to the victims and their families. According to TMT, all these activities represent an attempt to meet cultural standards of values and to make people feel good (or better) about themselves. They serve as the anxiety-buffering and self-esteem–bolstering functions of TM strategies, expressing cultural beliefs of Americans that giving and helping are noble things to do for good, constructive members of the society.

Although numerous empirical investigators have substantiated TMT by confirming that humans engage in anxiety-buffering and worldview-defending behaviors after being reminded of mortality in a variety of contexts, these investigators have all focused on the differences between the conditions of MS induction and those of non-MS induction with respect to one select terror management behavior (e.g., aggression; McGregor et al., 1998). It is not yet known what types of proximal and distal defense strategies were used and which strategy was most common following 9/11. Therefore, we asked the following research questions:

**Research Question 1:** Immediately following the 9/11 incidents, which of the proximal TM strategies did people use most commonly?

**Research Question 2:** After the initial reactions to the 9/11 incidents subsided, which of the distal TM strategies did people use most commonly?

Considering the abundant preexisting evidence supporting TMT’s proposition that these proximal and distal reactions to MS inductions are primarily triggered by the terror management motive, we posited the following hypothesis:

**Hypothesis 1:** People are more likely in retrospect to indicate as a motive for their reactions to 9/11 the terror management need than any other need.

**Perspective Taking and TMT**

**Perspective taking** (PT) refers to the ability to understand the point of view of another by accurately identifying the other’s situation, putting oneself in the other’s place, and empathizing with the other’s condition (Eisenberg & Miller, 1987; Long, 1993). PT involves both a cognitive, intellectual reaction and an
emotional reaction (Davis, 1983) and also involves both conscious (explicit) and nonconscious (implicit) processes (Galinsky & Moskowitz, 2000). High perspective takers tend to internalize another’s perspective and share the other person’s feelings (i.e., ascribing a greater percentage of self-descriptive traits to the other than to themselves; Davis, Conklin, Smith, & Luce, 1996; Galinsky & Moskowitz). However, Galinsky and Moskowitz noted that this self–other overlap is not due to the self’s increased liking of the other but rather to the perception of more nonstereotypic, individual characteristics of the other that the self can identify with. Davis et al. (1996) concurred that this self–other overlap is an implicit effect of PT that is independent of both liking and perceived similarity.

PT is associated with prosocial behaviors (e.g., helping behavior and forgiveness), nonegocentric orientation (i.e., being less self-oriented and more concerned for the other’s feelings and needs), social competence (i.e., having the ability to anticipate others’ behaviors and reactions facilitates pleasant interpersonal interactions), heroic behaviors, and gestures of altruism in social and personal relationships (Batson, 1998; Davis, 1983; Oswald, 2002; Takaku, 2001). High perspective takers are also less likely to engage in aggression when provoked (Richardson, Hammock, Smith, Gardner, & Signo, 1994).

PT influences helping behavior, even when the target of the helping does not share the same group membership with the self (Batson et al., 1997). In Batson et al., students that were high perspective takers self-reportedly offered help to students from a rival university. This finding is not surprising, because of the prior findings that indicate that, unlike low perspective takers, high perspective takers process information in a nonbiased and nonstereotypical manner and therefore are less likely to commit attribution errors and avoid dispositional attributions regarding others’ behaviors (Regan & Totten, 1975).

High (versus low) perspective takers are less likely to make attribution errors because they can avoid actor and observer bias. According to Jones and Nisbett (1971), actors and observers tend to make different attributions about the same behavior because they have different perspectives: Observers focus on actors, and therefore the actors’ behaviors are more salient to the observers than the situation, whereas actors focus on the situation, rather than on themselves. However, this reasoning does not apply to high perspective takers. Regan and Totten (1975) found that high perspective takers make the same attributions for others as they would make for themselves if they were in the same situation.

High perspective takers tend to have high self-esteem (Davis, 1983). In light of TMT, high self-esteem is one of the factors that mitigate anxiety and worldview defense resulting from MS inductions (Harmon-Jones et al., 1997). In Harmon-Jones et al., high self-esteem eliminated the effects of mortality salience in reaction to an anti-American essay and a pro-American essay, meaning that participants did not display extreme reactions to these essays. This finding held true regardless of whether high self-esteem was temporarily raised (through positive
personality feedback) or was chronic (i.e., kept intact). Similarly, Salzman (2001) found that self-esteem has an anxiety-buffering effect and that people who have high self-esteem (i.e., who feel that they live up to the standards of the values of the world and who are “winners” and feel secure) are less defensive after exposure to MS-inducing situations. We speculate that high PT may also have reduced or eliminated the effect of MS following 9/11, because high PT enables people to feel more secure about their self-worth in this world, more aware of the attackers’ viewpoint, and more concerned about what the victims might be going through.

Overall, one can conclude that PT leads to constructive and competent social functioning—ranging from unbiased attributions to empathic concerns, to offering help to those in need—and that PT may have implications about varied preferences in Americans’ reactions to 9/11. High perspective takers may, consciously and nonconsciously, process the unpleasant and shocking information differently from low perspective takers and may respond accordingly. High perspective takers may identify with victims of disasters and care about their welfare before their own safety and survival (e.g., having empathy and performing prosocial behavior). In addition, high perspective takers may even be able to consider the situation that the people who happen to identify with the terrorists because of national and religious affiliations might be in and be able to reach out to them to offer emotional support, a possibility that has not yet been tested. Therefore, we posited the following hypothesis:

Hypothesis 2: The distal reactions to 9/11 of high perspective takers will differ from those of low perspective takers.

Method

Participants

We recruited 121 undergraduate students from multiple sections of upper, intermediate-, and elementary-level general education courses in a relatively large state university in the Midwest of the United States (42 men, 75 women, 4 people who didn’t report their gender; all were aged between 18 years and 49 years, *Md* = 21 years). Among those, 64 (53%) reported having military personnel or a veteran in their family. Approximately 90% (*n* = 109) were White, 3% (*n* = 4) were Hispanic, 1% (*n* = 1) were Arab American, and 6% did not identify their race or ethnicity (*n* = 7). Of the participants, 97% (*n* = 117) were non-ROTC. Semester standing of the participants varied: 27 (22%) were freshmen, 11 (9%) were sophomores, 18 (15%) were juniors, 59 (49%) were seniors, and 2 were other (4 were unidentified). Approximately 32% (*n* = 39) of the participants knew someone (or knew someone who knew someone else) who was directly affected by the 9/11 incidents.
Procedure

The questionnaire consisted of TMT-related open-ended questions, a perspective taking scale, and demographic questions (summarized earlier in the present article) in that order, which we distributed to participants during a class two weeks after 9/11. The questionnaire instructed participants to return the completed questionnaires to their instructor during the class (if the instructor had students fill out the questionnaire during the class) or by the next class. We informed participants that the survey was to identify feelings, actions, and thoughts related to the recent disastrous incidents in New York City; Washington, DC; and Pennsylvania on September 11 of the same year. In the informed consent form, we assured participants that the information they would provide would remain anonymous and that their participation was voluntary.

Measures

Terror management strategies and motives. To solicit responses that were directly related to 9/11, we provided the following instruction first:

The purpose of this survey is to find out what actions and feelings people have been experiencing after the disastrous incidents in NYC, Washington, DC, and rural Pennsylvania on September 11. Please respond to these questions as sincerely, accurately, and specifically as possible.

Following the statement, we asked three open-ended questions to identify (a) proximal defensive reactions, that is, “What was your first reaction after hearing about or watching the news (e.g., any relevant emotions, thoughts, and/or actions)?”; (b) distal reactions, that is, “What did you do to (or for) other people in relation to these incidents following your initial reactions? Is there anything you have told or done to (or for) other people in relation to these incidents? What are they? List as many as you can recall”; and (c) the motives, that is, “Given your response(s) in #2, what were your motives for each response? Please list your specific motive for each word or action.”

To code these open-ended responses, we used the types of proximal and distal reactions identified by Pyszczynski et al. (2003). They listed four types of proximal reactions that were based on anecdotal observations and news coverage of Americans’ responses following 9/11:

1. Utter shock and disbelief at the news, for example, “This can’t be happening” and “Thanking our lucky stars and finding solace that we were not directly involved.”
2. Diverting attention to activities seemingly unrelated to the disasters that had occurred only a moment ago, for example, drinking, shopping, and watching television.
3. Withdrawing or “curling up like an armadillo,” that is, actively protecting oneself and minimizing one’s vulnerability to death, for example, by physically hiding, staying away from public places, avoiding flying, or actually arming oneself.

4. Undermining one’s self, that is, indicating the willingness to sacrifice individual freedom and privacy for the sake of national safety and supporting a greater governmental intrusion and surveillance (Pyszczynski et al., 2003).

In the present study, we classified behaviors that did not fit any of these categories as other.

Pyszczynski et al. (2003) identified six common distal reactions after 9/11: (a) increase in search for meaning and value (e.g., praying, going to religious services or a candlelight vigil); (b) upsurge in patriotism and nationalistic sentiment (e.g., wearing symbols that reaffirm faith in the American way of life, listening to more traditional patriotic songs, derogating different cultural values); (c) less tolerance and greater hostility toward divergent values and views, greater prejudice or stereotyping or bigotry; (d) counterbigotry activism (e.g., calling for tolerance and understanding, awareness of deeper-level issues); (e) increased altruistic or prosocial behaviors (e.g., empathy or comforting, donation); and (f) greater appreciation of heroes associated with 9/11 (e.g., respect for 9/11 rescue workers; Pyszczynski et al., 2003).

For the purpose of the present study, we made slight modifications to Pyszczynski et al.’s (2003) typology by including three additional types of distal reactions: (a) “increased interpersonal communication for relationship investment” (e.g., calling friends or family to show care for them, bolstering the value of relationship),” (b) “increased communication for information seeking and sharing” (e.g., talking to people for relevant information, watching TV), and (c) “no action.” We included relational investment because Florian et al. (2002) indicated that romantic commitments function to buffer anxiety that was caused by the existential terror, and we speculated that in the wake of 9/11, people may have been reminded of the value of significant others, including family, friends, and romantic partners. We included “no action” to identify the extent to which individuals’ reactions to threat to self-preservation vary, regardless of TMT-based predictions. Finally, we merged “less tolerance and greater bigotry” with “patriotism and nationalistic sentiment” because in a national crisis situation like 9/11, patriotism may seem to involve suppressing disagreements, preventing others from freely expressing different views, derogating out-groups (in this case, Muslims or individuals of a Middle Eastern descent), or seeking unrealistic conformity, as demonstrated by numerous studies concerning groupthink (Janis, 1983).

Two judges reviewed the typology of proximal and distal reactions together. However, the judges coded the open-ended responses independently. Intercoder reliabilities ranged between 89.5% (for distal strategies), 91% (for proximal strategies), and 97.5% (for TM motives). Discrepancies between the
coders were not an issue once the reasoning behind each respective coding was discussed.

**Perspective taking.** We assessed perspective taking using the seven-item PT subscale from the Interpersonal Reactivity Index (Davis, 1983). This measure was designed to assess the extent to which a person can understand others’ perspectives (e.g., “I sometimes find it difficult to see things from the other’s point of view”) and has well-established reliability and validity (Long, 1993). The α coefficient for the PT scale was .74. We asked respondents to indicate the degree to which each statement accurately describes them (1 = *strongly disagree*, 7 = *strongly agree*). To avoid response bias, we placed negative and positive items alternately. In addition, for the entire questionnaire, we placed TMT-related questions first, followed by the PT measure, to avoid a lack of response validity because of demand characteristics. We determined high perspective takers and low perspective takers by the median score (\(Mdn = 5.3\)), excluding nine responses that fell exactly on the median and 3 cases with missing information. Scores lower than the median meant low perspective taking \((n = 56, 46\%)\), whereas scores higher than the median meant high perspective taking \((n = 53, 44\%)\).

**Results**

In response to Research Question 1, which type of proximal TM strategies was used most often after 9/11, we counted the frequency of each type: 83 respondents (68.6%) reported experiencing simple shock or disbelief in reaction to the 9/11 incidents. See Figure 1. Examples of participants’ expressions of simple shock or disbelief follow: “I was horrified and shocked. I first thought it was an accident”; “I was shocked and terrified”; “Shocked. I couldn’t believe it was really happening”; and “That it was not real. I did not believe my friend who told me.” Only one person indicated attempting to deny or minimize vulnerability as a proximal reaction: “Sad, I left work and went home and didn’t go out till that evening.” Of all respondents, 37 (30.6%) indicated reacting in a variety of ways not implied by the four categories identified by Pyszczynski et al. (2003): for example, “Israel will like this”; “I was very worried and nervous because my aunt and uncle live and work in Manhattan”; “I heard about it first when everyone assumed it had been an accident, then the second plane hit, I was pretty calm, though, and didn’t really react”; and “I was mad at Arabs. I thought Muslims were against us.” Many of these “other” responses referred to concerns about close others (e.g., family members) and their safety. Overall, it appears that, although a majority of responses were proximal TM strategies (especially shock and disbelief), there was a substantial number of non-proximal TM responses that do not resemble any of the four categories identified by Pyszczynski et al. (2003).

Research Question 2 concerned the type of distal strategies that participants used most often after 9/11. The question required multiple response analysis,
because many people reported engaging in more than one activity in reaction to 9/11. A total of 199 strategies were reported; see Figure 2. Among those responses, altruistic and prosocial behavior were reported most often \((n = 78, 39\%)\), followed by intensifying the quest for value and meaning \((n = 32, 16\%)\), information seeking or sharing communication \((n = 22, 11\%)\), communication for relationship investment \((n = 21, 11\%)\), heightened patriotism or nationalism \((n = 16, 8\%)\), and counterbigotry advocacy \((n = 12, 6\%)\). Of the distal reactions, 18 \((9\%)\) involved “no action.” Three participants reported displaying less tolerance or greater hostility (e.g., “Let’s bomb them; if they’re not with us, they’re against us . . .,” “. . . racial comments,” and “I’ve probably been rude to Arab people. I know that it’s wrong, but I’m still mad at them”).

The most common form of distal defense in the present results, altruistic or prosocial behavior, involved activities such as showing empathy, donating blood or money, and comforting. Some individuals who engaged in one type of altruistic behavior also reported engaging in other types of altruistic behavior. For example, one participant made statements such as the following, indicating multiple activities they have engaged in: “I gave money to firemen at a grocery store and comforted a friend with a missing relative. I gave blood to help the relief

![Figure 1. Proximal defenses. 1 = Shock or disbelief; 3 = Seeking safety; 5 = Other.](image-url)
efforts. One of the campus organization that I belong to allowed me to get involved with raising $ for the people of NYC. I also found myself being nicer than usual to everyone, especially strangers.”

Many participants indicated engaging in other types of distal defense strategies along with altruistic prosocial behavior. For example, some people enacted (a) both altruism and relationship investment (e.g., “I tell as many of the people around me what they mean to me. I feel closer to those I have and care about. I have also given money to the homeless man that always stands outside of Wal-Mart”); (b) both altruism and communication for information sharing (e.g., “I told others that even though many things would change everything would turn out okay because it usually does. I forwarded a lot of emails pertaining to the attack to most of my friends and family”); and (c) altruism, intensified quest for meaning and value, and counterbigotry advocacy (e.g., “I have prayed for the victims and their families. I bought one of the t-shirts. I try to promote awareness that Muslims are not bad people at all”). Other participants indicated more than three types of distal defense activities, for example, communication for information seeking and sharing, intensified quest for meaning and value, intensified patriotism, and altruistic or prosocial behavior (e.g., “A lot involved e-mails—stopping chain letters about that ‘missing guy,’ Nostradamus, etc., lit a candle, hung my flag in front of
my house, stay [sic] in contact with family and friends in NYC more than before, prayed, couldn’t give blood but encouraged others to”).

In Hypothesis 1, we predicted that the above-mentioned defenses were motivated by one’s need to manage the existential terror (i.e., the need to reduce fear of mortality induced by the 9/11 incident). Confirming this hypothesis, among the 121 respondents, 100 (83%) indicated the need for terror management (e.g., “It made me feel better,” “My motive for telling the people around me how I feel about them is that each day I am with them may be the last and I would want them to be sure of my feelings,” and “My motive was believing in God”). Of all of the respondents, 16 (13%) did not indicate what their motives were. Only 5 responses (4%) did not coincide with the TMT-based prediction. The 5 non–TMT-confirming responses were as follows: criticism against U.S. foreign policy (“The government builds bad relations with countries any time they interfere with wars or conflicts that don’t concern US. They caused this”), genuine interest in international relations (“It was interesting news, curious about its effects” on Middle East conflict resolution), racial justice (“racism and other things like that shouldn’t matter, we are all the same”), community service requirement (“I was assigned to” intern at Red Cross and worked at the blood drive), and counseling (“I was trying to rationalize and think out his decision” to enlist in the army after 9/11). The present authors speculated that the fear of annihilation may have caused some people to distance themselves from feelings and objectively evaluate the situation as a third party, but this speculation could not be examined in the present study. In addition, the distancing and political analysis may be related to the amount of knowledge and interest that individuals had on issues such as U.S. policies toward the Middle East conflict and international political dynamics.

In Hypothesis 2, we predicted that high and low perspective takers would differ in their self-reported reactions to 9/11. Overall, no significant differences emerged. A chi-square analysis revealed no significant variation that was due to the function of PT with respect to proximal responses: 68% (n = 38) of low perspective takers expressed shock and disbelief, whereas approximately 70% (37) of high perspective takers indicated shock and disbelief. About 32% (n = 18) of low perspective takers and 28% (15) of high perspective takers indicated actions and thoughts, respectively, that were not identified by Pyszczynski et al. (2003). Multiple-response and chi-square analyses revealed no statistical significance, except for the “no action” defense; see Table 1. With respect to increased patriotism or nationalistic sentiment, no statistical significance emerged: 5 (9%) low perspective takers, versus 7 (14%) high perspective takers, indicated increased patriotism; whereas 51 (91%) low perspective takers, versus 44 (86%) high perspective takers, showed no increased patriotism. Regardless of PT tendencies, a vast majority of participants did not believe that they had become more patriotic or nationalistic in reaction to 9/11. With one exception, however, statistical significance emerged in regards to “no action”: 14 (25%) low perspective takers, versus 3 (6%)
high perspective takers, reported no reaction whatsoever; whereas 42 (75%) low perspective takers, versus 48 (94%) high perspective takers, indicated reacting one way or another in a socially desirable way, as mentioned earlier in the present article (e.g., interpersonal communication, altruistic or prosocial behavior, and counterbigotry activism). In other words, significantly more (by 19%) high perspective takers than low perspective takers reported engaging in some type of constructive activities in reaction to the 9/11 events. Still, in the context of the post-9/11 period, individuals chose to engage in altruistic or prosocial behavior most often regardless of the level of perspective taking; this choice was followed by other TM-related reactions. Interestingly, in the present study, no respondent explicitly indicated an increased admiration or need for heroes because of 9/11.

Because 39 participants in the present study reported knowing someone who had been directly or indirectly affected by 9/11, we performed an ad hoc chi-square analysis to determine whether proximal and distal reactions varied because of participants’ personal knowledge of or involvement with a 9/11 victim. The results indicated that personal knowledge or involvement overall had no significant impact on TM reactions. With one exception, significant differences emerged in the case of “no action,” $\chi^2 = 4.52, p < .05$. Among the participants who knew victims of 9/11 directly or indirectly, fewer people (5%, $n = 2$) than expected ($n = 6$) indicated that they did not do anything particular, whereas more people (95%, $n = 37$) than expected ($n = 33$) did something. On the other hand, among people who did not know any victim of 9/11 directly or indirectly, more people (12%, 16) than expected (12) reported “no action,” whereas fewer people (64) than expected (68) took action. We discarded two cases automatically because of missing information.

**Discussion**

The purpose of the present study was to identify common reactions to 9/11 in its aftermath, to test the theory of terror management in its ability to explain

| TABLE 1. Distal Defense Types by Perspective Taking, $n$ (%) |
|-----------------|---|---|---|---|---|---|---|---|
| Level of PT     | 1 | 2 | 3  | 4  | 5  | 6  | 7 | 8  |
| Low             | 5 (9) | 5 (10) | 31 (55) | 0 | 10 (18) | 8 (14) | 14 (25) | 3 (5) |
| High            | 7 (14) | 10 (20) | 25 (49) | 0 | 16 (31) | 9 (18) | 3 (6) | 7 (14) |

*Note. 1 = Intensifying patriotism or nationalistic sentiment; 2 = Communication for relationship investment; 3 = Empathy and prosocial behavior; 4 = Increased need for heroes; 5 = Increased quest for meaning and value; 6 = Communication for information and sharing; 7 = No action; 8 = Criticism and counterbigotry advocacy; PT = Perspective taking.*
the motives for the post-9/11 reactions from the perspective of participants, and to test the implication of perspective taking in the selection of terror management strategies. **In brief**, the results largely supported TMT-based predictions. Both proximal and distal TM strategies were evident, confirming the dual model of terror management (Pyszczynski et al., 1999). Simple shock or disbelief was the most frequently identified proximal strategy, and altruistic or prosocial behavior was the most common distal strategy. However, in the present sample, nobody reported using either of two types of proximal defenses (engaging in distraction and undermining freedom), and nobody reported using one distal defense type (increased need for heroes); yet all of them appeared in Pyszczynski et al. (2003). The effect of PT was insignificant for all strategies. However, high (versus low) perspective takers were significantly more likely to engage in some type of terror management and defense than not.

The present results support Pyszczynski et al.’s (1999) dual terror management model: Concurring with TMT, the person’s initial conscious awareness of death activated proximal, psychological defenses; and following some delay, as the salience of death became less explicit yet still accessible to the person, this implicit awareness of death triggered the distal terror management device (Greenberg et al., 2000). For example, one participant who first reacted with a proximal defense of shock or disbelief (“that it was not real, I heard it from a friend and did not believe her”) later reported engaging in a distal defense that was a combination of altruistic or prosocial behavior (“giving money”) and intensification of the need for meaning and value (“prayer”). Further, supporting TMT’s main premise, this same respondent indicated that the motive was self-esteem maintenance (“It made me feel better”). In the face of mortality, individuals are likely to attempt to bolster self-esteem by enacting behaviors congruent with cultural values. Overall, 9/11 was an MS-inducing event (i.e., it engendered thoughts about death) and required short- and long-term reactions that reflected the need for terror management and defense.

Open-ended responses revealed that shock and disbelief were the most common forms of proximal defense, which is one of those defenses identified by Pyszczynski et al. (2003). Only one person reported dealing with terror by minimizing his or her vulnerability, stating that “I wanted the people who were responsible to be punished ....” This response resonates the federal-level massive post-9/11 investigation and security measures undertaken to ensure the national security, which in turn signify the sacrifice of individuals’ freedom (Pyszczynski et al., 2003). It is also noteworthy that the present study did not confirm all of Pyszczynski et al.’s (2003) potential proximal defenses (e.g., avoiding MS through distraction or undermining freedom). It is not yet certain to what the remarkable gaps among the different types of proximal defenses can be attributed (e.g., the young college-aged sample, a flaw in typology, etc.).

Another conclusion from the present study concerns the importance of communication in coping with disastrous events. Interpersonal communication
underlies a seemingly wide range of distal defenses that are represented in the dual TM model, for example, altruistic or prosocial behavior, intensified search for meaning or value, communication for information seeking or sharing and relationship investment, heightened patriotism or heroism, and counterbigotry advocacy. A significant portion of altruistic or prosocial behavior in nature involves interpersonal interaction (e.g., comforting, showing empathy). A majority of participants preferred to actively engage in interpersonal communication (especially with family and friends) in an effort to seek and share information, express their opinions, and show love and commitment to a relationship. This finding is consistent with the empirical finding concerning the terror management function or anxiety-buffering function of close relationships (Florian et al., 2002).

Another prominent theoretical perspective, social comparison theory (Festinger, 1954), can explain the circumstance that a common factor underlying a majority of distal responses is communication with others. Under novel circumstances like 9/11, people have a strong need to validate their feelings and behaviors, and social comparison allows them to determine whether or not they share common perceptions with significant or similar others. (Thus, in the present study, some people even reported engaging in conversations with strangers to seek or verify information and share feelings.) Based on social comparison theory, this reasoning is consistent with the TMT explanation (as supported by the present study) in that most people’s self-identified motives for enacting socially desirable, altruistic behaviors following 9/11 were based on the need to conform to cultural values, which in turn helps them maintain their sense of worth and self-esteem.

The results of the present study support the main thesis of TMT that human behaviors are motivated by the desire for worldview defense and self-esteem maintenance (Pyszczynski et al., 1999). An overwhelming majority of respondents indicated that reactions to the reminder of their mortality (i.e., 9/11) were motivated by the need for terror management. According to TMT, terror management is “an unconscious and ongoing defense that serves to avert the potential for terror engendered by the knowledge of mortality” (Pyszczynski et al., 2003, p. 55) and consists of cultural worldview defense strategies to maintain or bolster one’s self-esteem. Despite their awareness of the ultimate death, humans are motivated to remove thoughts of death from consciousness (e.g., to deny or actively suppress their vulnerability to death through expressing shock or disbelief) and, therefore, subconsciously attempt to control this problem by adhering to cultural standards of meaning, goodness, and value, to eventually attain a sense of security and immortality.

The identification of individual variation in terror management defense choices was another concern of the present study. Because of prior research findings regarding the effect of perspective taking on a variety of prosocial and altruistic behavioral tendencies (e.g., Batson, 1998; Oswald, 2002; Takaku, 2001), we expected significant differences in reactions to 9/11. However, the results did not show unequivocal support for this expectation: High perspective takers and low
perspective takers did not differ in terror management patterns. Regardless of high or low perspective-taking ability, most individuals’ self-identified motives for their reactions to 9/11 were consistent with TMT-based predictions: the reactions of both high perspective takers and low perspective takers were governed primarily by the terror-management need and represented cultural worldview-confirming and self-esteem bolstering defenses. It appears that when faced with national disasters of the magnitude of 9/11, people’s reactions to mortality salience may be grounded in a universal need for reducing terror and uncertainty more by automatically following social expectations and cultural scripts than by idiosyncrasies. This reasoning concurs with Fredrickson, Tugade, Waugh, and Larkin (2003), who reported that people appear to have a natural tendency to draw on positive emotions (e.g., gratitude, love, interest, and hope) to cope with postcrisis stresses. Fredrickson et al. found that, regardless of their levels of psychological resilience prior to 9/11 and in spite of negative emotions experienced during the days following 9/11, positive emotions mediated the impact of the 9/11 crisis on depressive symptoms and even instilled personal growth for resilient people (i.e., they found positive meaning within problems associated with 9/11).

With only one exception, differences between high perspective takers and low perspective takers indeed emerged in terms of activeness or inactiveness in terror-management efforts. High (versus low) perspective takers were significantly more likely to participate in some type of distal behaviors than in nothing. We therefore speculate that high perspective takers, allegedly empathetic and competent communicators, engage in prosocial (largely, by nature, interactive) activities more than antisocial ones (e.g., withdrawal, avoidance), and this speculation is congruent with aforementioned prior research findings (e.g., Batson, 1998).

One should note that in the present study, some minor discrepancies from the perspective of TMT surfaced. First, a small number of the participants (9%) reportedly did not do anything in reaction to 9/11, which signifies an apparent lack of worldview and self-esteem defense efforts. However, in hindsight, this finding may simply reflect individual variability in reactions to actual and perceived life-threatening situations that is due to different personality characteristics. The aforementioned (low) perspective taking could be one explanation. In addition, people with insecure (versus secure) attachment style might prefer to distance themselves from the anxiety-provoking situation (in this case, 9/11) and may attempt to suppress fear and anxiety by distracting themselves from the thought of death by any means, such as not doing anything, and pretend that nothing has happened or that nothing bothers them. According to Mikulincer and Florian (2000), securely attached individuals, as opposed to the insecurely attached individuals, may have a stronger belief in their symbolic immortality, because they have well-developed self-esteem defense mechanisms and invest more in intimate relationships as an anxiety buffer for mortality salience. Insecurely attached individuals need more assurances and supportive communication after dramatically aversive experiences than securely attached individuals need to function productively in uncertain times.
Second, the effect of priming on terror management defenses is noteworthy. Initially, we were surprised that only three participants in the present study indicated less tolerance or greater hostility since 9/11 as a distal defense mechanism. Prior researchers (e.g., Greenberg et al., 2000) have shown that when reminded of the possibility of death, people generally became more intolerant and negatively biased toward people who directly criticized American values and way of life (Greenberg et al., 2000) or who have different worldviews (Greenberg et al., 1990) and that in such circumstances, people have enacted greater physical aggression against cultural outsiders (McGregor et al., 1998). Although at first glance seemingly contradictory to the TMT perspective, this finding also suits TMT. Because of the widely broadcast 9/11-related public messages calling for tolerance and antibigotry and because of the consequent social desirability and self-presentation concerns (in the end, for the sake of self-esteem maintenance), it makes sense that participants in the present study might have resisted biased thoughts and avoided making hostile and intolerant comments. In a study conducted to identify the factors other than individual differences that can reduce or eliminate the influence of mortality salience, Greenberg, Simon, Pyszczynski, Solomon, and Chatel (1992) found that priming the value of tolerance eliminated the effect of mortality salience on hostility toward those who are different or critical of the American culture. Greenberg et al.’s (1992) finding suggested that messages of tolerance by public figures and mass media play a critical role in maintaining the United States as a civil society, especially when mortality salience and uncertainty are high.

The present findings further imply a significant role of emotion in terror management, because a considerable number of proximal reactions to 9/11 involved emotions (especially negative ones). Approximately one third of the participants in the present study indicated that their proximal defense was something “other” than those proximal defenses identified by Pyszczynski et al. (2003). However, as stated earlier in the present article, the predominantly common proximal defense was shock or disbelief, for example, “I was mad at the Arabs,” “I got frustrated and mad,” “I was appalled,” “Sad and mad at the same time,” “I— off and ready to strike back,” “I was nervous,” “Concern for people, then anger at bin Laden,” and “Holy s—!” Among the 37 responses in the “other” category, approximately 76% ($n = 28$) were primarily expressions of emotional state, meaning that about a quarter of all proximal defenses (23%) reported in the present study were emotional reactions. Even some of the defenses that were primarily coded as “shock/disbelief” were accompanied by emotional words and statements (e.g., “I couldn’t believe it was really happening. I was upset and mad that it could happen,” and “Upset, disbelief, shock”). Although the present study at first glance fails to explain the role of emotion in terror management and self-esteem maintenance, one can speculate that, consistent with TMT, these negative emotions can be considered as a prelude or an alternative to physical aggression (see McGregor et al., 1998). Still, it is not certain whether (a) these emotional reac-
tions were caused by the respondents’ preexisting political attitude toward Osama bin Laden, Al Qaeda, or the Middle East crisis in general or (b) the emotions were related to other personality traits that might lead to different ego-boosting strategies. In the aforementioned study, Fredrickson et al. (2003) found that in the aftermath of 9/11, psychologically resilient people reportedly experienced negative emotions (e.g., anger and sadness) less frequently than did their less resilient counterparts, suggesting that negative emotional reactions may be due to a lack of trait resilience.

Although the findings from the present study certainly confirmed and extended extant scholarship on TMT, investigators should note its potentially major methodological limitation in that the present study grew out of an unexpected historical event that permitted only a “one-group posttest-only design,” precluding both pretest observations and a control group (see Cook & Campbell, 1979, p. 96). A crucial question may arise: “Are the respondents’ reactions directly related to 9/11 or due to internal threats that render the study invalid?” Our answer is three-fold: first, the present study has a more complex design than a simple case study with a single dependent variable. The present study specifically examined three different levels of responses to 9/11 (i.e., Research Question 1, Research Question 2, and Hypothesis 1). Respondents’ reactions varied not only in kind and amount to the questions but in ways that resembled the complex reactions of individuals who have experienced and managed existential terror in other experimental studies (see Pyszczynski et al., 2003). Second, the respondents left many “fingerprints” on their open-ended responses that leave little doubt that they were indeed responding to 9/11 and not to some other event. A content analysis shows that every respondent referred at least once to objects associated with the event (e.g., “Twin Towers,” “the planes,” “firemen,” and “NYC”), to the event itself, or to the terrorists themselves. Finally, one may argue that the study’s design is susceptible to Campbell and Stanley’s (1963) four threats: history, maturation, mortality, and selection. History is a nonfactor because the questionnaire was filled out only two weeks after 9/11, with no other big event during that period, during which 9/11 was the most salient, if not the primary, topic on earth. Maturation factors are unlikely because the responses were all strongly associated with 9/11. Mortality was not a factor because the participating instructors reported a 100% return rate. Last, although all respondents were university students, it is evident that their psychological reactions were rather linked to existential terror than to any mundane negative or anxiety-provoking event associated with student life, as established in prior research (see Greenberg, Simon, Harmon-Jones, et al., 1995).

Overall, we conclude that TMT is useful for explaining and predicting human behaviors in a variety of contexts and that the power of TMT can be increased by considering additional factors (e.g., personality traits and external influences). When self-preservation is at stake, humans are driven to engage in prosocial, communicative behaviors that conform to the prevailing cultural worldview, after they overcome the initial shock and disbelief. In addition, the
magnitude of existential terror largely outweighs individual differences (e.g., perspective taking). Taking into account the participants’ perspective, the present study confirmed and extended TMT, especially when it concerns a larger context and a significant international clash.

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