


# When Death is Good for Life: Considering the Positive Trajectories of Terror Management

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## Abstract

Research derived from terror management theory (TMT) has shown that people's efforts to manage the awareness of death often have deleterious consequences for the individual and society. The present article takes a closer look at the conceptual foundations of TMT and considers some of the more beneficial trajectories of the terror management process. The awareness of mortality can motivate people to enhance their physical health and prioritize growth-oriented goals; live up to positive standards and beliefs; build supportive relationships and encourage the development of peaceful, charitable communities; and foster open-minded and growth-oriented behaviors. The article also tentatively explores the potential enriching impact of direct encounters with death. Overall, the present analysis suggests that although death awareness can, at times, generate negative outcomes, it can also function to move people along more positive trajectories and contribute to the good life.

## Keywords

terror management, death/mortality salience, positive, social cognition, health, norms/social roles, helping/prosocial behavior, close relationships, intergroup relations, motivation/goals

Death hangs over thee. While thou livest, while it is in  
thy power, be good.

Marcus Aurelius (C. 169/1957, p. 20)

No matter how diligently we might try to avoid it, the inevitability of death hangs over us all. In television shows, in music lyrics, in news stories, or even a casual walk through town, everyday life is replete with reminders that our lives will undoubtedly end. As if this is not unsettling enough, terror management theory (TMT; Greenberg, Pyszczynski, & Solomon, 1986) has elucidated how efforts to manage concerns about the inevitability of death contribute to many of the more unsavory forms of human behavior, ranging from prejudice and aggression to support for war and terrorism (see Greenberg, Solomon, & Arndt, 2008, for a review). It is perhaps not surprising then, given the deleterious nature of these outcomes, that efforts to manage concerns about death can be viewed as fueling the dark underbelly of human social functioning. Yet, in the current article we argue that viewing the awareness of death in such negative terms may obscure the more positive trajectories that it can elicit as well.

As illustrated by the literature of Tolstoy and Dickens, the stoic philosophies of Epictetus and Seneca, Eastern and Western meditation and prayer practices, and myriad other

phenomena, the management of death concerns can play a key role in motivating people to stay true to their virtues, to build loving relationships, and to grow in fulfilling ways. Consistent with this view, emerging lines of research are revealing that death awareness can be managed through more noble, creative, or prosocial behaviors, and that terror management efforts can contribute to personal growth and enriching experiences. In the present article, we take a closer look at the conceptual foundations of TMT and consider some of the more positive, or optimal, trajectories that terror management efforts can foster. For the most part, these trajectories have been overshadowed by the deleterious consequences frequently featured in the TMT literature. The present analysis will thus provide a broad understanding of how existential concerns can facilitate beneficial personal and social outcomes.

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## TMT and Research

Stemming from the works of Ernest Becker (1962, 1973) and Otto Rank (1936/1950), TMT proposes that the awareness of death is a critical motivating force in human behavior. As human beings evolved, environmental demands led to the development of cognitive abilities that afforded people a heightened self-reflective awareness of themselves within a symbolic universe. While these cognitive abilities brought considerable adaptive benefits, such as long-term planning and the anticipation of future outcomes, they also rendered human beings aware of their mortality. TMT posits that psychological systems have taken shape to help manage our awareness of death and thereby control the anxiety that might otherwise arise. The theory maintains that people manage death awareness through a dual component buffer system that consists of (a) sustaining faith in cultural worldviews and (b) attaining self-esteem by living up to the standards of value that those worldviews provide. Cultural worldviews are socially constructed and validated beliefs that provide people with an opportunity to become part of something that is more enduring than their own physical existence. Such cultures promise faithful and valued members symbolic death transcendence through secular (e.g., authoring a book, teaching a class, having children, or some other legacy) and religious (e.g., heaven, afterlife) means. The second component of the buffer system, self-esteem, reflects perceptions of how well one lives up to the standards outlined by the relevant worldview. Thus, TMT holds that the awareness of mortality can be managed with relative effectiveness to the extent that individuals can maintain faith in a worldview and live up to the values it prescribes.

A number of hypotheses have been generated to test different facets of TMT. In particular, three broad hypotheses have inspired a considerable amount of work. The first is the *mortality salience hypothesis* (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989), which posits that if maintaining faith in cultural beliefs and self-esteem buffers death concerns, then making mortality salient should motivate people to uphold, defend, and adhere to their worldviews and strive for self-esteem. In line with this hypothesis, numerous studies have shown that mortality salience (MS) inductions (e.g., writing about one's own mortality, being primed with death-related imagery or words, passing a funeral home, engaging in death-related health screenings), compared with other threatening or aversive inductions (e.g., uncertainty, failure, public speaking, social exclusion, paralysis, dental pain), engender a multitude of behaviors that appear to be designed to uphold or defend values, bolster faith in worldviews, or boost self-esteem (for a review, see Greenberg, Solomon, & Arndt, 2008).<sup>1</sup> As we will later discuss, considerable research indicates that nonconscious awareness of death (in other words, accessible death-related cognition that is outside of focal awareness) instigates these

defenses (for a review, see Hayes, Schimel, Arndt, & Faucher, 2010).

A second hypothesis, the *anxiety-buffer hypothesis*, holds that if a certain psychological construct functions to buffer against death thoughts, then its presence will attenuate the need for other psychological defenses when people are reminded of death. For instance, following from the prediction that self-esteem helps manage anxiety, mortality reminders elicit defensive reactions among people with low self-esteem but not among those with high self-esteem (Harmon-Jones et al., 1997; Schmeichel et al., 2009). A number of other constructs, such as secure relational attachment and deep religious faith, can similarly mitigate the effects of MS (e.g., Jonas & Fischer, 2006; Mikulincer, Florian, & Hirschberger, 2003).

Finally, the *death-thought accessibility hypothesis* proposes that if an element buffers against death awareness, then undermining it will increase the accessibility of death-related cognitions (see Hayes et al., 2010, for a review). This hypothesis has been assessed with a variety of cultural and self-esteem relevant beliefs pertaining to such domains as nationalism, religion, and even sexuality. In one such study (Schimel, Hayes, Williams, & Jahrig, 2007), Canadian participants presented with a challenge to their nationalistic beliefs subsequently evidenced increased accessibility of death-related thought relative to those not confronted with a worldview threat. Across five studies, Schimel et al. found that worldview threat increased death-thought accessibility independent of anger, anxiety, and negative thoughts. This work highlights the critical role that solid faith in one's cultural worldviews and high self-esteem play in buffering the awareness of mortality.

## Traditional Focus of TMT: The Dark Side

There is no doubt that healthy-mindedness is inadequate as a philosophical doctrine, because the evil facts which it refuses positively to account for are a genuine portion of reality; and they may after all be the best key to life's significance, and possibly the only openers of our eyes to the deepest levels of truth.

William James, 1902, p. 160

Much of the empirical footing for TMT has followed the general tenor of Becker's theorizing across his books: from *The Birth and Death of Meaning* (1962), to *The Denial of Death* (1973), and *Escape From Evil* (1975). Building on his initial premise that culture and self-esteem are key contributors to the successful management of death awareness, Becker then sought to understand harmful and otherwise deleterious social phenomena (e.g., prejudice). As such, initial TMT research largely followed this focus and examined

the degree to which people will harm themselves or others to affirm the integrity of their cultural structures and accrue self-esteem. This initial emphasis on negative outcomes paralleled the conceptual foundation for the theory (i.e., Becker's work) and fell in step with a general trend in the field of social psychology to focus on understanding and averting harmful human behavior. A consequence of such a focus was that the early TMT research paradigms were developed to explore the effects of MS on socially antagonistic forms of worldview defense (e.g., prejudice). When subsequent research began to focus on understanding terror management processes more deeply, researchers tended to use the established worldview defense paradigms, even though an interest in outcomes like prejudice, per se, was not really the focus of that work. For example, when seeking to understand the cognitive and psychodynamic processes associated with conscious versus nonconscious death-related cognition, researchers measured antagonistic forms of worldview defense because they had already been established as reliable outcomes for observing terror management effects (e.g., Arndt, Greenberg, Pyszczynski, & Solomon, 1997; Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). This may have inadvertently contributed to, and helped perpetuate, a continued focus on the more deleterious forms of social behavior.

Thus, most TMT studies (and presentations of the theory) have centered on how existential fears contribute to evaluative biases, defensive distortions, and the aggressive protection of one's cultural beliefs and self-esteem. Studies have indicated that MS increases derogation of—and support for the annihilation of—those who harbor different beliefs and values (e.g., McGregor et al., 1998; Hayes, Schimel, & Williams, 2008), amplifies greed and materialism (e.g., Cozzolino, Staples, Meyers, & Samboceti, 2004; Kasser & Sheldon, 2000), and promotes racism and stereotyping (e.g., Schimel et al., 1999). Strikingly, MS can even increase endorsement of worldview and self-esteem supportive attitudes and behaviors that, ironically, pose significant risks to one's own physical health (e.g., risky driving, Taubman Ben-Ari, Mikulincer, & Florian, 1999; faith-based medical refusals, Vess, Arndt, Cox, Routledge, & Goldenberg, 2009; self-sacrifice, Pyszczynski, et al., 2006; Routledge & Arndt, 2008). These sorts of effects may have contributed to a view that the awareness of death fosters destructive outcomes.<sup>2</sup>

But as Sheldon and King (2001) suggested, it is not just important to understand what harm can be wrought from the dark sides of basic psychological processes but also to improve our understanding of factors that may foster the best in people, in spite of, in addition to, or alongside, factors that might also engender the worst. Previous TMT research and conceptual reviews have typically emphasized and elucidated the more harmful terror management trajectories, overlooking the ways in which terror management processes

can produce more beneficial outcomes. For a theory that purports to offer a broad view of the human existential condition, this is a noticeable gap. It is therefore important to consider whether the motivational forces generated by terror management processes are capable of producing any personal and/or social benefits beyond the effective management of death awareness.

## The Potential for Positive Terror Management

*Yoda:* Strength flows from the Force. But beware of the dark side. Anger, fear, aggression; the dark side of the Force are they. Easily they flow, quick to join you in a fight. If once you start down the dark path, forever will it dominate your destiny, consume you it will.

*Luke Skywalker:* Is the dark side stronger?

*Yoda:* No, no, no. Quicker, easier, more seductive.

*Luke:* But how am I to know the good side from the bad?

Lucas, Kurtz, and Kershner, 1980

A consideration of “positive” terror management first introduces a somewhat thorny conceptual issue regarding subjective evaluations of what is and what is not positive, or optimal, terror management. How should one define “positive” forms of terror management? In discussing peoples' struggle to deal with the inevitability of death, Becker (1973) suggested that the key challenge is to identify strategies for managing death awareness that pose the least harm to the individual, as well as to both those inside and outside one's culture. Becker's approach is also largely consistent with recent work on the science of morality (Daleidin, 1998; Harris, 2010), which emphasizes that “positive” actions and attitudes are those that can be empirically demonstrated to promote well-being in physical (e.g., being healthy), social (e.g., discourage prejudice and violence and/or promote caring and prosocial environments), and/or psychological (e.g., via creativity, open-mindedness, personal growth; see Deci & Ryan, 2000; Runco, 2004) domains. The present analysis builds on those ideas and defines “positive” terror management outcomes as existentially motivated attitudes or behaviors that minimize harm to oneself and others, and promote well-being in physical, social, and psychological domains.

In offering this definition, we note three important caveats. For the first, terror management buffers are functional in that they help reduce the potential to experience anxiety in the face of death awareness (see Greenberg et al., 2003). The absence of terror management buffers leaves people vulnerable to the heightened accessibility of death-related thought, which can lead to manifest anxiety and deficits in

psychological well-being (Edmondson, Park, Chaudoir, & Wortman, 2008; Routledge et al., 2010), and if not buffered in some way, mortality concerns can similarly contribute to anxiety disorders, depression, and impaired self-regulation (e.g., Gailliot, Schmeichel, & Baumeister, 2006; Pyszczynski & Kesebir, 2011; Routledge & Juhl, 2010; Simon, Arndt, Greenberg, Solomon, & Pyszczynski, 1998; Strachan et al., 2007). Thus, our first caveat is that although the basic terror management function appears to be designed to maintain psychological equanimity, at least in the short term, *all* terror management responses—whether considered positive or negative—can be viewed as serving this basic function. The current article therefore looks beyond the immediate functional (and seemingly psychologically healthy) management of death awareness to specifically consider the positive ways in which that basic function can be served.

The second caveat is that any response—even seemingly positive ones—may have the potential to engender negative psychological repercussions, especially if abused or taken to extremes. For example, while love can be considered a positive social response according to the above criteria, if it is misdirected or is used as an unbalanced or sole basis for meaning and value, it can create potentially harmful consequences. Thus, we consider as positive responses those that generally, although perhaps not always, have the potential to foster physical health, the well-being of people inside and outside one's community, or facilitate individuals' self-enrichment and personal growth.<sup>3</sup> The final caveat is simply to acknowledge that, despite our efforts to define "positive" in an objective manner, there will always be a degree of subjectivity to any such classification.

### *A Heuristic Model of Optimal Terror Management*

The following pages will consider whether and how death awareness can be a springboard for personally and socially beneficial outcomes. To organize the conceptual factors underlying various positive terror management responses, we first offer a preliminary heuristic model of positive terror management (see Figure 1). We believe this model helps summarize the extant literature regarding positive methods of terror management and highlights a number of underappreciated phenomena. And, as we will note in the following sections, it also reveals some underinvestigated topics and suggests promising avenues for future research. Thus, the model provides both an integrative and generative view of the potentially beneficial impact of death thought on behaviors and attitudes.

The overarching framework of the model reflects the distinction between the effects of conscious and nonconscious awareness of mortality specified by the dual-process model of TMT (Pyszczynski, Greenberg, & Solomon, 1999). From this perspective, conscious thoughts of death trigger pseudorational efforts to cope with one's vulnerability to mortality

and thus push the topic out of focal awareness. Once death thoughts move out of focal awareness, these pseudorational management efforts are relaxed. However, although death-related thought becomes nonconscious, it remains highly accessible (e.g., a state of deep cognitive activation; Wegner & Smart, 1997), triggering a second mode of processing that entails the types of symbolic or culturally oriented reactions described earlier (e.g., worldview defense, self-esteem striving). Thus, the upper portion of the model specifies potentially positive effects of conscious death-thought activation and the lower portion specifies the effects of nonconscious but accessible death thought.

Focusing first on the upper portion, two branches of work inform potentially constructive responses to conscious death-related cognition. The branch on the left reflects research, conducted within a health context, that generally shows that conscious death thoughts activate pseudorational coping efforts. On one hand, conscious death thought can cause avoidant distortions of one's potential health risk; but on the other hand, when individuals perceive ways to actively improve their health (or reduce their risk), conscious death awareness can motivate deliberately healthy actions that reduce the (perception of) risk and remove the direct conscious awareness of death. The branch on the right reflects research that has also begun to reveal similar patterns involving goal strivings. The model integrates these findings to suggest that conscious death awareness may trigger deliberate evaluation and adjustment of one's personal goals to best cope with an inevitable death, whereby individuals avoid or trivialize goals not perceived as relevant to coping with mortality and may instead increase investment in goals perceived as intrinsically meaningful and supportive.

The lower portion of the model reflects the vast majority of TMT research, which has investigated the effects of nonconscious death-thought activation and its implication for self-related motivations. Given the focus of extant research, the model identifies three broad sets of factors determining whether positive terror management outcomes will emerge. The first of these builds on research demonstrating that nonconscious death awareness enhances efforts to accrue self-esteem and uphold worldview beliefs and values. In this light, terror management can inspire positive attitudes and behaviors depending on the integration and salience of positive contingencies of self-worth and worldview beliefs. Second, research demonstrating the terror management role of close relationships and favorable group identifications suggests that nonconscious accessibility of death thought can enhance motivation to develop and maintain caring relationships, contribute to one's community, and support peaceful intergroup cooperation. And finally, the model builds on research involving cognitive flexibility to suggest that terror management efforts can sometimes lead to enriching self- and social-exploration among cognitively flexible—open-minded or creative—individuals.

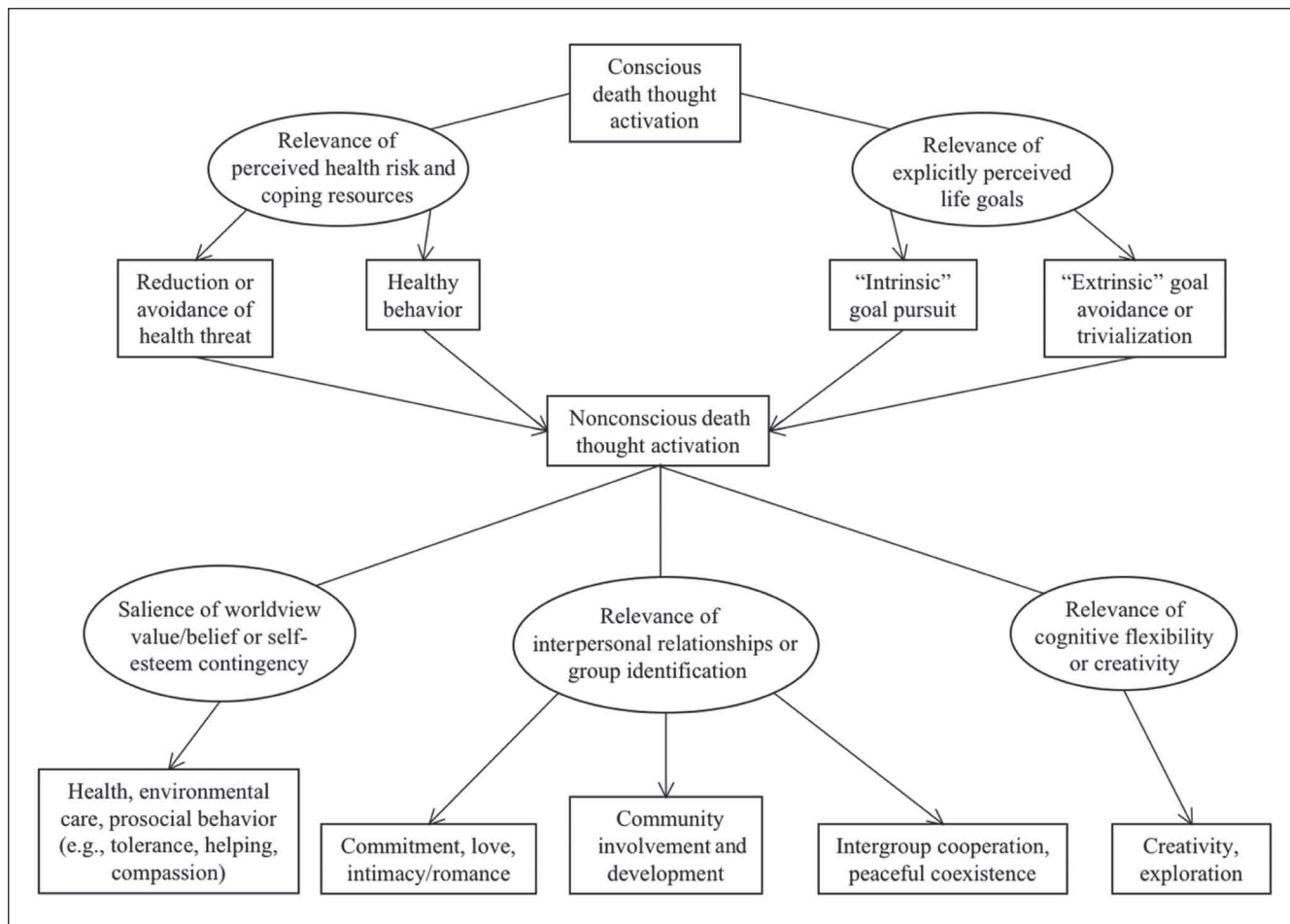


Figure 1. A preliminary, heuristic model of positive terror management.

Thus, in the following pages, we use this model of positive terror management to guide a review of relevant literature, summarize factors determining positive terror management trajectories, and suggest potential areas for future research. After doing so, we then tentatively explore whether and how more direct encounters with death might lead individuals toward prosocial and growth-oriented goals and personal strivings as the result of a mix of both conscious and nonconscious terror management processes.

### The Impact of Conscious Thoughts of Death

As mentioned earlier, a considerable amount of research has indicated that consciously reflecting on one’s mortality prompts efforts to move those thoughts out of direct conscious awareness through pseudorational efforts that minimize, distort, or render less imminent the prospect of mortality (Pyszczynski et al., 1999). That is, when being consciously aware of death, people may make deliberate evaluations of their attitudes and behaviors and, if perceiving

a way to better prevent or cope with death, adjust their behavior and attitudes accordingly. Although this conscious evaluative process is of course subject to other biases and motivations that can influence logic (Kunda, 1990; Pyszczynski & Greenberg, 1987)—hence the description of the process as *pseudorational*—these coping efforts rely on perceived logical connections between certain actions and one’s ability to cope with death. Thus, we first examine how the conscious mode of processing death thoughts can positively impact physical health and lead to more internally meaningful goal strivings.

#### Enhancing Physical Health

Many health-relevant situations arouse conscious thoughts of death. On one hand, in the absence of health-related coping options, or when such options are not perceived as viable, people may manage conscious death thoughts by simply suppressing them or denying their vulnerability to factors that compromise physical health (i.e., disease; see Goldenberg & Arndt, 2008, for review). On the other hand,

as Tolkien noted in *The Hobbit*, “It does not do to leave a live dragon out of your calculations, if you live near him” (1937, p. 195). In this vein, taking steps to improve one’s health directly helps stave off the cold grip of death and is thus a straightforward way to cope with mortality thoughts.

An emerging body of research highlights the potential for death thoughts to motivate healthy behaviors and attitudes, depending on the availability of health-related coping options and relevant individual differences. For instance, when given the option to engage in a health-enhancing behavior, conscious thoughts of death can spark greater fitness and exercise intentions (Arndt, Schimel, & Goldenberg, 2003), reduce smoking intensity among smokers experiencing low cravings (Arndt et al., 2011), and increase intentions to use sunscreen (Routledge, Arndt, & Goldenberg, 2004). Importantly, conscious death awareness tends to motivate people to engage in these types of healthy behaviors especially when the behaviors are perceived as reducing the connection between a particular health risk and death (Cooper, Goldenberg, & Arndt, 2010). Conscious awareness of death also increases health-screening intentions among people higher in health optimism, adaptive coping, and response efficacy perceptions (Arndt, Routledge, & Goldenberg, 2006; Cooper et al., 2010). Such effects presumably occur because these people have a greater inclination to believe their own actions can positively impact their health. In sum, conscious thoughts of death can motivate efforts to reduce one’s perceived vulnerabilities, potentially motivating behaviors and attitudes that improve one’s physical health.

### Goal Priorities

In addition to the impact on health strivings, conscious thoughts of death may help to reprioritize people’s goal strivings by serving as a “reality check” or an “awakening experience” (Heidegger, 1926/1982; L. L. Martin, Campbell, & Henry, 2004; Yalom, 1980). That is, consciously thinking about death may make people more likely to deliberately introspect about their life goals, reevaluating the status-oriented goals often emphasized by the broader cultural milieu and reconsidering goals that might be more inherently supportive and meaningful.

In line with this perspective, one approach to studying goals and personal strivings has focused on differentiating goals concerned with meeting culturally imposed status-oriented standards of worth (“extrinsically” oriented goals) which in Western culture typically include wealth, fame, and physical attractiveness, from goals concerned with the self-directed pursuit of personal growth and insight, the cultivation of positive interpersonal relationships, and the betterment of one’s community (“intrinsically” oriented goals; Kasser & Ryan, 1993, 1996). In Western culture, these extrinsic goals are often emphasized as the gold standard for value and self-esteem. As a result, research has shown that the symbolic cultural strivings aroused by the nonconscious awareness of

death generally motivate endorsement of extrinsically oriented goals for culturally defined success (Heine, Harihara, & Niiya, 2002; Sheldon & Kasser, 2008).

Whereas nonconscious death thoughts tend to motivate individuals to deal with death symbolically by seeking self-esteem through culturally prescribed (extrinsic) goals, conscious thoughts of death might motivate people to trivialize these goals and help reorient people toward more intrinsically meaningful goals, as they make more deliberate considerations about what might constitute worthwhile pursuits. In two studies exploring this idea (Kosloff & Greenberg, 2009), participants responded to questions either about death or pain, and then rated the importance of both intrinsic and extrinsic life goals. Importantly, half the participants were assigned to complete their goal ratings immediately after MS, when death thoughts were still conscious, and the other half completed them after a delay, when death thoughts were no longer in conscious attention. When participants rated their goals after a delay, the death reminder increased the importance they placed on their extrinsic goals, such as wealth and fame (replicating Sheldon & Kasser, 2008); but when participants rated their goals immediately, MS led participants to trivialize the extrinsically oriented goals.

Other methodological approaches to examining the possibility of existentially induced goal reprioritization have revealed similar findings. For example, following the 1994 Northridge earthquake, survivors’ retrospective reports of conscious thoughts about death during the quake predicted greater relative importance placed on intrinsic goals, even several months later (Lykins, Segerstrom, Averill, Evans, & Kemeny, 2007, Study 1). And two 7-day longitudinal experiments showed that, compared with control topics, daily conscious contemplations of mortality led individuals to express greater importance placed on pursuing intrinsic goals (Heflick, Goldenberg, Keroack, & Cooper, 2011; Lykins et al., 2007, Study 3). Such shifts in goal orientations fit our definition of “positive” terror management responses as it enhances psychological well-being and can lead to greater social cohesion (Deci & Ryan, 2000).

In sum, these findings offer preliminary evidence that conscious death awareness can motivate people to deliberately reprioritize their goal strivings. But exactly when and how people’s conscious thoughts of death lead to increased pursuit of intrinsic goals and personal growth remains unclear. One possibility, illustrated in Figure 1, builds on research demonstrating the connection between conscious death thoughts and healthy behaviors. As we noted, the potential for death thoughts to motivate physically healthy behaviors and attitudes depends on the immediately available array of health-related coping options and individual differences in perceived health efficacy. That is, when individuals perceive that they can effectively take steps to improve their health, conscious death awareness motivates them to take those steps. It may similarly be that conscious thoughts of death can render culturally symbolic goals

seemingly trivial and may motivate efforts toward personal growth and intrinsic goal pursuits among individuals who come to perceive such efforts as effective ways to restore or improve their psychological health or enrich their sense of meaning in life.

## The Impact of Nonconscious Thoughts of Death

Of course, even when perceived vulnerabilities to death are reduced, the fact that one will ultimately die is no less real. Once conscious terror management processes have removed death-related thought from focal attention, it becomes non-conscious but remains cognitively accessible. Thus, death concerns remain “under the surface,” staying outside the purview of deliberate evaluation and instead prompting a host of symbolic defenses designed to effectively manage the nonconscious reverberations of death-relevant thought. The lion’s share of TMT research has been devoted to understanding this second (nonconscious) mode of response. As illustrated in the bottom portion of Figure 1, this work can be organized into several broad categories. We turn our attention to each in turn, first considering the impact of terror management efforts when individuals have incorporated positive contingencies of self-worth, and when positive worldview beliefs and values are particularly dominant or salient. Then we consider the effect of existential motivation on the opportunity to develop and maintain caring interpersonal relationships and cooperative intergroup interactions. And finally, we explore the influence of cognitive flexibility on existentially motivated creativity, exploration of novelty, and open-mindedness.

### Standards of Worth

One of the hallmarks of TMT research is that the nonconscious accessibility of mortality-related cognitions motivates efforts to obtain self-esteem by living up to internalized cultural standards of value. As such, a crucial factor determining the outcomes of these terror management processes is the constellation of beliefs and values that set the criteria for self-esteem striving (Crocker & Wolfe, 2001). It is when particular standards of self-worth are dominant or accessible that we begin to see the potential for positive effects of non-conscious death thoughts. To be sure, certain standards can promote the deleterious outcomes that often characterize terror management processes; but, when those standards instead promote behaviors that enhance personal and societal well-being, mortality concerns have the capacity to push people along more positive trajectories.

*Health-related standards of worth.* In contrast to the effect of conscious death thoughts, the nonconscious accessibility of death-related cognitions generally promote terror management processes that are less focused on effectively promoting one’s health and more focused on effectively

accruing self-esteem and social acceptance (Arndt & Goldenberg, in press). A number of studies have shown that such esteem contingencies can, at times, lead people toward unhealthy behavior. For example, death primes have increased risky driving for people who derive self-esteem from their driving abilities (Taubman Ben-Ari, 2000) and increased the desire to suntan for people who derive self-esteem from being attractive and having tanned skin or when the attractiveness and cultural appeal of tanned skin was primed (Routledge, Arndt, & Goldenberg, 2004). Importantly, however, this connection to self-esteem also implies that when maintaining good health is incorporated into one’s contingencies of self-worth, heightened existential concerns can motivate health-related behaviors. For instance, death reminders boosted exercise intentions among people who based their self-esteem on exercise (but not those without this self-worth contingency; Arndt et al., 2003) and increased the relevance of exercising to one’s sense of self-worth after exposure to a positive exemplar of exercise (Arndt et al., 2009).

Self-esteem striving as a means of mitigating accessible death-related thought also plays an important role in facilitating healthy behaviors in cancer-related domains. For instance, despite awareness of its unhealthy consequences, many social smokers may continue to smoke cigarettes if they perceive smoking as promoting a “cool” image and increasing social acceptance (Leary, Tchividjian, & Kraxberger, 1994). However, when smoking was portrayed as “uncool,” death reminders boosted intentions to quit among those who smoked to maintain a favorable social image (Arndt et al., 2009; see also I. M. Martin & Kamins, 2010). Similarly, Cox et al. (2009) found that tanning behaviors varied as a function of MS and the experimental framing of image-related contingencies of value and social acceptance. When college women were primed with the message that “bronze is beautiful,” MS increased tanning intentions; however, when primed with “pale is pretty,” MS reduced tanning intentions. An additional field experiment on a south Florida beach demonstrated that MS boosted women’s preferences for a higher SPF sunscreen when the association between pale skin and attractiveness was highlighted. Cooper, Goldenberg, and Arndt (2011) similarly found that death reminders increased intentions to perform breast self-exams when women were exposed to information that linked the behavior to self-empowerment. Together, these findings suggest that terror management strivings can promote healthy behaviors and decisions when the dominant or salient value contingencies are directed toward positive health outcomes. To the extent that certain contingencies are malleable, these results implicate death reminders as a potentially effective compliment to image- and esteem-based health interventions (e.g., Jackson & Aiken, 2006).

*Proenvironmental standards of worth.* Buffering existential concerns by adhering to contingencies of self-worth also has the potential to yield constructive consequences outside the

health domain. For example, people's contingencies of self-worth can affect environmental concern (Brook, 2005), an issue of prominent importance given the impending degradation of our planet's natural resources. As the foregoing analysis suggests, environmentally relevant contingencies may be especially potent when an individual is faced with managing death-related concerns. In the absence of such contingencies, Kasser and Sheldon (2000) showed that when participants imagined themselves owning a profit-seeking timber harvesting company, death reminders boosted wealth-oriented greed and intentions to harvest a greater percentage of limited forestland. This finding coincides with similar lines of research suggesting that self-esteem is often based on financial success, as well as research suggesting that the human-nature connection is a psychological obstacle in part because our interface with nature is riddled with reminders of our corporeality and of the savage reality of the natural world (e.g., Goldenberg, Pyszczynski, Greenberg, & Solomon, 2000; Koole & Van den Berg, 2004).

However, with the rising prominence of "green" environmental campaigns, many people are deriving a part of their identity from, and basing their self-esteem on, being an environmentally conscientious person, and research suggests that adhering to such environmental contingencies of self-worth can help manage death concerns (Vess & Arndt, 2008). Although MS decreased environmental concern for those who did not derive self-esteem through environmental action, it increased environmental concern among those who drew their self-esteem from environmental action. Similarly, Fritsche, Jonas, Kayser, and Koranyi (2010) showed that when proenvironmental norms were made salient, MS increased sustainable behaviors. These findings suggest that, like contingencies of self-worth predicated on health promotion, when environmentalism is integrated into one's dominant contingencies of self-worth, mortality awareness may trigger efforts to take better care of the environment and promote the well-being of the planet and its inhabitants.

### *Norms, Values, and Facets of Belief*

Just as death-concerns heighten adherence to internalized standards of worth, it can also increase adherence to salient cultural values and norms. This is because, as reviewed above, cultural worldviews prescribe beliefs and values that dictate criteria for self-worth and provide an enduring, structured, and meaningful conception of reality. The norms and values of one's culture therefore play a critical role when managing existential fear. When death-related thought is accessible, people become especially likely to abide by and uphold the salient or dominant norms and values dictated by their cultural worldview (e.g., Gailliot, Sillman, Schmeichel, Maner, & Plant, 2008; Jonas et al., 2008). Although many forms of worldview defense can have socially detrimental consequences (e.g., out-group derogation, stereotyping), other worldview beliefs incorporate prosocial values, such

as those that promote helping, equality, compassion, and empathy. So, to the extent that such prosocial values are salient or dominant facets of one's belief system, terror management processes will motivate efforts to adhere to these constructive tenets. In support of this hypothesis, several studies have revealed that reminders of death can increase prosocial attitudes and behaviors. These outcomes are consistent with our conceptualization of a positive terror management response because they can potentially prevent harm and promote social harmony.

*Tolerance and egalitarianism.* Greenberg, Simon, Pyszczynski, Solomon, and Chatel (1992) posited that, because tolerance is a more dominant value among liberals than among conservatives, liberals should direct their terror management efforts away from derogatory or prejudicial worldview defense. Indeed, whereas American conservatives derogated a politically dissimilar person after MS, liberals did not (Study 1). But although tolerance may be a particularly dominant value for some (e.g., liberals), it is likely that most Americans value tolerance to some extent. Therefore, when tolerance is made salient, it should similarly guide terror management processes. Accordingly, a second study found that priming the value of tolerance reduced derogatory worldview defenses that were otherwise observed after MS. A similar study showed that making the value of tolerance salient eliminated the effects of MS on increased negative attitudes toward Muslims (Vail, Rempel, Arndt, Pope, & Pinel, 2011).<sup>4</sup> But this process does not just reduce harmful behaviors and attitudes, it can also promote positive behaviors. For example, when participants were reminded of the value of egalitarianism, MS increased positive attitudes toward Blacks among non-Black participants (Gailliot et al., 2008). Thus, when tolerance and egalitarianism are particularly accessible, terror management processes appear to direct individuals to uphold these values. This results in less derogatory, punitive, and prejudicial attitudes, as well as more positive interracial attitudes.

*Empathy and forgiveness.* Additional work has investigated the ways that prosocial values, such as empathy and forgiveness, can guide the management of death concerns in positive directions. Empathic experiences are characterized by prosocial values and emotions such as compassion, sympathy, and the expression of emotional sensitivity to the thoughts and feelings of others (Batson, Ahmad, & Lishner, 2009). These values and emotions among empathic individuals set the stage for the expression of kindness and forgiveness as a means of managing the awareness of mortality. Schimel, Wohl, and Williams (2006) investigated the role of empathy as a terror management strategy by having home-team-allegiant hockey fans complete a measure of empathy, and then reminding them of death or a control topic. Next, they had participants read about a player who engaged in instrumental aggression during a game. Half the participants were told that the aggression was committed by an opposing-team player, whereas the other half were told that it was



committed by a home-team player. Participants then rated their forgiveness of the player. Whereas MS always led to the forgiveness of the home-team player, it also led to greater forgiveness of the opposing-team player among more empathic fans, presumably because MS motivated them to uphold their empathic values. These findings shed light on some of the dynamic ways that terror management efforts can shape the forgiveness process, a process that can promote physical health (Wilson, Milosevic, Carroll, Hart, & Hibbard, 2008) and peaceful coexistence with others (Gobodo-Madikizela, 2002; Toussaint, Peddle, Cheadle, Sellu, & Luskin, 2010).

**Helping.** In a similar vein, death awareness can foster efforts to adhere to the cultural values and norms of helping. For instance, one field experiment demonstrated the impact of naturally occurring reminders of mortality on helping behaviors (Gailliot et al., 2008, Study 3). A confederate, talking on a cell phone, audibly discussed the value of helping or a control topic within earshot of naive participants who were either passing through a cemetery or were one block away, out of sight of the cemetery. As participants continued walking, they were presented with an opportunity to help a second confederate who dropped a notebook while struggling with her backpack. Among those reminded of helping, the number of participants who helped was 40% greater at the cemetery than a block away from the cemetery. This finding suggests that the heightened awareness of death motivated participants to uphold the value of helping when it was salient. Gailliot and colleagues (2008) replicated this finding in two additional field experiments, using several operationalizations of MS, helping values, and helping behaviors (e.g., feeding the homeless, donating to ill children, assisting the disabled). Jonas et al. (2008, Study 4) also found that MS increased helping behavior when participants were reminded of helping norms.

**Compassion and peace.** The extent to which compassionate values guide terror management efforts has also been explored. In one study (Vail, Arndt, Motyl, & Pyszczynski, 2009), participants in an MS or control condition were reminded of compassionate or neutral values and then asked to indicate which candidate they intended to vote for in the upcoming presidential election, John McCain or Barack Obama. When participants were reminded of neutral values, MS boosted support for Republican candidate John McCain, possibly because he emphasized American exceptionalism and advocated aggressive defense of the American worldview. Importantly however, preelection polls had shown that the majority of voters perceived Democratic candidate Barack Obama as the more compassionate candidate (e.g., Steinhilber, 2008). Thus, when participants were reminded of compassionate values, MS motivated increased support for Barack Obama. We hasten to note that we are *not* suggesting that voting for Barack Obama instead of voting for John McCain meets our definition as a positive or prosocial outcome. Rather, we include this finding because it highlights a

way that terror management processes can motivate behaviors driven by the intention to care for others by upholding compassionate values. In other contexts, when compassionate values are salient, MS may shift personal preferences toward other behaviors similarly perceived as representing compassionate and caring values.

In a related vein, Jonas et al. (2008) found that when individuals were reminded of a pacifistic norm, MS increased pacifistic attitudes. Although compassionate voting preferences and pacifistic attitudes have important implications for peaceful domestic and foreign policies, the point we wish to emphasize is not the political implications of these responses, but rather the malleability of terror management efforts according to salient values of compassion and pacifism.

Further work has shown that MS can encourage prosocial values among people who typically put their own well-being ahead of others' ("proselfs"; Joireman & Duell, 2005; see Schwartz, 1992). Elsewhere, nonexperimental evidence has shown similar effects in the wake of the 9/11 terrorist attacks, which has been directly linked to elevated levels of death-related cognition (see Landau, Solomon, et al., 2004). After 9/11, widespread and lasting increases were observed for values such as gratitude, hope/optimism, love/intimacy kindness, leadership, and teamwork (Peterson & Seligman, 2003). It seems possible that the increases in each of these values were, at least in part, due to efforts to manage death thoughts made accessible by the terrorist attacks.

**Religious compassion and the boundaries of belief.** The values prescribed by religious beliefs can also provide a powerful means to manage the reality of human mortality. Religious beliefs inform nearly every aspect of life and guide many people's behaviors (Becker, 1973; Vail et al., 2010). Certainly, components of religious belief can lead to harmful terror management strategies, such as intolerance, prejudice, and aggression (e.g., Bushman, Ridge, Das, Key, & Busath, 2007; Greenberg, et al., 1990) or support for health-compromising faith-based medical refusals (e.g., Vess, Routledge, Landau, & Arndt, 2009). Furthermore, maintaining a rigid investment in religious beliefs, such as that of religious fundamentalists, has been strongly associated with negative social outcomes such as prejudice (e.g., Laythe, Finkel, & Kirkpatrick, 2001), ethnocentrism (Altemeyer, 2003), and militarism (e.g., Henderson-King, Henderson-King, Bolea, Koches, & Kauffman, 2004).

However, some facets of religious faith center on prosocial values such as compassion, empathy, altruism, forgiveness, hope, humility, and love. Thus, religious fundamentalists might sometimes manage death concerns by living up to aspects of their religious faith that have constructive outcomes. Rothschild, Abdollahi, and Pyszczynski (2009) explored this issue by testing the hypothesis that fundamentalists should uphold and defend salient compassionate values when explicitly couched as worldview consistent (i.e., religious). In several studies, people high in fundamentalism were more militaristic following mortality reminders; however, when

they were reminded of compassionate religious values, mortality reminders decreased militaristic attitudes. These latter effects held for American Christian fundamentalists and Iranian Shiite Muslims (Rothschild et al., 2009).

One important caveat to this, however, is that these more positive trajectories are only possible when the values that elicit them are incorporated into one's worldview. This means that the existential motivation to live up to a certain value, such as compassion, can be influenced by that value's portrayal as applicable to one's worldview. Indeed, Rothschild et al. (2009) found that individuals high in religious fundamentalism became more compassionate following mortality reminders *only* when compassionate values were portrayed in a religious context (i.e., Bible or Koran); priming compassionate values in nonreligious contexts had no impact. Thus, these findings illustrate how the potential for positive terror management processes may be determined by the degree to which individuals view such healthy or prosocial values as particularly relevant to their worldview.

Taken together, the findings reviewed in this section suggest that terror management efforts can facilitate attitudes and behaviors with positive social impact, especially when certain worldview-relevant values or norms are salient. Certainly there are times when compassion or prosocial values, for instance, will be more or less beneficial for individuals and/or society. The emphasis here is that the motivation to manage awareness of death can foster inclinations that are quite different from the malevolent in-group biases with which TMT is so often associated. Instead, terror management efforts guided by prosocial, compassionate, or tolerant values can confer outcomes that promote physical and social well-being.

### *Relationships and Social Bonds*

Beginning at birth, the human infant finds itself dependent on the people around it for nearly every aspect of its continued existence, and these early child-caregiver bonds come to function as symbolic sources of security that shelter the individual from anxiety (e.g., Becker, 1962; Bowlby, 1969). These attachments to early caregivers become a proxy for existential safety well into adulthood, protecting individuals from existential anxieties and promoting feelings of self-worth (Cox et al., 2008). As the individual's social sphere grows, however, additional interpersonal relationships beyond those with the primary caregiver become important for people's efforts to deal with existential fears (Mikulincer et al., 2003). Indeed, when reminded of death, secure attachments to others reduce defensiveness and facilitate social interaction (e.g., Hart, Shaver, & Goldenberg, 2005; Mikulincer & Florian, 2000; Taubman Ben-Ari, Findler, & Mikulincer, 2002; Weise et al., 2008). Thus, people's social relationships with others play an important role in maintaining a sense of existential security. And although not all relationship patterns are necessarily

healthy (e.g., continually forgiving an abusive romantic partner or the emotional consequences of rejection or unrequited love), in the following, we consider some general ways in which terror management processes can enhance people's efforts to develop and maintain positive social relationships on the interpersonal, community, and intergroup levels.

*Love and romance.* Loving and romantic relationships serve multiple psychological functions, including soothing interpersonal connection and self-esteem through positive relational regard (Leary & Baumeister, 2000; Murray, Holmes, & Griffin, 2000). As such, death awareness may contribute to the development of, and commitment to, loving, romantic relationships. Supporting this hypothesis, death thought motivates greater commitment to romantic relationships (Florian, Mikulincer, & Hirschberger, 2002; Blankmeyer, Hackathorn, Bequette, & Clark, 2011), more positive endorsements of romantic and selfless relationship partners and love styles (Mikulincer, Florian, & Hirschberger, 2004), and greater strivings for romantic intimacy (Hirschberger, Florian, & Mikulincer, 2003). In addition, contemplating separation from an important relationship partner leads to increased death-related thought (Mikulincer, Florian, Birnbaum, & Malishkevich, 2002). Cox and Arndt (in press) have also shown that MS is especially likely to lead to increased relationship commitment when one's relationship partners are a source of positive regard. There are of course important questions about such effects. Which individuals are most likely to turn to relationships, and to which relationships in particular do they turn? While utilizing close others as a means of managing existential fear may be most likely for those with secure relational attachment (e.g., Hart, Shaver, & Goldenberg, 2005; Mikulincer & Florian, 2000; Taubman Ben-Ari et al., 2002; Weise et al., 2008), there are also indications that attachment styles can predict the preferred source of relational closeness (e.g., securely attached persons prefer romantic partners whereas insecurely attached person prefer their parents; Cox et al., 2008).

In addition to the influence of death awareness on commitment to loving relationships and romantic intimacy with one's partner, existential concerns also affect inclinations toward physical intimacy. The reality of sexuality exposes some naked truths about humankind—that, like all animals, we are bleeding, pulsating, secreting, and ultimately corporeal subjects of nature. As such, physical aspects of sex can quickly become a psychological minefield precisely because the nature of sexual intimacy can carry stubborn intimations of our creatureliness (Goldenberg, 2005; Goldenberg, Pyszczynski, McCoy, Greenberg, & Solomon, 1999). MS can increase aversion to raw physical sensation and close physical contact (Goldenberg et al., 2001; Goldenberg et al., 2006) and lead to the objectification and derogation of highly sexualized women (Goldenberg & Roberts, 2004; Landau et al., 2006). Imbuing sexuality with emotions such as love and romance, however, serves a terror management

function by recasting the natural, physical realities of sex with the elegant appeal of “uniquely human” intimacy (Goldenberg et al., 1999; Goldenberg, Cox, Pyszczynski, Greenberg, & Solomon, 2002). Thus, close physical relationships, which might otherwise be viewed in terms of their biological functionality, can be transformed into the uniquely human hallmark of *romance*. Existential concerns can therefore motivate people to cultivate uniquely human emotional concepts, such as love and romance, in the context of intimate relationships.

**Marriage and families.** As committed, loving, and romantically intimate relationships grow into families and/or marriages, terror management processes may also impact these institutions in important ways. For example, the 1995 Oklahoma City bombing, which presumably made salient existential fears of death, have been associated with reductions in divorce rates in the surrounding counties following the attack, suggesting that death awareness can encourage stronger commitment to marriage (Nakonezny, Reddick, & Rodgers, 2004).

Lifton (1979) also argued that having and raising children can serve a crucial path to symbolic immortality, whereby an individual can feel that aspects of the self will “live on” through one’s progeny. Several studies support this notion, finding that reminders of mortality boost inclinations to have children (Fritsche et al., 2007; Wisman & Goldenberg, 2005; Zhou, Liu, Chen, & Yu, 2008). These processes appear to both strengthen commitment to marriage and feed the urge to start and care for a family. In sum, existential motivation may be an important factor in strengthening marital ties and raising families. There may, of course, be a number of motivational goals involved in these and related effects. For example, recent findings suggest that death awareness enhances the role of self-esteem concerns in short-term romantic relationship preferences, whereas death awareness enhances concerns with worldview validation in long-term relationship preferences (Kosloff, Greenberg, Sullivan, & Weise, 2010).

**Fostering positive community involvement.** On a broader level, death-related cognition may also promote a positive sense of community. Much research has demonstrated that MS motivates individuals to uphold and support fellow members of their social groups, and protect and advance their cultural pre-eminence (see Greenberg et al., 2008). But TMT holds that concerns about mortality do not simply lead people to affiliate with any and every social group; they must maintain a foothold in a worldview that they perceive as both inherently true *and* as offering platforms for positive self-evaluation. The self-evaluative implication of one’s social and cultural affiliations plays an important role in people’s community memberships and allegiances. MS often motivates greater identification with social groups and communities that offer positive self-reflections and moves people to distance themselves from social groups that might reflect poorly on themselves (Arndt, Greenberg, Schimel, Pyszczynski, & Solomon, 2002; Dechesne, Janssen, & van Knippenberg, 2000).

This aspect of TMT helps to explain how and why people affiliate with what they view are “good” groups and avoid associating with what they view as “bad” groups. To be sure, popular perception of various groups as generally good or bad has varied across history, regions, and communities. On the more deleterious end, some people sometimes maintain invested membership in groups that negatively impact minorities, women, education, labor conditions, and so on, in part because those groups are construed as offering a solid platform for positive self-reflection. However, our point here is that this process is *also* found on the other side of the coin; it can foster support and investment in groups that perform beneficial social roles. For example, some people may become involved in groups providing services to youth, women and the elderly, and charities promoting learning and health, provided that such organizations are viewed as platforms for positive self-reflection.

In addition, at the community level, existential concerns can bolster the perception of entitativity—the perception that one’s community is definitive and real—and favor for one’s fellow group members (Castano, Yzerbyt, Paladino, & Sacchi, 2002; Pyszczynski et al., 1996). Perceiving such communal entities can exert a constructive influence through the committed improvement efforts among those who identify with the community or group. For instance, entitativity and cohesiveness might help facilitate community growth through the construction and maintenance of beneficial social institutions such as local governments, charitable organizations, and education systems, among others. Indeed, MS can increase charitable donations, especially for one’s own community (Hirschberger, Ein-Dor, & Almakias, 2008; Jonas, Schimel, Greenberg, & Pyszczynski, 2002). Terror management processes may therefore be an important factor in the development of, and contribution to, helpful community groups and organizations.

**Peaceful coexistence.** Although an enhanced sense of community might be beneficial for oneself and fellow members, the boundaries of one’s perceived group plays a crucial role in the treatment of potential out-group members. With respect to group entitativity, Becker (1973, 1975) echoes many others (e.g., Allport, 1954) in noting that love for one’s in-group often brings with it a need to protect the in-group from outside groups or enemies (e.g., prejudice, scapegoating, war). When MS leads to stronger connections to the in-group, it may also entail less liking of out-group members. This may in fact be more of a default reaction to existential concerns as the existence of groups with alternative belief systems compromises faith in the “correctness” of one’s own (Berger & Luckmann, 1967). Accordingly, TMT research has revealed that caustic intergroup hostilities often arise in response to MS (e.g., Pyszczynski et al., 2006; see Pyszczynski, Rothschild, & Abdollahi, 2008). However, much less attention has been given to the idea that, under some conditions, mortality concerns can be managed in ways that reduce discrimination and war, and promote peaceful coexistence.

Emerging research suggests that expanding the perceived boundaries of one's groups to include members of other communities might direct terror management processes according to more inclusive, cooperative, and peaceful mentalities.

One key component, according to the *contact hypothesis*, is establishing positive personal connections across group boundaries (Allport, 1954). Allport suggested that close interactions with diverse groups of people can encourage the widening of subjective group boundaries to the ultimate in-group—humanity—leading to the elimination of intergroup prejudice. Research supporting this hypothesis led to the development of the common in-group identity model (Gaertner, Dovidio, Anastasio, Bachman, & Rust, 1993), which posits that recategorizing multiple groups into a single superordinate group can reduce subgroup hostilities. As such, Motyl et al. (2011) hypothesized that death awareness might motivate inclusive attitudes toward out-group members if a personal connection with members of diverse outgroups were first established, thereby blurring group boundaries with a superordinate sense of “common humanity.”

For example, in one study, Americans were either reminded of death or a control topic and then read vignettes about favorite childhood experiences, such as playing at the beach or going camping, and were asked to recall their own similar childhood experiences. In one condition, these vignettes were ostensibly authored by Americans (e.g., Michael, from Orlando), but in another condition they were ostensibly authored by a diverse range of people from around the world (e.g., Miguel, from Cuernavaca). Across this and two additional studies, American participants primed with a sense of a multicultural “common humanity” became more tolerant of immigrants, more accepting of Arabs, and more supportive of international peace-building after being reminded of death. These findings suggest that blurring group boundaries with a sense of common humanity can direct terror management efforts toward inclusive and prosocial treatment of out-group members.

In addition, superordinate groups might also be formed on the basis of an overarching threat. Classic experiments like Sherif's (1966; Sherif, Harvey, White, Hood, & Sherif, 1961) Robber's Cave studies have illustrated the ways in which group conflict can be eliminated in response to a superordinate threat. When facing such overarching threats, terror management efforts similarly direct people toward peaceful coexistence with otherwise threatening groups. In this vein, Pyszczynski, Motyl, et al., (2011) reasoned that because the onset of climate change (e.g., global warming) is overwhelmingly viewed as a worldwide problem, thinking about the universal threat of climate change should help foster a sense of “common humanity” and thus direct terror management efforts toward cooperative and peaceful attitudes. In one study, MS increased Americans' militaristic attitudes toward Iran when participants had first imagined a localized catastrophe (thus replicating previous findings).

However, it did not lead to increased militarism when participants were first reminded of the broad impact of global warming. A second study found that among Americans who first imagined the impacts of global warming (instead of a localized catastrophe), MS increased support for international peacemaking efforts. A third study, conducted among Arab citizens of Israel during the January 2009 Israeli invasion of Gaza, found that reminders of death motivated greater support for peaceful coexistence with Israeli Jews among those who imagined global warming and had high perceptions of common humanity; and a fourth study replicated this effect among Israeli Jews. Taken together, these studies demonstrate that when circumstances create common groups, terror management efforts can guide people to become more inclusive, cooperative, and peaceful.

### *Cognitively Flexible Orientations to the World*

Considerable work shows that people often take refuge from their existential concerns by tucking themselves comfortably into the protective folds of their social relationships, investing more heavily within their own cultural belief systems and shying away from alternatives (Greenberg et al., 2008, for review). At first blush, this would seem to imply that the awareness of death prevents people from straying too far away from their extant worldviews and from considering or trying new things. While this may often be the case, and is perhaps even the “default” response given the inherent threat to faith in one's own beliefs posed by the existence of alternative beliefs (Berger & Luckmann, 1967), recent studies demonstrate that terror management processes are capable of enhancing efforts to innovate, create, and otherwise boldly strike out from the familiarity of one's own group or beliefs in search of enriching new information or experiences. Indeed, when reflecting on his own such innovative efforts, Leonardo Da Vinci (1478-1519) even once observed, “While I thought that I was learning how to live, I have been learning how to die.”

*Facilitating creative expression.* Marked by originality and novelty, creativity is frequently considered a beneficial activity that contributes to personal growth and insight as well as social and technological improvement (Amabile, 1996; Deci & Ryan, 1987; Hennessy & Amabile, 2010). However, creativity frequently entails an expressive divergence from precedent and a deviation from norms (Barron, 1968; Hennessy & Amabile, 2010; Simonton, 2009), which results in feelings of being symbolically set apart from familiar people, beliefs, or methods. Overindividuation can thus leave a person with the feeling of being alone and existentially isolated (Yalom, 1980). In this light, the individuating characteristics of creativity might undermine the existential security of one's social ties (Becker, 1973; Rank, 1932/1989). So, how might potentially individuating acts, such as creativity and the exploration of novelty, fit into the existential experience?

One answer is that people are strongly motivated to simultaneously maintain their individuality *and* their social and cultural connections (Becker, 1973; Brewer, 1991; Maslow, 1968; Rank, 1932/1989; Tillich, 1952/1971; Yalom, 1980). Building from Rank, Becker (1973) noted that the awareness of death initiates dual motives to define oneself as a unique individual, yet also similar enough to others to be safely protected by one's cultural ties. Research has supported these ideas. For instance, when participants were made to feel deviant, reminders of death increased their perceptions that they were similar to those around them; however, when participants were made to feel like conformists, MS reduced these similarity ratings (Simon et al., 1997).

Creative expression may similarly individuate people from familiar people or beliefs, upsetting the balance between the need to remain safely tucked into one's cultural fold and to boldly carve out one's own unique self-identity. When people are faced with managing thoughts of death, creativity can lead to an uncomfortable sense of guilt, given that one's own creative individuation undermines one's socially derived existential security (Rank, 1932/1989). Several studies have supported this idea, showing that engaging in a creative task after MS increased guilt as well as participants' (presumably compensatory) projection of social similarity (Arndt et al., 1999).

As one might expect from a dual-motive perspective, however, such effects can be attenuated if the individual has a sense of social connectedness (Arndt, Routledge, Greenberg, & Sheldon, 2005), which in turn, opens the door to the possibility of extracting existential benefits from creative expression or mind-sets. For example, just as death thoughts have thus far been shown to induce efforts to enhance social connections following an *individuating* act of creativity, it seems likely that thoughts of death might facilitate *socially oriented* acts of creativity, paving the way for exploration and innovation of culturally and socially oriented themes (e.g., Greenberg, Pyszczynski, & Solomon, 1995; Maslow, 1943; Pyszczynski, Greenberg, & Goldenberg, 2003). In line with this possibility, Routledge, Arndt, Vess, and Sheldon (2008) demonstrated that although death reminders undermined individual-oriented creativity, this did not happen to creativity that was directed toward the benefit of the community.

*Creativity and the exploration of novelty.* Closely tied to socially oriented creative expression, terror management efforts can also, under certain circumstances, lead to the exploration of novelty. The existentially induced need to seek social affiliation may broaden the range of acceptable sources of affiliation (Wisman & Koole, 2003) and, when combined with individuating creative orientations, motivate the exploration of previously unfamiliar social or cultural instantiations. Engaging in a creative task not only makes people less defensive of their cultural worldview when reminded of death but also boosts interest in exploring culturally novel information (Routledge & Arndt, 2009;

Routledge, Arndt, & Sheldon, 2004). Specifically, when in a creative mind-set, MS enhanced social, intellectual, and environmental exploration, as well as the exploration of alternative secular and religious cultural worldviews. These findings point to the role of creative mind-sets in the facilitation of open-minded and flexible terror management processes.

*Flexible cognitive structure.* Another approach to understanding the role of cognitive flexibility has been to examine how individual differences in personal need for structure (PNS; Neuberg and Newsom, 1993; Thompson, Naccarato, Parker, & Moskowitz, 2001) moderate the nature of terror management processes. People higher in PNS prefer that their social surroundings be rigidly structured, familiar, and certain. Those with lower PNS tend to prefer a relatively open-minded approach to life, seeking novel experiences and new information, tolerating greater amounts of ambiguity, and organizing social information with flexibility and complexity. Although all TMT processes theoretically bolster the sense of meaning in life, differences in PNS suggest that individuals may derive their sense of meaning through different channels. The more cognitively flexible tendencies of individuals with lower (vs. higher) PNS suggest that they derive meaning through enriching new experiences and the exploration of novel information and social structures. In one line of research, death reminders motivated those with low PNS not only to demonstrate more open-mindedness but also to seek novel experiences in an effort to experience a sense of meaning in life. After being reminded of death, participants low in PNS tended to be more open-minded regarding violations of the just-world assumption (Landau et al., 2004, Study 5) and tended to prefer a more flexible self-concept (Landau, Greenberg, Sullivan, Routledge, & Arndt, 2009, Study 1). But most notably, when participants low in PNS were reminded of death, they became more interested in exploring novel social, intellectual, and environmental stimuli, and learning more about alternative cultural worldviews (Vess, Routledge, et al., 2009). Taken together, this research suggests that terror management processes can encourage activities that require a cognitively flexible mind-set, qualifying as positive because they move creative or cognitively flexible individuals along a trajectory toward personal growth and cultural enrichment (Runco, 2004; Ryan & Deci, 2000).

## Pushing Up Daisies: Considering the Impact of Direct Encounters With Death

As we have reviewed, TMT has typically dealt with the psychological repercussions of rather subtle and unanticipated, if not nonconscious, reminders of mortality. The reasoning behind this conceptual and methodological focus has been that terror management mechanisms such as worldview

defense and self-esteem striving are posited to operate on an ongoing basis given an ever-present underlying awareness of mortality. Subtle manipulations of death-related thought are thus used to bring these processes to the fore so they may be more readily observed in research. However, people also confront death in a variety of more explicit ways. Individuals might contemplate death via idle musings, intellectual or philosophical discussion, and concerted meditations. They may also confront the prospect of mortality through any number of experiences, such as those involving the death of a loved one, a severe illness, aging, a natural disaster, or violent conflict. Although much of the research in these areas have not yet been fully integrated with TMT, it is relevant to the present analysis to consider the potential for psychological growth in the face of such existentially charged circumstances. In the following, we consider how such acute awareness of death might influence conscious terror management processes, as well as nonconscious processes, and whether that influence can potentially lead people along more positive trajectories.

First, experiences that involve a deeper recognition or contemplation of mortality may pose an explicit challenge to one's terror management systems. As such, these experiences may motivate similarly strong and deliberate efforts to restructure one's buffering systems. Here, we briefly draw on a foundational lesson learned from cognitive dissonance research (Festinger, 1957). The theory of cognitive dissonance posits that the discrepancy between cognitions (attitudes, emotions, goals, motives, etc.) arouses an uncomfortable anxiety that motivates efforts to resolve that discrepancy and that the magnitude of the discrepancy determines the magnitude (strength) of the dissonance-reduction efforts necessary to effectively restore equanimity. Whereas subtle discrepancies might be resolved relatively easily with subtle changes to cognitions or behaviors, major discrepancies require strong and persistent dissonance-reduction efforts and dramatic changes to behaviors or cognitions. In this light, viewing TMT's MS hypothesis as a special case of dissonance-reduction processes can provide useful insights. That is, the awareness of an inevitable death may be dissonant with the basic motivation to be alive and, as with cognitive dissonance, the magnitude of that existential threat will determine the strength of the terror management efforts necessary to restore equanimity.

To illustrate, TMT suggests that as children progress through early childhood, adolescence, and into adulthood, they typically "ride along" the cultural road map toward accepted contingencies of value and meaning, unquestioningly seeking the culturally communicated and personally internalized symbols of worth and significance (having the good job, a two-car garage, and 2.5 children). When presented with subtle and fleeting reminders of death, as has been done with MS reminders in much TMT research, existential concern might be managed by subtly altering cognitions and behaviors to uphold one's seemingly undying

worldview values and bolster self-esteem. But when circumstances force an acute recognition of the real prospect of mortality, as may happen with terminal or severe illness or injury, aging, near-death experiences (NDEs), and certain types of trauma, the shielding curtain of culture may be thrown back to reveal a very real existential threat that (as of yet) cannot be actually prevented through any rational or symbolic terror management buffer. Such experiences can thus leave one's typical subtle terror management system severely challenged, damaged, or jolted from its habitual ruts. Thus, strong and persistent efforts to explicitly repair or restructure one's terror management buffers may be needed to restore one's sense of existential security.

The danger here, as has been discussed via anxiety-buffer disruption theory (Abdollahi, Pyszczynski, Maxfield, & Luszczynska, in press; Pyszczynski & Kesebir, 2011), is that such individuals are left unprotected from potentially incapacitating existential anxiety until those buffers are repaired. However, because the basic terror management motivation—to quell the awareness of mortality—remains, these existentially charged experiences can offer the opportunity for great personal growth and insight as people restore and refashion their view of themselves and of the things that constitute a significant and meaningful life.

Thus, although tentative, it seems possible that such intensified awareness of death can have a far-reaching and lasting impact on both conscious and nonconscious terror management processes. The persistent or recurring conscious awareness and rumination about these existentially threatening experiences may facilitate efforts to rationally and deliberately cope with and make sense of one's experiences, as well as reevaluate and adjust the behaviors, goals, and values that define the meaning and significance of one's life. Similar to prior work on the subtle impact of conscious death awareness, conscious ruminations in the wake of such acute existential experiences may lead to positive outcomes (e.g., personal growth, prosocial interactions, intrinsically meaningful goals shifts) among individuals who are able to perceive and take advantage of opportunities to learn about themselves and refashion their definition of what constitutes a significant and meaningful life. Furthermore, to the extent that this process adjusts people's personal strivings away from cultural status and toward more growth-oriented or meaningful goals, nonconscious terror management processes might lead to more enriching and prosocial outcomes. We now turn our attention to some suggestive findings.

*Traumatic Experiences and NDEs.* We first consider the growing literature on the impact of exposure to traumatic events, which often involve harsh encounters with existential threat. Such experiences can include exposure to combat or a natural disaster, a life-threatening accident or medical condition, the loss of a family member or close friend, or physical/sexual assault, among numerous others. Not surprisingly, such experiences increase the risk of developing debilitating anxiety disorders, such as posttraumatic stress disorder

(PTSD; American Psychiatric Association, 2000; Hathaway, Boals, & Banks, 2010). Interestingly, research suggests that these negative outcomes result, in part, because traumatic experiences break down individuals' terror management buffers (Abdollahi, Pyszczynski, Maxfield, & Luszczynska, 2011; Chatard et al., 2011; Pyszczynski & Kesebir, 2011; see also Janoff-Bulman, 1992).

Yet, such traumatic experiences, and the associated severe disruptions of core belief systems they entail, can also produce the opportunity for what is often construed as posttraumatic growth (PTG) and self-improvement (Baker, Kelly, Calhoun, Cann, & Tedeschi, 2008; Taku, Calhoun, Cann, & Tedeschi, 2008; Tedeschi & Calhoun, 2004, for review). This is clearly a complicated issue, however, that involves determining when genuine growth occurs and when reported perceptions of growth merely mask underlying and evolving distress. Recovery and genuine PTG appears to depend on the maintenance of social coping resources and the extent to which individuals are able to make use of the cognitive coping strategies necessary to deliberately make sense of their experience and reorganize an effective and meaningful worldview (Hobfoll, 2011; Linley & Joseph, 2004). Consistent with the terror management analysis of conscious processing of death awareness, genuine PTG may occur only when individuals are able to perceive and engage in effective coping strategies. Thus, when such resources or coping strategies are unavailable, or are not perceived, individuals may not engage in active coping and may continue to experience posttraumatic stress, or reported PTG might reflect an illusory denial of existential distress (Hobfoll, 2011). However, when individuals perceive and can make use of such resources or coping strategies, ruminating about the existentially threatening experience may lead individuals to engage in effective coping efforts, restructuring their core values and beliefs about the world, ultimately leading to greater meaning in life and enhanced life satisfaction (Taku et al., 2008; Triplett, Tedeschi, Cann, Calhoun, & Reeve, 2011).

Related work has addressed the impact of "NDEs" in which people may or may not experience trauma, per se, but do perceive themselves to be having an out-of-body experience on the brink of "crossing over" to death (Moody, 1975; Noyes, 1980; Ring, 1980). Although there are certainly instances of distressing NDEs, these apparently tend to be repressed or underreported (Greyson & Bush, 1992), and the operational definitions of NDEs tend to be circular such that qualifying NDEs necessarily entail a spiritual element, an ultimate sense of peace and joy, and a transformed sense of cosmic unity and meaning (Greyson, 1999). Thus, NDEs are typically remembered as surreal yet pleasant experiences leading to an increased acceptance of death and new appreciation for life, and produce a shift in one's values and goals such that people who experience an NDE report increased care for others and a reduced interest in social status and materialism (e.g., Greyson, 1983; Greyson, 1992; Morse, 1992; Ring, 1991). This post-NDE change in values and

goals bears some similarity to the posttraumatic restructuring of people's core values and beliefs, as mentioned above, and suggests that NDEs and PTG experiences may influence the trajectory of typical nonconscious terror management processes.

Cozzolino et al. (2004) explored the influence of NDE-related goal orientations on self-enhancing versus prosocial behavior. In one study (Cozzolino et al., 2004, Study 1), participants indicated their initial interest in extrinsic versus intrinsic goals, and then either were prompted with a control task or were given a "death-reflection" task, based on anecdotal reports of NDEs, which asked them to (a) visualize their own death in detail, (b) adopt a limited-time perspective by imagining how they would handle their final moments, (c) engage in a life review, and (d) do a perspective-taking exercise about the impact their death would have on their family. Participants were then given the opportunity to take from a limited supply of raffle tickets, good for a chance to win US\$100; taking more tickets increased their chance of winning, while taking less tickets ostensibly left more tickets for future participants. Across three similar studies, among participants with initially stronger extrinsic goal orientations, the death-reflection condition reduced the number of tickets taken from the limited public supply. These results suggest that the reported elements leading to positive life changes following NDEs can be harnessed to guide the reprioritization of intrinsic over extrinsic goals in managing the awareness of death.

*Limited-time perspective.* Another consequence of direct contemplation of death may be that people come to recognize their future as especially limited and adjust their goals and values accordingly. As we have mentioned, people often strive for grand, successful futures. But, as Charles Dickens famously illustrated with Ebenezer Scrooge, the future will inevitably come to join us in the present. On being visited by the future and led to his own grave, the lesson Scrooge learned was that for whatever sort of wealthy future he might have been toiling, the real value was not to be found in his wealth but in his relationships with others. Socioemotional selectivity theory (SST; Carstensen, Isaacowitz, & Charles, 1999; Carstensen & Mikels, 2005) provides a way to understand such reactions, positing that when people become aware that they have a limited amount of time remaining in their lives, they tend to maximize their positive interpersonal experiences while minimizing the negative. Thus, being aware of (or visualizing) the end of life—as may happen following a traumatic or NDE, or during the course of normal aging, or even during a concerted and direct reflection on the potential circumstances of one's own death—may cause people to become more interpersonally selective, shifting their interpersonal efforts away from self-enhancement and toward maintaining meaningful and positive social connections (Carstensen & Mikels, 2005).

Based in part on this idea, Maxfield et al. (2007) explored the existential strivings of older, compared with younger,

adults. Clearly, as people grow older, this limited-time perspective becomes more dominant/salient. As a result, middle-aged and older adults tend to be more “generative”—expressing less concern for self-enhancement and heightened concern and care for others (McAdams, de St. Aubin, & Logan, 1993; Erikson, 1963). Presumably because the limited-time perspective and generative concerns are more prominent among older adults than younger adults, Maxfield et al. found that older adults reminded of death were more forgiving of moral transgressors. Specifically, in two studies, younger (age 17-37) and older (age 57-92) participants were reminded about death or a control topic, and then asked to recommend punishment for a moral offender in a series of vignettes (Maxfield et al., 2007). After MS, older participants were lenient toward offenders, whereas younger participants were harsher.

The research of Cozzolino, Sheldon, Schachtman, and Meyers, (2009, Study 2) potentially helps to pin down the critical role of a limited-time perspective in such prosocial responses to the salience of death. In this study, college-age students were reminded of death, but half were also assigned to a limited-time perspective condition in which they were asked to imagine being in life’s “final stage.” Then, they had the opportunity to take up to 22 of a limited supply of a public pool of raffle tickets good for a chance to win US\$100. Although a death reminder on its own increased self-indulgent ticket taking, inducing a limited-time perspective reduced the number of tickets taken, thereby leaving more available for future participants. These findings suggest that contemplating mortality in the context of a limited-time perspective can lead to prosocial outcomes like forgiveness or reduced greed.

**Summary.** This research suggests that the increased magnitude of existential threat experienced during direct contemplations or encounters with death may challenge or damage people’s terror management systems, requiring additional or extended efforts to consciously and deliberately reconstruct one’s view of a meaningful life and effectively cope with one’s mortality again. Such processes could potentially lead to personal growth as well as shifts toward intrinsic goals and prosocial values. In addition, the goals, values, and limited-time perspective that often accompanies such direct contemplations may shift the trajectory of nonconscious terror management processes away from self-enhancement and toward more meaningful and supportive social behaviors. Future research should assess how conscious and nonconscious terror management processes influence, and are influenced by, these more direct encounters with death.

### **Positive Terror Management: Summary and Future Directions**

Despite the traditional emphasis on the dark side of TMT, the present analysis sought to illustrate some of the ways

that terror management processes can lead to personally and socially beneficial outcomes. As was explained at the outset, all terror management processes share the functional goal of reducing death awareness, or at least minimizing the troubling existential implications thereof. And, as the heuristic model of optimal terror management depicted in Figure 1 suggests, conditions exist under which those processes can promote positive outcomes rather than negative ones. In the following, we briefly and broadly summarize the processes associated with each set of outcomes depicted in the model and reviewed in detail in the above sections, and suggest possible directions for future research based on these processes.

The first of these outcomes involved responses to conscious death awareness. When people perceive ways to improve their health, conscious death thoughts motivate efforts to behave in those physically healthy ways. Programmatic research (Goldenberg & Arndt, 2008) reveals, for instance, that factors such as health optimism and response efficacy facilitate healthy responses to conscious death-related thought. However, additional work exploring factors that foster good health is needed. Specifically, research is needed to understand how the conscious terror management process affects the recognition of health risks, estimations of the degree of risk, and other factors that boost engagement in preventive behavior. Furthermore, relatively little is known about how physiological states, such as nicotine or food cravings, or pain, can impact the healthy risk-reduction efforts initiated by conscious terror management. It seems possible that some physiological states could cloud health judgments (e.g., nicotine cravings), whereas others might facilitate treatment seeking (e.g., pain) when consciously aware of death.

Conscious awareness of death can also lead to the trivialization of extrinsically oriented goals (e.g., status) and increased value of intrinsically oriented goals (e.g., growth, community). However, as we noted earlier, it remains unclear under exactly what conditions these goal shifts are produced. Similar to research showing that conscious death awareness activates healthy behavior among those who perceive ways to improve their health, one possibility is that the impact of death awareness on the goal reprioritization process is activated to the extent that people perceive intrinsically (vs. extrinsically) oriented life goals as an effective way to increase their meaning in life. A better understanding of when and for whom these differences emerge is an important task for future research.

The second major set of conditions promoting positive outcomes involved nonconscious terror management processes. When death thoughts are nonconsciously accessible, one important factor that can potentially produce positive outcomes is the motivation to uphold and attain a sense of value. When particular worldview-relevant values, norms, and self-esteem contingencies are active (either situationally induced or chronically accessible), terror management



efforts will be directed toward relevant attitudes and behaviors. For example, if compassion is worldview relevant and particularly accessible, then responses to death thoughts should be guided by the value of compassion. Similarly, if academic success is a salient gateway to self-esteem, then terror management efforts might be directed toward academic success. In addition to the well-known esteem domains such as academics, business, and sports, these processes may also emerge when individuals base part of their self-esteem on other positive behaviors, such as being a caring family member or friend, a philanthropist, a creative artist or musician, an environmentally conscientious consumer, or an adventurous and self-determined individual. Although problems can arise when pursuing self-esteem contingencies (Crocker & Park, 2004), certain contingencies may potentiate more productive responses than others.

A growing amount of research also suggests that nonconscious death thought motivates efforts to maintain close relationships and favorable group identifications. Importantly, this process can lead to increased commitment to maintaining healthy and caring relationships, increased contribution to one's community or groups, and increased support of intergroup peace and cooperation. We reviewed research demonstrating the terror management role of close and caring relationships, noting the existential security gained from feeling love and romance as well as the increased commitment to spouses, parents, and offspring. On that note, an interesting avenue for future research would be to investigate the role of attachment security in the impact of death awareness on marital commitment and satisfaction, and on the quality of parenting styles. Furthermore, although much research has been directed at populations college aged and older, little is known about terror management processes among children. Yet, as we noted earlier, children are not without their existential concerns. Until they achieve a functional integration of their cultural surroundings and meaning systems, their existential concerns may be primarily dealt with via basic interpersonal attachment systems (Florian & Mikulincer, 1998). Thus, research might investigate how child and parent attachment styles influence the ways existential fear is managed, as well as how it influences the child's adjustment and performance at home, in school, or with their peers.

In addition, people can manage death concerns by supporting and contributing to the groups to which they belong. Because, as we noted earlier, favorable self-reflections can potentially be gleaned from a variety of groups, one key factor for promoting positive outcomes is whether the individual's salient affiliations are with groups that provide some social benefit. Individuals might favorably perceive themselves as members of a particular school district, race-based group (e.g., Ku Klux Klan), scientific community (e.g., the American Psychological Association), or charitable service organization (e.g., American Red Cross); the positive implications of people's existentially motivated support for such

groups therefore vary as a function of the group's impact on society. One interesting avenue for future work would be to investigate factors that point people's affiliative strivings toward more beneficial, tolerant, or charitable groups. For example, affiliation with and involvement in prosocial groups might be enhanced by activating certain aspects of an individual's identity or by aligning salient group characteristics with an individual's dominant moral ideology. From a TMT perspective, though, the challenge here is that groups more effectively serve terror management goals to the extent they provide viable avenues for the extraction of self-worth. Part of the appeal of more rigid and dogmatic groups may be that they present clearly delineated pathways for obtaining a sense of significance within that group (Arndt, Landau, Vail, & Vess, in press).

On a related note are individuals' perceived group boundaries. As reviewed above, increased allegiance to one's in-group often entails prejudiced attitudes against those who do not belong to one's social groups. However, perceiving diversity and interconnectedness with members of other out-groups can reduce these prejudices when managing death concerns and instead activate efforts to foster a supportive, tolerant, and caring social environment. One potentially important question is how blurring or recategorizing one's group boundaries impacts existentially motivated investment in one's lower level groups. For instance, given that MS increases support for in-group charities (Jonas et al., 2002), it would be interesting to know how expressions of that group support might be affected by an increased sense of a broader interconnectedness with out-group members. In addition, future research might expand on the implications of this work in the contexts of mundane social compromises and political reconciliations, or in helping to defuse violent intergroup conflicts.

We also examined a growing body of work demonstrating that nonconscious terror management processes can lead to open-minded exploration of novelty among people approaching the world with a flexible or creative mind-set. Open-minded willingness to expose oneself to new ideas can be activated by death awareness for individuals with a solid sense of social connectedness and among those with relatively greater cognitive flexibility. But, this is still a relatively new strand of research about which further insights are needed.

Another interesting issue in this vein is whether this kind of cognitive flexibility is implicated in other psychological characteristics, traits, or abilities, and whether such flexibility may enable individuals to accept the finality of life and confront awareness of mortality without the need for terror management. Extant research has examined two such traits. Personal hardiness entails having a sense of control over the solutions to life's problems, commitment to one's current life trajectory, and a tendency to appraise stressful events as challenges from which one can grow (Kobasa, Maddi, & Kahn, 1982). Working from the perspective that hardiness

would thus attenuate the need for terror management, Florian, Mikulincer, and Hirschberger (2001) assessed hardiness, manipulated MS, and then measured death-thought accessibility (Study 2) and severity of punishments against moral transgressors (Study 1). Mortality reminders increased death-thought accessibility regardless of hardiness levels, but only those low on hardiness increased punishment severity. Although these findings suggest that hardiness can avert harsher reactions to death awareness, it remains to be seen whether hardy individuals would respond to mortality reminders with other (perhaps positive) forms of terror management. Thus, research into the existential role of hardiness (and other forms of resilience, for example, optimism, Rasmussen, Wrosch, Scheier, & Carver, 2006; Scheier & Carver, 1985; ego resiliency, Block & Block, 1980; Letzring, Block, & Funder, 2005) is needed, given that these findings suggest that resilient coping styles may help shield against at least more deleterious forms of worldview defense after reminders of mortality.

In a related vein, Niemiec et al. (2010) investigated whether trait mindfulness, which also entails a receptive and accepting attention to internal and external events, could eliminate defensive responses to death awareness. Across six studies, MS increased defensive reactions (e.g., derogation of out-group members, self-esteem striving) after a delay among those with low, but not high, mindfulness. Although these are interesting findings, at least two issues merit further research. First, Niemiec et al. (Study 7) also found that after MS, in contrast to those low in mindfulness (and previous research), more mindful individuals showed elevated death-thought accessibility immediately but not after a delay. The terror management outcomes in the six other studies, however, were only measured with a delay. Given that nonconscious accessibility of death-related cognition was heightened immediately after MS for high mindful individuals, it is possible that typical terror management responses might manifest immediately, when death-thought accessibility was high, rather than after a delay, when it was low. That is, the influence of mindfulness may affect the way people process conscious thoughts of death (such as accepting, rather than suppressing, it) but might not necessarily affect the processing of nonconscious death thought. Second, even if one assumes that mindfulness reduces the need for harsh or negative forms of nonconscious psychological defense, as may similarly be the case with hardiness, it remains unclear whether mindfulness might facilitate positive forms of terror management or simply eliminate the need for any coping response—whether adaptive or maladaptive. Nonetheless, each of these research directions represents a promising avenue for examining traits that might enable people to manage the awareness of mortality in productive and enriching ways. These directions are also particularly interesting given the success of various interventions and training programs to increase mindful approaches to life.

And finally, we offered some preliminary thoughts about how certain conditions that foster an acute and persistent awareness of death can move people toward a positive trajectory. Because direct encounters with death—such as the passing of a loved one or the occurrence of some other traumatic experience—can potentially increase the magnitude of existential threat beyond the buffering capacity of one's extant terror management system, such experiences can challenge or damage the typical or routine ways of managing death awareness. However, consciously and deliberately revising and reconstructing one's death-denying system of meaning can potentially produce shifts toward intrinsic goals and prosocial values and lead to personal growth.

In sum, the present analysis highlights a number of ways that terror management processes can lead to personally and socially beneficial outcomes.<sup>5</sup> In presenting this analysis, we also constructed a preliminary, heuristic model of positive terror management (Figure 1) to organize the theoretical ideas and supporting research. We think the model offers a useful and integrative guide for understanding the potentially positive impact of conscious and nonconscious death thought on people's behaviors and attitudes.

### **Conclusion: Death Can be Good for Life**

Without suffering and death, human life cannot be complete.

Viktor E. Frankl (1946/2006, p. 67)

As we suggested at the outset, the dance with death can be a delicate but potentially elegant stride toward living the good life. The conscious awareness of mortality can motivate people to enhance their physical health and reprioritize intrinsically meaningful goals and values, and nonconscious death awareness can move people to live up to positive standards and beliefs, such as environmental concern or compassion; build positive relationships with friends, family, and loved ones; encourage helpful community involvement; support peaceful intergroup coexistence; and can foster certain self-enriching behaviors, such as creative expression or the exploration of novelty. We also offered some preliminary consideration of the potentially positive implications of more direct confrontations with death. Thus, the present analysis offers some initial insights into some of the beneficial implications of the human effort to manage the psychological awareness of death.

Yet, having elaborated on the beneficial aspects of TMT throughout this article, it is useful to remember the words of Bob Marley and Peter Tosh, "Not all that glitters is gold, half the story has never been told" (1973). That other half of the story, as many readers are likely aware, is that TMT also explains the existential issues underlying the "dark side" of

social-psychological phenomena (see Greenberg et al., 2008; Pyszczynski, Rothschild, & Abdollahi, 2008). But whereas the dark side of death-related motivation can manifest in distasteful ways, the approach presented here elucidates how TMT is not inherently focused on negative processes and that the benefits or growth stemming from death-related experiences can arise from that very same set of terror management processes. Thus, by taking an appreciative approach (King, 2008; Sheldon, 2011), we have attempted to remain mindful of the broader scope of TMT, and point out that although death awareness can, at times, function to generate some negative forces, it can also function to move people along more positive trajectories and contribute to the good life.

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### Notes

1. There are, of course, other psychological threats (uncertainty, meaninglessness, social exclusion, etc.) that can, and do, impact some of the same outcomes discussed here. Thus, terror management theory (TMT) does not claim that death is the only psychological threat capable of eliciting self-esteem striving, defense of one's beliefs, and the like. It does, however, argue that death is a unique psychological threat, and the available research comparing the effects of death-related cognition relative to these other types of threats, as well as research on factors influencing patterns of death-thought accessibility, supports the conclusion that death awareness exerts a potent and unique motivating influence on people's attitudes and behaviors. In addition to a meta-analysis by Martens, Burke, Schimel, and Faucher (2011), this general issue has been discussed extensively in a variety of published articles (e.g., Hayes, Schimel, Arndt, & Faucher, 2010; Pyszczynski, Greenberg, Solomon, & Maxfield, 2006), so we will not belabor the point here. From our perspective, the important question is not about which threat underlies all other threats but how to better explore and understand the differential motivating impacts of each.
2. In a 2000 issue of *Psychological Inquiry*, Pyszczynski, Greenberg, and Solomon (2000) referred to TMT as a "pessimistic" theory during a dialogue in which they and Deci and Ryan (2000) each accepted that TMT was particularly adept at explaining the "dark side" of human motivation. While this characterization may be accurate, it does not support the more extreme view that TMT is limited to explaining only such harmful forms of social behavior. Yet this more exaggerated view has been implied in the literature (e.g., Cozzolino, 2006; Cozzolino, Staples, Meyers, & Samboceti, 2004; Wong & Tomer, 2011). For instance, after noting that as a result of TMT, "social scientists have been better able to explain and to predict the rather unsettling forms of defensive behavior that are prevalent in this post-September 11, 2001 age of terror and war," Cozzolino (2006, pp. 279-280) went on to suggest that "obviously, positive and intrinsic growth reactions to mortality awareness do not entirely jibe with the theoretical framework or much of the empirical evidence supporting TMT."
3. From the current perspective, terror management processes are "defensive" in the sense that they protect individuals from accessible death-related thought. However, it is important to clarify that this does not mean that all such reactions carry the negative baggage attached to the term *defensive*—as socially antagonistic, rigid, or reactionary. A central thesis of this article is that, just as there are adaptive and maladaptive coping mechanisms, there are both positive and negative ways to "defend" oneself against the awareness of mortality. Indeed, the present analysis illustrates that (a) although self-enrichment, well-being, and pursuit of self-enriching goals may be outcomes commonly associated with growth-oriented motivation, such outcomes are not exclusively produced by growth motivation and (b) although such defensive motivations as those involved in terror management processes may often lead to rigid, socially antagonistic biases, such outcomes are not inevitable. Thus, our position is consistent with the "dual motives" perspective (Greenberg, Pyszczynski, & Solomon, 1995; Pyszczynski, Greenberg, et al., in press), which has discussed ways in which defensive and growth-oriented motivations can each lead to a range of possible outcomes ranging from rigid and reactionary responses to creative, prosocial, or otherwise enriching or integrative endeavors.
4. Such laboratory effects are also generally consistent with recent archival research. Although not examining reminders of mortality per se, social and economic threats, which may conjure up existential concerns, led to more executions and death sentences in conservative U.S. states but fewer such sentences in liberal states (McCann, 2008).
5. One major obstacle to knowing how conflicts between these factors might be resolved, or knowing which of these factors exerts the most powerful influence on terror management processes, is that TMT research, like most research in social psychology (e.g., that investigating dissonance reduction, uncertainty responses, social exclusion, etc.), has typically employed methods that present participants with a particular dependent variable in an effort to observe a particular hypothesized response. Although this approach has revealed many different ways of managing death awareness, it is not well suited to determining the preference for one type of response over others. Thus, one more promising avenue for future research would be to attempt to determine which of the possible

buffering mechanisms is the default or preferred mechanism, for whom, and when. Such research efforts could involve directly comparing the effectiveness of various buffers and assessing the extent to which there might be a fluid compensation process involved, or could involve providing several buffer choices and assessing the extent to which individuals do or do not rely on each possible buffer.

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