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RESEARCH DIALOGUE

The Urge to Splurge: A Terror Management Account of Materialism and Consumer Behavior

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This article presents terror management theory (TMT) as a way to understand how the human awareness of death affects materialism, conspicuous consumption, and consumer decisions. The pursuit of wealth and culturally desired commodities are hypothesized to reinforce those beliefs that function to protect people from existential anxieties. Following a brief overview of TMT and research, evidence is reviewed that explicates how intimations of mortality increase materialism as a way to enhance self-esteem and affects consumer decisions that support one's cultural worldview. Adverse consequences of materialistic and consumeristic worldviews are described and the challenges for future research to discover ways to alleviate them are considered.

When President Bush was asked what Americans should do in the aftermath of the tragic attacks on the World Trade Center and the Pentagon on September 11, 2001, he advised us to go shopping:

> We cannot let the terrorists achieve the objective of frightening our nation to the point where we don't conduct business, where people don't shop … Mrs. Bush and I want to encourage Americans to go out shopping.
>
> George W. Bush (October 12, 2001)

Many Americans eagerly complied (Zuckerman, 2002, p. G1):

> "When the going gets tough, the tough go shopping …. Within a few weeks of Sept 11—and in the teeth of a recession—ordinary Americans shook off their gloom and opened their wallets."

Americans bought homes and cars in record quantities. They also snapped up appliances, furniture, and electronic gadgets. From October through December, consumption soared at 6% annual rate.

Although exercising one's credit cards in the wake of these catastrophic reminders of vulnerability and mortality may in some ways seem surprising, such behavior follows predictably from the perspective of terror management theory (TMT; Greenberg, Pyszczynski, & Solomon, 1986). According to the theory, the uniquely human awareness of death and the potentially overwhelming existential anxiety it engenders motivates people to imbue life with meaning and derive self-esteem from cultural beliefs about the nature of real-

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ity. Because the virtues of materialistic consumption are deeply woven into the very fabric of American culture (e.g., Shi, 1985), many Americans may be inclined to behave acquisitively to (at least in part) mitigate the existential terror that is both provoked by such horrific events as September 11 and that routinely resonates beneath conscious awareness. Unfortunately, such a focus on materialism and consumerism may have high prices in terms of peoples' psychological well-being and the integrity of the social and physical environment on which human survival ultimately depends (Kasser, 2002a).

The purpose of this article is to present a terror management analysis of materialism, conspicuous consumption, and consumer decisions to explain how deeply rooted concerns about mortality influence this aspect of human social behavior. We begin with a brief overview of TMT and the body of research that supports it. We then apply TMT to understand how trepidation about death (particularly at an unconscious level) instigates and sustains materialistic pursuits, as well as directs consumer choices. Afterward, we briefly touch on some of the unfortunate psychological consequences of materialism as a way of life and highlight research directions that suggest ways to mitigate these adverse consequences.

TMT

TMT (for more thorough explications, see Greenberg, Solomon, & Pyszczynski, 1997; Solomon, Greenberg, & Pyszczynski, 1991) is based largely on the work of Becker (e.g., 1971, 1973). Becker adopted a multidisciplinary view, considering the work of Freud, Rank, Nietzsche, Kierkegaard, and Darwin, among others, in an effort to delineate the motivational underpinnings of human behavior. Following Darwin, Becker noted that humans share with all forms of life a biological predisposition toward survival in the service of reproduction. Of course, there are myriad ways different organisms can successfully adapt to environmental circumstances (e.g., fish gills, skunk stench, cactus thorns). Among the uniquely human adaptations are complex cognitive capabilities that provide the profound capacity for self-reflective, temporal, and symbolic thought (Deacon, 1997). Humans can thereby imagine things that have not yet occurred or do not yet exist and transform those visions into reality.

Although these sophisticated cognitive capabilities empower humans with unparalleled self-regulatory skills and behavioral plasticity, these capacities also unveil some unsettling realizations. In particular, humans, aware of their own existence, can also recognize the inevitability of death. We know that we can perish at any time for reasons that cannot be predicted or controlled; life can be snatched away by sudden encounters with tumors, tornados, or terrorists. Given a biological proclivity for survival, the awareness that death is always potentially imminent and ultimately inevitable engenders a uniquely human capacity for experiencing potentially debilitating terror.

How then do people manage to function with a modicum of psychological equanimity in the face of such daunting dread? Why aren't we all shriveled and cowering in a corner, and, to borrow a phrase from Woody Allen, "groping for a valium the size of a hockey puck?" According to TMT, humans cope by employing the same cognitive capacities for abstract and symbolic thought that led to awareness of death in the first place. That is, we develop and maintain a solution to the problem of death by creating culture and putting faith in cultural worldviews. Cultural worldviews are beliefs about the nature of reality shared by groups of people that developed (quite unconsciously) as a means by which individuals manage the potential for terror provoked by the human consciousness of mortality. Cultural worldviews provide answers to basic and universal cosmological questions (e.g., How did I get here?; What do I do while I'm here?; What happens after I die?) and structure human perceptions in ways that imbue the universe with meaning, order, and permanence. Cultures provide this structure in the context of offering prescriptions for valued behavior that, when fulfilled, promise protection and ultimately death transcendence, either literally through such beliefs as heaven or reincarnation, or symbolically by enduring accomplishments and/or identification with entities beyond oneself. For example, Christians who live piously can feel assured they will go to heaven after death. Symbolically, a businessman may derive a figurative sense of immortality by knowing that he has contributed to a corporate enterprise that has the potential to exist in perpetuity. This idea has of course been recognized for quite some time, as illustrated by the following quote:

> Now stands my task accomplished, such a work
> As not the wrath of Jove, nor fire nor sword
> Nor the devouring ages can destroy.
> Let, when it will, that day, that has no claim
> But to my mortal body, end the span
> Of my uncertain years. Yet I'll be borne,
> The finer part of me, above the stars,
> Immortal, and my name shall never die. (Ovid, 8/1986, p. 379)

Each of us enters the world unadorned by these symbolic cultural dressings, but as the capacities for abstract and temporal thought develop, the protection from mortality concerns becomes a fundamental motivating force in human behavior. Following a host of theorists (e.g., Becker, 1973; Bowlby, 1969; Horney, 1937; Mead, 1934; Sullivan, 1953), TMT proposes that the association between a sense of value and psychological security begins early in life. Humans are virtually helpless and utterly dependent at birth, unable even to roll over by them selves, let alone roll over the proceeds from their IRAs. Children thus quickly develop attachments to their primary caregivers in order to survive. And it is here

that the crucial association between appropriate conduct and security is forged in the context of the socialization process. Children learn that as they meet the socially inculcated standards of value espoused by their parents (e.g., "don't use that valuable and fragile vase as a baseball bat"), they enjoy the consequent comfort and security and their parents' love and protection. However, when the child veers from parental standards of behavior (e.g., imitating Barry Bonds' homerun swing with the cherished antique), children experience, at the very least, the absence of the overt parental affection that renders secure functioning possible. Thus, to be good is to live up to societal standards and thereby assure safety and security, and to be bad is to fail to live up such standards and thereby expose oneself to anxiety and insecurity. This conditional dispensation of parental affection in exchange for adherence to cultural dictates quickly weaves children into the cultural fabric, and is constantly reinforced by a range of cultural teachings that associate devotion to cultural values with feeling good and secure (cf. Lerner, 1980). In this way, as children mature, the base of existential security gets transferred from the parents to the culture at large, whereby culturally delineated prescriptions for what constitutes meaningful and valuable behavior become the means by which people feel good about themselves. Because feeling good about oneself (i.e., maintaining self-esteem) emerges as an important means by which people feel secure and protected from anxiety, it serves to insulate people from a fundamental source of anxiety—the awareness of death.

Because cultural worldviews and self-esteem are socially constructed (in the sense that there are many different ways to apprehend the universe and no specific cultural conception of reality is likely to be absolutely true) they are effective only to the extent that people maintain faith in their validity (Berger & Luckmann, 1967). Accordingly, people expend considerable effort to maintain the meaningfulness of their beliefs and the viability of their self-conceptions. Of course, as so many theorists have argued, confidence in a particular belief is fortified when others believe similarly and thus corroborate our conceptions of reality (Festinger, 1954). However, this also means that others with different beliefs are psychologically problematic: That is, those who endorse or represent beliefs that conflict with our own, or act in such a way as to undermine the sanctity of our conceptions of what constitutes right and wrong or good and bad, pose a fundamental threat to the integrity of our cultural worldview. Thus, according to TMT, they threaten our protection from overwhelming death anxiety. Moreover, because other people can provide the consensual validation of our worth as individuals, and because an important contingency of self-worth is often how liked or accepted one is by others, people are generally motivated to manage the impressions they give off to others in the service of maintaining their sense of self-esteem. TMT posits that these two structures (faith in a *cultural worldview* and *self-esteem*), which result from living up to the standards of value associated with that worldview, are essential to sustain psychological equanimity in the human animal who has partaken from the proverbial tree of knowledge and thus recognizes the inevitability of death.

EMPIRICAL ASSESSMENTS OF TMT

TMT has inspired over 175 separate empirical studies investigating a broad range of topics. However, our consideration discussed later focuses on the scope and specificity of evidence for two of the theory's postulates that we believe are particularly relevant to issues of consumer behavior.[1]

Mortality Salience (MS) and Worldview Defense

TMT asserts that belief in, and adherence to, a cultural worldview is motivated at least in part by knowledge of mortality. Consequently, reminding people of their death should render them especially sensitive to anything that impinges on their worldview (favorably or adversely) and particularly motivated to invest in and defend that cultural worldview. In the typical paradigm to assess derivations of this general *mortality salience hypothesis*, participants are asked to answer two open-ended questions about their death (specifically, "Please briefly describe the emotions that the thought of your own death arouse in you" and "Jot down, as specifically as you can, what you think will happen to you as you physically die.") or a control topic, such as thoughts about experiencing intense physical pain. These questions are embedded in a packet of personality assessments to sustain a cover story and distract participants from the true purpose of the study. Participants later evaluate targets that either threaten or support their worldview. For example, Greenberg et al. (1990) manipulated MS and told American participants to evaluate two essays, purportedly written by foreign exchange students, that either attacked the political and moral fiber of the United States or extolled its virtues. Results indicated that participants reminded of their mortality engaged in *worldview defense* by becoming more positive in their evaluations of pro-U.S. targets and more negative in their evaluations of anti-U.S. targets, in comparison to control participants.

Notably, worldview defenses emerge in response to even rather subtle threats to one's beliefs. For example, Greenberg et al. (1990) exposed Christian participants to a MS or control induction and then asked them to read questionnaires suppos-

[1]Some examples of the diversity of behaviors that have been explored in the context of terror management theory include moral judgments and intergroup conflict (see e.g., Greenberg et al., 1997 for a review), close relationships and attachment (see e.g., Mikulincer, Florian, & Hirschberger, 2003 for a review), sexuality and body issues (Goldenberg, Pyszczynski, Greenberg & Solomon, 2000 for a review), guilt and creativity (Arndt, Greenberg, Solomon, Pyszczynski, & Schimel, 1999), and clinical maladies such as depression (e.g., Simon, Arndt, Greenberg, Solomon, & Pyszczynski, 1998).

edly completed by two other students in the study. Actually, the two descriptions were bogus, but varied in terms of the religious affiliation of the students' parents (and by inference, the students themselves): Christian or Jewish. As predicted, only following MS did participants show increased positive reactions (e.g., liking, desire to meet) for the child of the Christians and more negative reactions to the child of the Jews.

Research has also demonstrated that reminders of mortality affect concrete behavior as well as evaluations of worldview relevant others. For example, participants were more reluctant to handle culturally valued artifacts in sacrilegious ways as part of a problem-solving task following a MS induction (Greenberg, Simon, Porteus, Pyszczynski, & Solomon 1995; e.g., for Christian participants using a crucifix to hammer in a nail or for American participants using a flag to sift sand from colored granules). MS-induced behavioral reactions can also be directed toward harming others in the service of asserting faith in one's beliefs. McGregor et al. (1998) found, for example, that reminding participants of their mortality led them to be more physically aggressive to those who espoused different political beliefs by allocating more hot sauce for the person to consume when participants knew the target did not like spicy foods. Thus, reminders of mortality provoke efforts to bolster faith in one's culturally constructed beliefs about the nature of reality.

MS and Self-Esteem Striving

According to TMT, although faith in a cultural worldview is an essential means by which protection from existential anxiety is afforded, it is not in itself sufficient. People also need to feel as if they are significant contributors to their version of a meaningful cultural drama (Becker, 1971); in other words, they need to obtain and sustain self-esteem. Consistent with the notion that self-esteem serves an anxiety-buffering function, research has shown that high self-esteem (either dispositionally or experimentally induced) reduces both self-reported anxiety and physiological arousal in response to various types of threats (e.g., gory images of death, threat of electric shock; Greenberg, Solomon et al., 1992).

To the extent that self-esteem provides protection against concerns regarding death, reminders of mortality should increase those behaviors that an individual believes will result in feelings of self-worth; in short, it should increase labors to live up to the standards of value from which one's self-esteem is derived. For example, based on this reasoning, Greenberg, Simon et al. (1992) demonstrated that, in contrast to conservatives, MS-led liberals, who are committed to the value of tolerance, responded more favorably to someone who challenged their worldviews. Similarly, Taubman Ben-Ari, Florian, and Mikulincer (1999) found that MS increased risky driving behavior (both self-reports and on a driving simulator) among those who value their driving ability as a source of self-esteem. In addition to showing that MS increases self-esteem striving, this research provides evidence that even risky behavior that could be a threat to one's continued existence can be increased by reminders of death if that behavior is a source of self-esteem. Of course, there are also healthy avenues toward self-esteem, and in this light, Arndt, Schimel, and Goldenberg (in press) found that reminders of death increase intentions to exercise when fitness is an important contingency of self-worth.

Another line of research indicates that MS also increases various group (e.g., ethnic) identifications when such identifications have positive implications for self-esteem but decreases such identifications when they have negative implications for self-esteem (e.g., Arndt, Greenberg, Schimel, Pyszczynski, & Solomon, 2002). Whereas the research on worldview defense we reviewed earlier indicates that reminders of death increase liking for those who support one's beliefs and distain for those who threaten them, when dealing with one's personal group identifications, MS increases such identifications when they facilitate the procurement of self-esteem but reduces them when they threaten to shine a negative light on one's sense of self-worth. Thus, using a variety of different approaches, the extant research indicates that reminders of death trigger increased efforts to maintain self-esteem (see Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, in press, for a comprehensive review).

Replication and Specificity of MS Effects

Substantial evidence attests to the reliability and generalizability of worldview and self-esteem defensive reactions in response to MS. These effects have been obtained by independent researchers with a wide variety of geographically and demographically diverse samples (e.g., Asian students: Heine, Harihara, & Niiya, 2002, Israeli soldiers: Taubman Ben-Ari et al., 1999, Australian Aborigines; Salzman & Halloran, in press, municipal court judges: Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). MS effects on worldview defenses also appear to cross-cut a range of different ages as these effects have been observed in samples ranging from fifth graders in Israel (Florian & Mikulincer, 1998) to college students (e.g., Greenberg et al., 1990) to middle-aged adults (Rosenblatt et al., 1989). Convergent support for the unique role of death in these effects comes from the multiple operationalizations of MS in addition to the traditional open-ended questions about one's death. For example, in one series of studies, Pyszczynski et al. (1996) found increased worldview defense when pedestrians in Germany or Colorado were interviewed right in front of a funeral parlor as opposed to 100 yards before they walked by the funeral parlor. Thus, even relatively subtle everyday reminders of death can exacerbate worldview defense reactions. Indeed, Arndt, Greenberg, Pyszczynski, and Solomon (1997) exposed participants to subliminal presentations of the word death (i.e., flashed the word on a computer screen for 28 ms)

and found that such presentations increased bias for a pro-American target over an anti-American target.

It is important to note that these MS effects have not emerged in response to other aversive thoughts, nor are they explicable by recourse to the idea that reminders of death simply increase negative affect or arousal. For example, thoughts of intense physical pain, meaninglessness, social exclusion, failing an exam, and future worries have not reproduced MS effects. In addition, whereas self-esteem reduces anxiety in response to threats (e.g., Greenberg, Solomon, et al., 1992), the specific effects of MS per se on worldview defense and self-esteem striving are not mediated by physiological arousal or affect (as measured by pulse rate, peripheral blood volume, skin conductance, facial electromyography) or self-reports of anxiety or negative affect (see Arndt, Allen, & Greenberg, 2001; Greenberg et al., 1997 for a detailed review of this research).

The Cognitive Architecture of Terror Management

Research has also elucidated the cognitive processes that underlie terror management responses, as well as distinctions between reactions to conscious and unconscious thoughts of mortality (see e.g., Arndt, Cook, & Routledge, in press; Pyszczynski, Greenberg, & Solomon, 1999). This research has led to a model of the cognitive architecture of terror management responses (see the left side of Figure 1) in which thoughts of death assume a central position within a cognitive network and can be activated by associated events or breakdowns in the protective mechanisms that keep concern with death at bay. For example, exposure to news stories that heighten perceived vulnerability to breast cancer (Cook, Arndt, & Goldenberg, 2003) and advertisements that feature

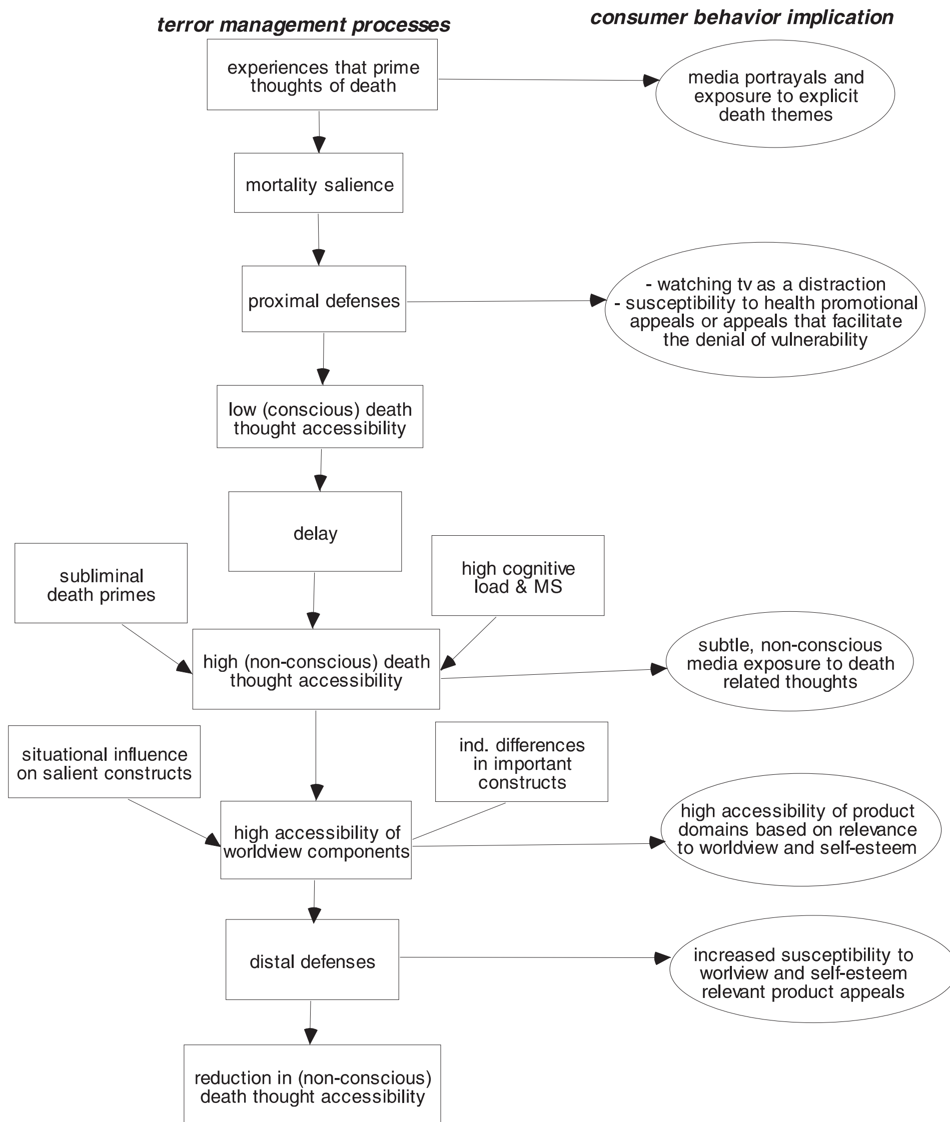

FIGURE 1 The cognitive architecture of terror management in a consumer behavior context.

fatality information about drunk driving (Hunt & Shehryar, 2002) have been found to increase death thought accessibility (the extent to which death-related thoughts are cognitively available but outside of focal attention; Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). Studies have also demonstrated that compromises in a person's anxiety buffering structures (e.g., thoughts of secure relationships to others) can increase levels of death thought accessibility (e.g., Mikulincer, Florian, Birnbaum, & Malishkevich, 2002).

When death thoughts are explicitly in people's minds, they tend to first provoke *proximal (or direct) defenses* designed to remove death-related cognitions from conscious awareness. Such responses can take a number of different forms and include using limited cognitive resources to suppress thoughts of death (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997), engaging in rationally oriented cognitive distortions that deny vulnerability to a short life expectancy (Greenberg, Arndt, Simon, Pyszczynksi, & Solomon, 2000), or engaging in proactive health facilitating responses (e.g., intending to exercise more; Arndt, Schimel, et al., in press). Once such proximal defenses are relaxed, there is a delayed increase in unconscious death thought accessibility. In laboratory research, the necessity of delay in increasing death thought accessibility outside of focal attention can be circumvented by priming death subliminally (e.g., Arndt, Greenberg, Pyszczynksi, et al., 1997) or by having participants contemplate their mortality under condition of high load, which reduces the effectiveness of ensuing efforts to suppress death-related thought (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997). Increased death-thought accessibility outside of focal attention then signals the need for the worldview and self-esteem relevant *distal or symbolic defense* we have been describing in part by increasing the accessibility of belief constructs associated with the individuals' culturally prescribed investments in meaning and esteem. For example, subliminal death primes, or explicit mortality primes after a delay, spontaneously increase accessibility of nationalistic cognitions for men and relationship cognitions for women (Arndt, Greenberg, & Cook, 2002). Notably, this sequence of activation depends on the elements of a person's belief system that are both dispositionally and situationally salient as available trajectories of symbolic investment. With the increased accessibility of these domains of symbolic meaning and value, they are more likely to be defended—an action that then serves to reduce the heightened accessibility of death-related thoughts (Arndt, Greenbarg, Solomon, et al., 1997).

MATERIALISM AND CONSUMER BEHAVIOR AS TERROR MANAGEMENT

> The human animal is a beast that dies and if he's got money he buys and buys and buys and I think the reason he buys everything he can buy is that in the back of his mind he has the crazy hope that one of his purchases will be life ever-lasting. (*Cat on a Hot Tin Roof,* Williams, 1955/1985)

Certainly some accumulation of commodities is necessary to sustain life, but why is it that many people have a seemingly insatiable thirst for surplus? What does the terror management analysis of the motivational underpinnings of human behavior "buy" us in terms of understanding peoples' proclivities toward accumulation of material wealth, and how does the analysis help us understand the types of consumer choices that people often make?

TMT converges with a number of other perspectives to suggest that, to the extent that money is a pervasive barometer of self-worth, it tells us not only how much our car is worth, but how much we are worth as the person who holds the keys. Much has been written regarding the cultural and economic factors that have created and work to sustain a cultural worldview that communicates that the procurement of wealth and possessions will lead to a meaningful, happy life. According to TMT, this is a vital message that people are especially prone to buy into because doing so offers a culturally embraced means of protection from basic existential fears. To the extent that fear of death engenders identification with a cultural worldview in which individuals purchase symbolic dressings that reflect one's value, and to the extent that the widespread cultural message of consumption and materialism becomes internalized at the individual level, we can understand the "urge to splurge" as an exemplification of peoples' trenchant need to overcome the existential insecurity evoked by awareness of mortality and given direction by these cultural prescriptions. Cash, and the fantastic appeal of what money can buy—for example, the spa-tanned and gym fit, cosmetically and surgically enhanced, dressed and jeweled "to kill," perpetually young, sexually alluring, thinner-than-a-piece-of-linguini woman; the buff swashbuckling "player" with the sculpted hair and personally tailored Armani suit fondling the keys to his Mercedes with one hand and the aforementioned woman with the other—provide a way for humans to distance themselves from the disturbing realization that they are animals destined to die. In brief, the acquisition of wealth represents a culturally sanctioned symbolic testimony to one's value, with the consequent assurance of safety and security in this life and figurative immortality thereafter.

There is of course a strong historical and anthropological foundation to this analysis (see Brown, 1959; Solomon, Greenberg, & Pyszczynski, 2004, for more detailed considerations of this notion). From early work by Roheim (1934) to the more recent accounts by Goldschmidt (1990), a variety of ethnographic studies pointed out that a driving force behind human social behavior is the pursuit of symbolic prestige to deny the corporal limitations of

biological life.[2] Even among the most communally oriented societies, such as the Mbuti in Zaire, the role of prestige acquisition in economic affairs is paramount (Goldschmidt, 1990). And Western societies by no means have a monopoly on wasteful consumption in the service of asserting one's symbolic value. For example, Goldschmidt described how a Trobriand Island man will construct "a great pyramid of his best yams in front of his sisters' house where he will leave them to rot" to signify his status.

An excellent example of material consumption as blatant death denial was recently reported by Bonsu and Belk (2003). According to them, in the Asante society in Ghana, West Africa, after someone dies, bereaved relatives spend outlandish amounts (the equivalent of five times their annual incomes) for ostentatious and highly competitive displays of material and social wealth in elaborate death-ritual performances. Enormous efforts are made to present the deceased in a very favorable light, what Bonsu and Belk (2003, p. 45) described as "refining the social image of the deceased." And great status in the community is acquired by Asante bereaved who successfully outdo their neighbors in their displays of material capital (e.g., fancy clothes to dress the deceased, hearses to transport the departed to burial grounds, and food and drink for people in attendance, who in many instances do not know the deceased and thus judge his or her standing in the community by the magnitude of resources devoted to their funeral) and social capital (e.g., the number of people in attendance and their status in the community).

From a TMT perspective, death denial on the part of the bereaved is a vital motive that underlies the Asante death ritual. Enormous displays of material and social capital at the funeral and strenuous efforts to enhance the postmortem image of the deceased serve to advance the deceased's candidacy for ancestor status; and a happy ancestor has the power to make life safe and secure for the bereaved (symbolic invulnerability/immortality). Additionally, conspicuous consumption at the funeral provides prestige for the bereaved by being viewed favorably by others in the community (self-esteem striving in response to MS). Finally, bereaved who successfully—in the eyes of the community and the ancestors—perform the death ritual for the deceased, enhance their own prospects for a fantastic funeral display that ensures the bereaved will make excellent candidates for becoming ancestors after they die (literal immortality).[3]

Although the frenetic pursuit of the superfluous is common to all humans, the propensity for consumer-oriented consumption during one's life has reached heretofore-unthinkable dimensions in contemporary Western, and especially, American society, as the power of the Judeo-Christian tradition has waned in the last century. The desire for wealth as an end in itself, rather than a reflection of religious fealty that spawned and sustained the Protestant work ethic (Weber, 1904/1958), has bolstered the power of the marketplace as the new immortality ideology (Becker, 1975; Brown, 1959).

In short, because awareness of death instigates efforts to augment self-esteem, concerns about mortality should often intensify materialistic desires in people for whom such pursuits are a salient barometer of self-worth. And when consumerism is woven deeply into a cultural fabric (as in the United States), we should expect materialistic routes of symbolic transcendence to be pervasive in general, and especially in response to reminders of death. In the following sections we review empirical evidence that examines how conscious, and in particular unconscious, concerns about mortality affect materialism and conspicuous consumption.

Effects of MS on the Appeal of Money, Material Possessions, and Greed

There are a number of studies that provide converging empirical support for the terror management proposition that concerns about death exacerbate materialistic tendencies. One of the guiding hypotheses of this research is the proposition that to the extent that consumerism and materialism are a pervasive feature of dominant cultural worldviews, and identification with cultural worldviews is increased by the activation of death-related thoughts, then we should see general increases in materialism after MS. In the first attempt to examine the notion that "cash is king" in part because it assuages concerns about death, Solomon and Arndt (1993) asked participants, after a MS or control induction,

[2]Although the word *prestige* means good reputation or high esteem, we think it significant to note here that it originally meant a conjuror's trick or illusion (from Latin *praestigiae*) according to the Merriam-Webster Dictionary.

[3]Interestingly, Bonsu and Belk (2003) interpreted the Asante death ritual as evidence that TMT is irrelevant in non-Western settings, but we believe this is the result of misunderstanding the theory and research on their part. Bonsu and Belk argued that the Asante death ritual is inexplicable in TMT terms because the Asante do not appear to fear death and even seem to welcome it, and because their wanton consumption and identity-boosting efforts are on behalf of the deceased after they've died. However, from the perspective of TMT, that the Asante apparently do not fear death is precisely because their culturally constructed death-denial system is functioning quite effectively. TMT does not claim, as Bonsu and Belk suggested, that people will never think about death. Thoughts of death are far less problematic when the individual has secure faith that death is not *the end* (see e.g., Dechesne et al., 2003). Nor does TMT claim that there is only one (the Western) form of death denial; quite the contrary—the claim is that different cultures have different ways of accomplishing the same universal human goals: to acquire and maintain self-esteem in the service of procuring symbolic and literal immortality in the context of culturally constructed meaning systems. For the Asante, helping to propel the deceased into ancestor-hood by lavish spending and image enhancement at the funeral is an effort to advance the short- and long-term death-denying interests of the bereaved by providing prestige in the community, safety and security while alive, and literal immortality by becoming ancestors themselves when they die.

to rate the appeal of a series of hypothetical events that might happen in the course of daily affairs. One event was the prospect of finding a $20 bill while out on a walk. Participants who had been reminded of their death were significantly more excited by the prospect of stumbling across an Andrew Jackson than those in the control group. This preliminary finding is consistent with the notion that reminders of death increase the appeal of money.

Subsequent research has replicated and extended this result in part by documenting the specificity of the effect. Mandel and Heine (1999) had participants complete a fear of death scale or a scale that made depressive thoughts salient. Then under the guise of a marketing survey, participants evaluated a series of advertisements that featured a Lexus automobile, a Rolex watch, a Geo-Metro automobile, and Pringles potato chips. In accordance with the prediction that MS would increase the attraction of high-status objects because their possession confers self-esteem, participants reminded of death gave more positive ratings of the Lexus and Rolex than did control participants. Moreover, MS had no effect on the appeal of a Geo or Pringles (indeed, there was even a slight decrease).

A similar finding was obtained by Kasser and Sheldon (2000, Study 1). Participants were reminded of death or a control topic and then answered questions about their fiscal expectations 15 years in the future (pertaining to such domains as their own salary, the worth of their home, the value of their possessions, and their entertainment and leisure expenses). Participants' responses to these questions revealed elevated fiscal expectations following a MS induction (relative to a "listening to music" control group), in terms of their overall financial worth, and especially in the amount participants expected to spend on luxury items such as clothing and entertainment. These results suggest that concerns about mortality influence economic aspirations and that high-status items may be a particularly alluring balm following a subtle confrontation with thoughts of death.

There is thus growing evidence that concerns about death can increase the appeal of money and products that imbue their owners with status. But will intimations of mortality increase the zeal for material pursuits—in a word, increase peoples' greed—even if such pursuits might potentially harm others or the environment? Unfortunately, yes. Kasser and Sheldon (2000, Study 2) hypothesized that heightened awareness of mortality would lead people to become greedy over-consumers of scarce natural resources. After a MS or music control induction, participants completed a forest-management simulation in which they imagined themselves as owners of a logging company bidding against three other companies to harvest trees in a national forest. They first read that harvesting large amounts of timber had the benefit of short-term profit, but also the drawback of long-term depletion of the forest to the point where there would eventually be no trees. They were then asked how much of 100 acres of available forest they intended to harvest in their first year. Before making their bids, participants also rated the extent to which they expected the other companies to cut large amounts of wood each year and how much they would like to profit more than the other companies. Kasser and Sheldon reasoned that these latter two responses reflected *fear* and *greed,* respectively. Specifically, if you feel that other companies are going to cut lots of timber, you might also do so for fear that there will be none left otherwise. However, if you think that other companies may be restrained in their harvest in the service of long-term preservation of forest, then you might harvest a great deal to greedily exploit this situation for your own immediate short-term profit.

The results were in many ways disturbing. People reminded of their own mortality reported intending to harvest significantly more of the available acres of forest than their counterparts in the music control condition (see Figure 2). In addition, although MS did not influence the amount of forest they expected the other companies to cut (fear), it significantly increased the desire for more profit than other companies (greed). For many in our culture, financially besting others may be a central basis for feeling especially valued. Indeed, in a capital-based culture, how much money you earn and have is an indication of how much you are valued in the culture. This finding suggests that greed at the expense of environmental well-being may be at least partially influenced by concerns about death.

MS and the Self-Esteem Relevance of Consumer Products

In the preceding section we explored the implications of this analysis for generalized materialistic desires, but did not offer insight as to how existential concerns might impact evalu-

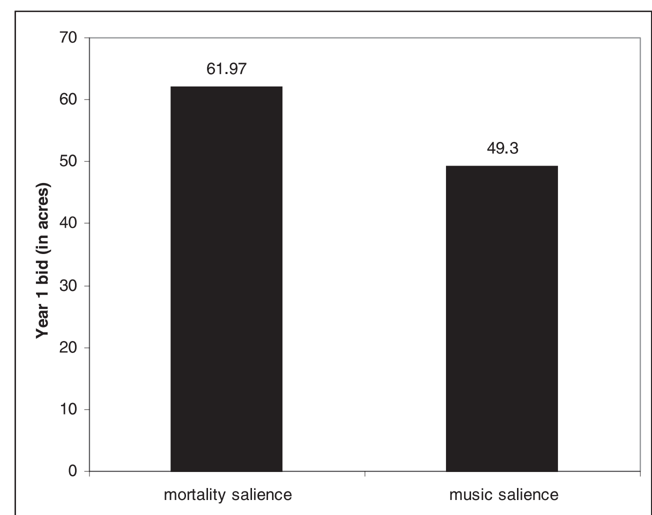

FIGURE 2 Mean forest harvest bids as a function of mortality salience (from Kasser & Sheldon, 2000, Study 2).

ations of specific categories of products. However, to the extent that certain products are linked to contingencies of self-worth, TMT can be fruitfully applied to understanding consumer behavior in more specific domains. To date, research has focused on the effect of death-related thought on increasing the pursuit of an attractive appearance and of goods associated with this end.

As the beautiful bodies that pervade advertising attest, in many cultures one of the primary avenues for self-worth and sense of personal value is to maintain a certain standard of physical attractiveness, particularly for young women (e.g., Crocker & Wolfe, 2001; Fredrickson & Roberts, 1997). To the extent that death-related thought triggers increased efforts to maintain self-esteem and to the extent that being attractive is for many people an important means to this end, reminders of death should therefore intensify the importance people place on attributes that denote physical attractiveness as well as people's susceptibility to advertisements that pitch products as enhancing attractiveness (see e.g., Goldenberg, Pyszczynski, Greenberg, & Solomon, 2000). Cultural norms for attractiveness are an interesting domain to consider for two reasons. First, attractiveness and image are frequently created through consumer products and services (i.e., clothes, makeup, hairstyles, "Buns of Steel" videos). Second, attractiveness goals, like strivings for money and status with which they cohere in factor analyses (Kasser & Ryan, 1996), depend largely on the praise and opinions of others, or, from the TMT perspective, receiving feedback from others that one has successfully reached the standards of the cultural worldview.

One important expectation for attractiveness, particularly for women in Western nations, is the societal standard for thinness (e.g., Spitzer, Henderson, & Zivian, 1999). From a TMT perspective, following reminders of mortality, women might therefore be especially likely to avoid those products that are not conducive to a slim and attractive figure. To test this notion, Goldenberg, Arndt, and Brown (2004) manipulated MS, and then later gave participants the opportunity to eat a "nutritious but fattening snack food" in the context of a product evaluation study. As expected, when thoughts of death were accessible but outside of focal attention, women ate less of a food that, although nutritious, might compromise efforts to maintain an attractive figure. Goldenberg and Arndt further reasoned that when women are in a group context this restricted eating effect after MS should be particularly likely among women who do not meet cultural standards of thinness. In this light, subsequent studies replicated these effects but found them to be especially prominent among women who had higher body mass index scores, and moreover, that the restricted eating effects were mediated by the extent to which the mortality prime led women to think that they were falling short of an internalized societal ideal for thinness.

Tanning is another behavior that, although potentially causing a number of important health risks, can also be associated with improving one's image and increasing self-esteem (Hillhouse, Stair, & Adler, 1996). Because being tanned can increase self-esteem, under certain conditions propensities for such behavior should be increased by the provocation of fears about mortality. Following this reasoning, Routledge, Arndt, and Goldenberg (2003) recruited participants who had in a previous mass testing session indicated that being tan was at least moderately important to their self-esteem. Under the guise of a consumer marketing and personality study, after a MS or control induction, participants rated the likelihood that they would purchase a variety of commercially available sun lotion products that had a range of sun-protection factors. Because people who engage in tanning often report doing so to improve their appearance (e.g., Hillhouse et al., 1996), TMT predicts a decrease in their endorsement of safe sun products when death-related thoughts are activated. And indeed, this is precisely what the study found.

Similar results occurred when participants were experimentally primed to think of the relevance of tanning to physical attractiveness. In this study, participants were first presented with one of two advertisements for a new store, the Beach Company, which would soon be opening locally. In one condition the advertisement featured a well-tanned, attractive woman in a bikini swimsuit and in the other condition the advertisement featured a picture of a beach ball. Participants were then reminded of their mortality, or as a control topic, thoughts of uncertainty, and then after a delay, reported how interested they would be in a variety of products the Beach Company would offer (tanning lotions, tanning services, beach toys, sunglasses, etc.). As expected, when participants were first primed with the advertisement of the attractive tanned woman and were then reminded of mortality, they were the most favorably disposed to products that would increase one's tan (even though such choices increase one's chances of contracting skin cancer).

A number of terror management studies thus suggest that reminders of death motivate efforts to meet contingencies of self-worth (see also Arndt, Schimel, et al., in press; Goldenberg et al., 2000; Taubman et al., 1999). Therefore, when consumer products are presented as a means to satisfy these contingencies, TMT offers a way to understand the enticing pull of such appeals.

MS and Consumer Behavior as Worldview Validation

The research reviewed earlier points to the effect of existential concerns on consumer choices that people believe may have the potential to increase self-esteem. TMT also suggests that consumer decisions can be based in part on efforts to uphold one's cultural conceptions of meaning. As research on worldview defense suggests, when death-related thoughts are particularly accessible, people should be more positively inclined to purchase those goods and services that support their cultural worldview and more nega-

tively disposed to those goods and services that threaten to undermine faith in their worldview. Thus, for example, we began this article with reference to the tragic events of September 11, 2001, and noted the subsequent increase in consumer purchasing. Of course, one of the primary directions of this consumer spending was purchasing products that symbolized positive feelings for one's country (i.e., flags, pro-U.S. bumper stickers). In addition to such patriotic manifestations of consumer activity, there also appeared to be a general upsurge in support of capitalism and consumerism and an increase in distain for those economic and political viewpoints that challenged this aspect of American ideology (Pyszczynski, Solomon, & Greenberg, 2003). For example, in reaction to France's opposition to the eventual war in Iraq, some consumers boycotted French foods and wines, and there was even a movement to rename "French fries" as "Freedom Fries. "

Although there are no doubt many reasons why the September 11 attacks were so threatening and provoked a variety of responses, there are a number of empirical findings that are relevant to the role of mortality concerns in increasing consumer reflections of cultural identification. For example, Nelson, Moore, Olivetti, and Scott (1997) presented American participants with video footage of fatal car crashes or minor accidents and showed that, to the extent that the fatal accidents reminded participants of their own mortality, American participants were more likely to blame a car manufacturer for an accident when it was a Japanese than an American manufacturer. The work of Jonas and Greenberg (in press) made a similar point with regard to Germans' feelings about the introduction of a standard European currency, the Euro. Specifically, across two studies, Jonas et al. found that the activation of death-related thought (via subliminal death primes or proximity to a cemetery) led German participants to voice decreased support for the Euro and increased support for the German Mark; these findings were also replicated with global preferences for those goods of German origin (e.g., cars, cooking). Thus, Germans in this study were more negative toward that which threatened their economic system and those products that were not of national origin.

Jonas, Schimel, Greenberg, and Pyszczynski (2002) extended these findings from evaluations to participants' donation behavior in documenting what these authors referred to as a "scrooge effect. " American participants in these studies were reminded of mortality (either via a traditional open-ended writing manipulation or via proximity to a funeral parlor) or not and were then given the opportunity to donate money to either national charities or to charities directed to foreign aid. When reminded of death, participants were more generous in their donations to national charities than were participants who had not been reminded of death, but notably, there was no effect on donations to foreign charities. Apparently, then, participants' benevolence was confined to those groups who supported their cultural worldview.

Consciousness of Death-Related Thought in Materialism and Consumer Behavior

An important but as yet unemphasized issue to raise regarding the studies reviewed thus far concerns the fact that in all these studies, manipulations of MS were not especially blatant, were embedded in a host of other personality assessments to obscure the purpose of the experiments, did not engender anxiety or negative affect, and were followed by a delay before the assessment of the dependent variables (a procedure that previous research shows leads to increases in death thought accessibility outside of focal attention; Greenberg et al., 1994). The fact that the effects of MS on materialistic striving and consumer choices appeared to result from the unconscious influence of death-related thought suggests that there may be important distinctions between the effects of unconscious relative to conscious death-related thought on the types of consumer decisions that individuals are prone to make.

Following the dual defense model of terror management reviewed earlier (e.g., Pyszczynski et al., 1999), peoples' reactions to conscious thoughts of mortality are to remove these cognitions from focal attention. This can be accomplished by suppressing thoughts of death or denying vulnerability to those factors that might promote an early demise or, more adaptively, by taking proactive steps to reduce perceived vulnerability (e.g., Arndt, Greenberg, & Solomon, et al.,1997; Greenberg et al., 2000). Once these direct defenses against conscious thoughts of death are relaxed, death thought accessibility increases outside of conscious awareness and motivates the types of symbolic defenses we have been describing (e.g., investing in cultural worldviews and seeking self-esteem; Arndt, Greenberg, Pyszczynski, et al., 1997; Arndt, Greenberg, & Cook, 2002). Thus, extrapolating from this research on the psychodynamics of terror management, when thoughts of death are conscious, consumer decisions may be driven more by efforts to (either more or less adaptively) reduce ones' perceived vulnerability to death. However, when outside of conscious attention, thoughts of death are more prone to influence consumer choices based on their relevance to self-esteem and cultural worldviews.

The potential of this analysis for understanding consumer behavior is illustrated by the Routledge et al. (2003) work on tanning that was reviewed earlier. Recall that in Study 1 of this research, reminders of death, after a delay, decreased interest in sun block lotions with high sun protection factors. Notably, the study was also concerned with whether such preferences would differ as a function of the consciousness of death-related thought. Thus, participants completed questions about their mortality, or dental pain in the control condition, and then either immediately thereafter (conscious death) or following a delay (unconscious death), rated the likelihood of purchasing the products. When thoughts of death were conscious, participants indicated higher intentions to purchase products with higher sun protection factors.

This is a response that presumably reflects a more rationally oriented response to conscious death-related thought by lowering perceived risk to those factors (i.e., sun exposure) associated with health threats. However, when thoughts of death were no longer in conscious awareness, participants decreased their endorsement of safe sun products, presumably because they were more concerned with looking good and thereby enhancing self-esteem (see Figure 3).

It is not too difficult to see the marketing implications of these findings and of the cognitive architecture of terror management processes more broadly. The right side of Figure 1 presents examples of how some of these processes may unfold in consumer relevant domains. It seems to be a particularly common occurrence that when one consumes media of any form, one is exposed to images of death. On television, for example, police dramas frequently end at the commercial break with someone lying bloody on the floor or in grave danger. It is difficult to open up the morning newspaper and not be confronted with images or stories about some murder, accident, or the latest attack in the Middle East. Of course, early newspaper barons knew that death sells papers. According to the dual defense model of terror management, an individual may be reminded of death via television shows and other such media (e.g., Cook et al., 2003) and this conscious exposure might in turn motivate the need for direct (or proximal) defenses to deal with concerns about death. These efforts may exacerbate an already existing proclivity to watch more television as a means to distract oneself from and suppress the existential and self-reflective implications of the mortality reminder. Indeed, research indicates that people are motivated to avoid self-awareness after thinking about death (Arndt, Greenberg, Simon, Pyszczynski, & Solomon, 1998) and that people may often use television (Moskalenko & Heine, 2003) and compulsive shopping (Faber, in press) as a means to escape the burdens of self-awareness. Similarly, an individual may also be more persuaded by advertising appeals that allow one to push the problem of death into the more distant future (e.g., ads for the latest aerobic program or other health promoting activity). These responses may have the effect of reducing conscious concerns with death, but in so doing, the now nonconscious activation of death-related thought may then increase the accessibility of dispositionally important or situationally salient avenues toward meaning and esteem. As the individual continues to watch television, she or he may then also be exposed to advertisements that market the esteem-relevant benefits of a product (i.e., the advertisement for the latest sport utility vehicle or hair care gel). Because of the now heightened nonconscious accessibility of death-related thoughts, people may be more susceptible to the appeal of advertisements that are trying to tie the person's self-esteem to the product or service.[4] The individuals' affirmation and commitment to what the product represents may then serve an important function of reducing nonconscious death thought accessibility.

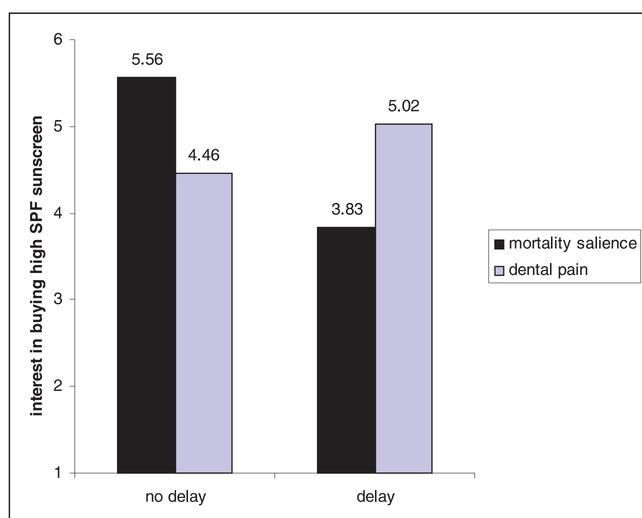

FIGURE 3 Mean intentions to purchase high SPF sunscreen as a function of mortality salience and delay (from Routledge et al., 2003, Study 1).

Problems With Materialism and Consumerism as Death-Denying Value Systems

Throughout this article we have reviewed an accumulating body of work that attests to the powerful role that deeply rooted concerns with mortality can play in the pursuit of material wealth and consumer decisions. Although we have touched on how conscious concerns with mortality can impact consumer choices, we have focused more on how the awareness of death affects materialism and consumer decisions as a means to sustain self-esteem and defend those cultural beliefs that imbue the world with meaning. It is important to note that we are not suggesting that this is but a contemporary issue and the product of the current capitalistic economic system of Western culture. Rather, the historical and anthropological record is clear that people have always sought symbolic avenues of meaning and significance, and that the accumulation of culturally valued commodities—whether they be dollars, cattle, or yams—have always been one avenue through which people assert their value and garner prestige (e.g., Goldschmidt, 1990). However, it seems equally clear that tendencies toward conspicuous consump-

[4]Besides the Arndt, Greenberg, Pyszczynski, & Solomon (1997) demonstration that subliminal death primes increase death thought accessibility and worldview defense and the Pyszczynski et al. (1996) finding that MS effects can be obtained by interviewing pedestrians as they walk by a funeral parlor that we have already alluded to, recent work found MS effects in cemeteries (Jonas et al., 2003), by exposure to news stories that heighten perceived vulnerability to breast cancer (Cook, Arndt, & Goldenberg, 2003), and in advertisements that feature fatality information about drunk driving (Hunt & Sheridyan, 2002). We suspect that subtle (and, unfortunately for many, not-so-subtle) reminders of death are daily fare for the average individual.

tion have reached dramatic levels in contemporary Western cultures.

Two questions then arise: Is this the most optimal value system for people to live by and, if not, what can be done about it? Of course, as social constructionists (e.g., Berger & Luckmann, 1967) have long pointed out, it is exceedingly difficult to evaluate a cultural system without utilizing the culturally relative values that are espoused by that particular system of beliefs. While acknowledging this, Becker offered a set of questions that seem to us to be a reasonably good place to start in terms of evaluating whether all cultural worldviews and pathways to self-esteem are created equal. In *The Birth and Death of Meaning*, Becker (1971) proposed that cultural worldviews can be evaluated based on the extent to which they provide for the psychological needs of their constituents while at the same time minimizing the costs to those outside the culture and to future generations. How then does the current value system of America fare when considered in terms of these criteria?

According to self-determination theory (Deci & Ryan, 1985, 2000), given supportive social contexts, people have a natural tendency to try to satisfy basic needs for competence, relatedness, and autonomy. Substantial research derived from this theoretical tradition demonstrates that to the extent people take on the materialistic beliefs, values, and goals of the dominant consumeristic worldview at the expense of other intrinsically oriented goals, their personal well-being is lower, their social behavior is less civil, and their ecological behavior is more damaging (see Kasser, 2002a, for a review). When people's value systems and goals are more strongly oriented toward "extrinsic values" (Kasser & Ryan, 1996) such as financial success, image, and status, they report a host of problems with well-being. These findings have been replicated in a variety of cultures and in children, adolescents, and adults. Much of the reason for this negative association between materialism and well-being appears to stem from poor satisfaction of needs for security, competence, relatedness, and autonomy (Kasser, 2002a). Finally, people with strong materialistic values care less about the environment (Kasser, 2002a), use more resources in forest dilemma games (Kasser & Sheldon, 2000), and have everyday lives that leave a heavier "ecological footprint" on the planet (Brown & Kasser, 2003).

Thus, according to this research, a materialistic, consumeristic cultural worldview appears to do rather poorly on each of the criteria articulated by Becker for evaluating cultural worldviews (i.e., personal well-being, need satisfaction, costs to culture and future generations). To the extent this is the case, what does TMT have to say about potentially ameliorating some of these problems, particularly as they may be exacerbated by peoples' efforts to defend against existential fears? At a broad level, TMT research points to factors that have the potential to attenuate these responses, and in certain cases, to actually foster more healthy choices. First, individuals differ with regard to the psychological resources they bring to their confrontation with death-related thoughts, and thus research can work to uncover ways to enhance such resources. Second, when death-related thoughts are activated, social situations might encourage values that help individuals to manage mortality concerns without some of the damaging repercussions of the materialistic stance.

Regarding personal moderators of the effects of MS, a number of studies support the idea that self-esteem, as well secure relationship attachments, offer protection from existential fears and thus render people less prone to engage in the worldview defensive behaviors that MS has been found to provoke (e.g., Arndt & Greenberg, 1999; Harmon-Jones et al., 1997; Mikulincer & Florian, 2000). Thus, it may be fruitful to explore how these psychological resources may enable people to respond to death-related thought without these materialistic forms of defense. In addition, recent research indicates that increased faith in literal immortality can attenuate many of the defensive responses to MS, including those pertaining to greed and individual profit (Dechesne et al., 2003). Specifically, Dechesne et al. (2003, Study 3) manipulated MS and presented participants with the forest management game used by Kasser and Sheldon (2000). In Dechesne et al.'s study, before the MS manipulation, participants either read a compelling article purportedly from a major metropolitan newspaper stating that "near death experiences" could be completely explained with neurobiological science or that such experiences could not be explained scientifically and thus they provide evidence for some form of continued consciousness after death. This study replicated the effect of MS increasing greed (among men; discussed later) relative to the control condition except when participants were first primed with information strengthening a literal belief in consciousness after death. Presumably the indoctrination of an immortality worldview buffered the effects of thoughts about death, thus alleviating the need to engage this symbolic form of existential protection.

As noted earlier, increased greed after MS was only observed among the male participants in the study; this was unlike Kasser and Sheldon (2000), no such effect for females. This finding may provide some insight into the potential for different values to influence the types of responses that MS can provoke. Dechesne et al. (2003) suggested that the beliefs that a person defends, or the routes toward self-esteem that they pursue, will depend on the individual's unique constellation of worldview beliefs (Greenberg et al., 1997) and which of those beliefs are situationally or dispositionally salient (see e.g., Arndt, Greenberg, & Cook, 2002). From this perspective, then, the gender differences may reflect the differential cultural value of competitive greed for women and men. And indeed, some evidence exists that men are likely to have stronger financial success aspirations than do women (e.g., Kasser & Ryan, 1996). Thus, men may have more strongly internalized the capitalistic mindset of attaining profit and incorporated this more as an important contingency of self-worth. Future research may be informatively directed toward considering how

different values in one's worldview can influence greed and materialistic pursuits as a way to manage concerns about death.

This in fact was the approach taken in recent research by Jonas, Greenberg, Martens, and Johns (2003). Jonas et al. endeavored to understand how it is that MS could both engender more greed (e.g., Kasser & Sheldon, 2000) and also promote more charitable donations to national charities (Jonas et al., 2002). Building on Kallgren, Reno, and Cialdini's (2000) focus theory of normative conduct, Jonas et al. (2003) reasoned that the effects of MS depend on the norm that is made salient to participants. To the extent that participants are oriented to think of the value of competitive profit, when reminded of mortality, they may be more likely to let greed guide their decisions. In contrast, to the extent that participants are oriented to think of common interest values, when reminded of mortality, they may be more likely to let a fairness heuristic guide their decisions. This was precisely the hypothesis supported by Jonas et al. Across a series of studies, when a common interest norm was made salient, thoughts of death led to more charitable monetary behavior and forest-cutting decisions. In contrast, when a self-interest norm was made salient, reminders of death increased efforts to maximize individual gain. The fact that materialistic pursuits have been increased by reminders of mortality in a number of studies suggests that this may indeed be a common route of existential protection espoused by the cultures in which these studies were conducted. However, these findings also speak to the potential malleability of how people will manage such fears and suggest that MS can lead to nonmaterialistic behaviors if the right norms are in place.

CONCLUSION

In contemporary America, part of striving for self-esteem is to buy into the cultural worldview of modern American consumerism and the dominant social economic paradigm; to be worthwhile is to be wealthy, to consume, and to have the right image. As President Coolidge once proclaimed, "the business of America is business." To the extent that such pursuits are perceived as a viable and pervasive pathway to self-esteem and meaning, the problems they engender may be exacerbated by our human awareness of the finitude of existence. Thus, what we see as the major challenge for this direction of research is to uncover ways to foster alternative belief and value systems that promote greater health and well-being, while at the same time maintaining the viability of a global economy.

In recent years, research derived from self-determination theory and other related perspectives gives us a fairly good idea of what these value systems might look like (e.g., Deci & Ryan, 2000; Kasser, 2000b; Kasser & Ryan, 1996). In brief, research from this perspective suggests that people who pursue intrinsic values (e.g., those for personal growth, connection to others, and contribution to the community) are more likely to construct a life that has greater potential to contribute to the social good. To the extent that such pursuits can augment if not supplant materialistic striving and become a preferred avenue through which people can feel good about themselves, these intrinsic value systems may also offer the protection from existential anxieties that terror management research indicates is necessary for psychological equanimity.

Interestingly, it appears that quite a number of people undergo a shift toward such value systems as they confront their mortality through natural aging or with the calamity of experiencing a terminal illness. In his classic work, *Existential Psychotherapy*, Yalom (1980) offered clinical accounts of how individuals facing death question the ultimate purpose of material acquisition and become more attuned to many of the life affirming values that self-determination theory describes. For example, Yalom (1980) quoted the testimonial from a former senator:

> A change came over me which I believe is irreversible. Questions of prestige, of political success, of financial status, became all at once unimportant. In the first hours when I realized I had cancer, I never thought of my seat on the Senate, of my bank account, or of the destiny of the free world…In their stead has come a new appreciation of things I once took for granted. (p. 35)

Although it is unclear how terminally ill individuals might respond to the much more subtle inductions of MS that have been used in the research described in this article, it may be that in actively confronting mortality, for some the legacy that one values is one not dressed so much in the trappings of material goods but in one's contributions to others and to one's social world. This of course is the lesson that Charles Dickens tries to impart in his timeless tale of Ebeneezer Scrooge. The large literature that deals with death attitudes among the terminally ill often highlights an increase in religious identification, but also among some an increase in the zest for life and appreciation of relationships (e.g., Noyes, 1980). One important task of future research may be to study how to encourage such shifts earlier in life, before one is on death's doorstep. In this way we might better understand how the awareness of mortality can become a springboard leading to meaning and health, rather than a trapdoor leading to dissolution and destruction.

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