

THE HOT AND COOL OF DEATH AWARENESS AT WORK: MORTALITY CUES, AGING, AND SELF-PROTECTIVE AND PROSOCIAL MOTIVATIONS

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Although death awareness is pervasive in organizations and can have powerful effects on employees' experiences and behaviors, scholars have paid little attention to it. We develop a theoretical model of the nature, antecedents, and consequences of death awareness at work. We differentiate death anxiety and reflection as distinct states that strengthen self-protective versus prosocial motivations, examine how mortality cues and aging processes trigger these states, and explore their impact on withdrawal and generative behaviors.

The idea of death, the fear of it, haunts the human animal like nothing else; it is a mainspring of human activity—designed largely to avoid the fatality of death, to overcome it by denying in some way that it is the final destiny. . . . Of all things that move man, one of the principal ones is his terror of death (Becker, 1973: ix, 11).

The tragedies of September 11 had a dramatic effect on work experiences and behaviors, both for those who were directly involved (Bacharach & Bamberger, 2007) and those who were not (Johns, 2006). For some employees the terrorist attacks resulted in crippling anxiety, leading to stress and absenteeism from work (Byron & Peterson, 2002; Salgado, 2002). For others the attacks inspired reflection about death and the meaning of life, motivating remarkable efforts to contribute to other people and society. Organizational scholars began to reflect on how they could best serve the public interest through their research and their students through their teaching (Greenberg, Clair, & MacLean, 2007; Rynes &

Shapiro, 2005; Starbuck, 2002). Applications to helping professions soared as many employees changed careers in order to make a greater difference in their communities and societies (Wrzesniewski, 2002). For example, in the month and a half following the events, applications to Teach For America tripled, and half of applicants polled attributed their decisions to pursue teaching to the events of September 11 (Good-nough, 2002). Similar trends occurred in other helping professions, such as firefighting and health care. For example, after narrowly escaping from the World Trade Center, actress Amy Ting reflected on death and the meaning of her life. She walked away from a successful film career to join the Air Force Medical Service: "After September 11, my perspective on life changed. I have always wanted to help people, so I decided to go back to pursuing the medical field" (Wrzesniewski, 2002: 231; see also Pomeroy, 2002).

Although these reactions were particularly pronounced and widespread, they are not unique to September 11. Employees are reminded of their mortality by an array of events that occur both outside of and inside organizations. Many employees, such as police officers, soldiers, firefighters, miners, and nuclear power plant employees, work in dangerous jobs that place their lives on the line. Some studies suggest that dangerous work leads to anxiety about

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death, emotional exhaustion, and absenteeism (Chisholm, Kasl, & Eskenazi, 1983; Jermier, Gaines, & McIntosh, 1989), whereas others indicate that exposure to death in dangerous work motivates bonding and helping between coworkers (Elder & Clipp, 1988). Other employees, such as doctors, nurses, rescue workers, funeral employees, paramedics, and grief counselors, work in jobs that expose them vicariously to death (Ashforth & Kreiner, 1999). More generally, employees in all jobs are susceptible to illnesses and accidents that can serve as reminders of mortality (e.g., Dutton, Worline, Frost, & Lilius, 2006; Kivimäki, Vahtera, Elovaino, Lillrank, & Kevin, 2002; Worrell, Davidson, Chandy, & Garrison, 1986).

By making employees aware of death, all of these events have the potential to motivate substantial changes in their behaviors. Indeed, two decades of social psychological research has demonstrated that awareness of death has unique, surprisingly powerful effects on individuals' motivations and behaviors (Pyszczynski, Solomon, & Greenberg, 2003). However, we know little about how death awareness arises in organizations and why employees display divergent reactions when they experience it. Organizational scholars have been silent about the role of death awareness in work motivation (Sievers, 1986, 1993) and organizational life in general (Reedy & Learmonth, 2008).

Understanding the role of death awareness in organizations is of particular theoretical and practical significance, given that workforces worldwide are aging rapidly. In the United States the median age of employees is now above forty; the number of employees forty-five and older has increased by more than 35 percent in the past decade, and they now represent over 40 percent of the entire U.S. workforce (Bureau of Labor Statistics, 2007; Fullerton, 1999). Parallel trends have emerged in the European Union and Canada, where employees forty-five and older now make up over 37 percent and 40 percent of the workforce, respectively, reflecting sizable increases in the past decade (Carone, 2005; European Commission, 2007; Statistics Canada, 2006). This dramatic aging of domestic and international workforces is attributable to increases in life expectancy, combined with declines in early retirement and birth rates. In light of these trends, organizational scholars agree that the aging workforce is one of the most

critical theoretical and practical issues organizations face today (Greller & Simpson, 1999; Hansson, DeKoekkoek, Neece, & Patterson, 1997; Kanfer & Ackerman, 2004; Warr, 2001).

Accordingly, organizational scholars have begun to devote systematic attention to the role of age in work motivation and behavior. Recently, Kanfer and Ackerman (2004) developed an elegant theoretical framework to explain how work motivation is influenced by age-related changes in cognitive ability, personality, self-concept, values, affect, and interests. Although their framework significantly advances existing knowledge about the role of age in work motivation, it does not address death awareness as a vital psychological change precipitated by aging. Several decades of research in personality and life-span developmental psychology highlights that as adults reach midlife, they become increasingly aware of their own mortality (Erikson, 1963; McAdams, de St. Aubin, & Logan, 1993; Stewart & Ostrove, 1998). However, in spite of widespread agreement about the theoretical and practical importance of understanding the role of aging in work motivation, and despite evidence that death is increasingly salient and motivationally potent as employees age, calls to incorporate death into work motivation theories have gone unanswered (Czarniawska-Joerges, 1995; Sievers, 1993).

In this article we seek to answer these calls with systematic theorizing about the nature, antecedents, and consequences of death awareness. We begin with a review of existing theory and research about psychological and behavioral reactions to death awareness, paying particular attention to theories of terror management (Greenberg, Solomon, & Pyszczynski, 1997) and generativity (McAdams & de St. Aubin, 1992). We build on this review to distinguish between two distinct forms of death awareness—death anxiety and death reflection—and examine how they differentially engage discrete "hot" experiential versus "cool" cognitive psychological processing systems, thereby strengthening either self-protective or prosocial motivations. Second, we turn from the nature of death awareness to its antecedents. We present a typology of mortality cues, examine how they trigger death anxiety and death reflection, and explore the role of aging processes in influencing employees' responses to these cues. Third, we examine the behavioral consequences of

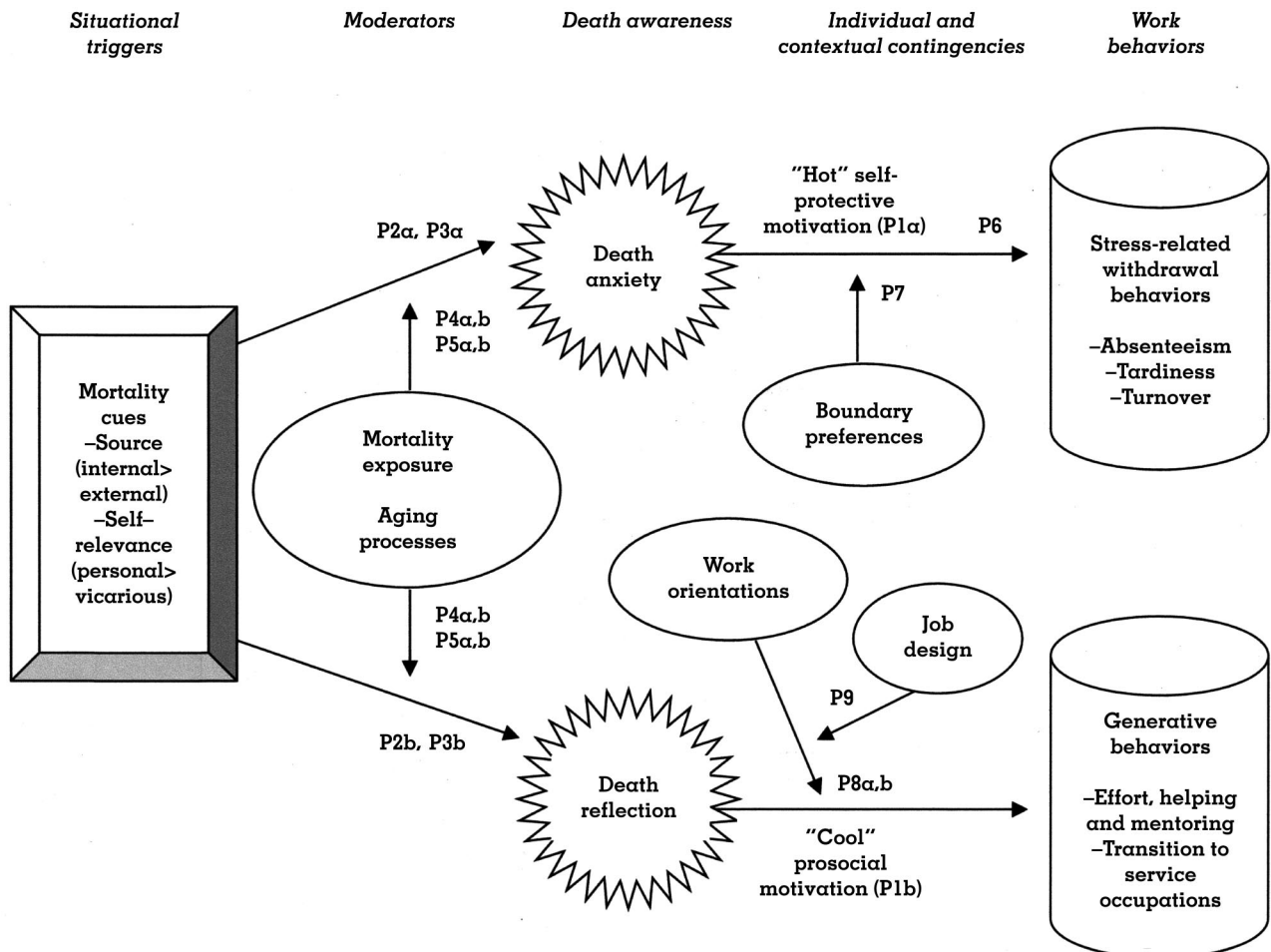
death awareness. We explore how the effects of death anxiety and death reflection on work behaviors are contingent on boundary preferences, work orientations, and the meaningfulness of work. And we conclude by discussing theoretical contributions, future research directions, and practical implications. The contingency model of death awareness at work that we develop in this article is displayed in Figure 1.

THE NATURE OF DEATH AWARENESS

We define death awareness as a psychological state—a mental experience triggered by external events (Chaplin, John, & Goldberg, 1988)—in which people are conscious of their mortality. Scholarly attention to death awareness was stimulated more than 300 years ago

when Hobbes (1950/1651) noted that humans naturally fear death and attempt to avoid it by seeking peace. Although subsequent work in political philosophy has elaborated on this basic assumption, the majority of scholarship on death in the social sciences and humanities is based on existential philosophy. Building on the work of Pascal, Kierkegaard, and Nietzsche, existentialists such as Heidegger and Sartre called attention to the anxiety, dread, and fear that people experience when they become aware of their own mortality (Appignanesi, 2006; Solomon, 2005). Near the turn of the twentieth century, existentialism informed the theories of a number of key thinkers in psychology, including Allport, Dewey, Freud, James, and Wundt. However, as behaviorism began to dominate psychology, existentialism fell out of favor

FIGURE 1
A Contingency Model of Death Awareness at Work



(Koole, Greenberg, & Pyszczynski, 2006; cf. Frankl, 1959, and Yalom, 1980).

Cultural anthropologist Ernest Becker set the stage for empirical attention to how individuals respond to death awareness with three books on the denial of death, one of which won the Pulitzer Prize (Becker, 1973). Becker argued that awareness of death is a uniquely human capability and curse, and he focused on the role of cultural belief systems in buffering against existential anxiety about impending death (for a review see Liechty, 2002). In the 1980s three social psychologists discovered Becker's work and began to design experiments to test and elaborate on his theories. Now, two decades later, terror management theory is among the most generative perspectives in social psychology. Researchers have conducted well over 250 studies to test and extend terror management theory predictions about how individuals deal with the cognizance of their own mortality (Greenberg, Koole, & Pyszczynski, 2004; Pyszczynski et al., 2003).

Terror Management Theory: Death Awareness Increases Self-Protective Motivation

The central premise of terror management theory is that people face a basic existential dilemma: they desire life but know that their own death is inevitable. To defend and protect themselves against existential anxiety, people create and cling to cultural world views—collective understandings of reality that (1) render existence meaningful, coherent, and permanent; (2) offer a set of standards for defining what is valuable; and (3) confer either literal or symbolic immortality through religious institutions that assure an afterlife or social institutions that allow them to feel that they are connected to something larger, more powerful, and more permanent than themselves (Pyszczynski, Greenberg, & Solomon, 1999; Wade-Benzoni, 2006). People defend against existential anxiety through self-protective responses—connecting with and contributing to people and groups who share their world views and showing hostility toward people and groups with alternative world views that challenge the legitimacy of their own.

A large body of research has supported these core propositions by manipulating death awareness with a range of situational cues, including

writing about one's own death, answering questions about what will happen while dying or after death, watching videos of deadly automobile accidents, walking past a cemetery, and being subliminally exposed to death-related words. For example, studies have shown that death awareness increases preferences for charismatic leaders (Cohen, Solomon, Maxfield, Pyszczynski, & Greenberg, 2004), strengthened support for former President Bush and aggressive counterterrorism policies (Landau et al., 2004), increases donations to national but not international charities (Jonas, Schimel, Greenberg, & Pyszczynski, 2002), increases punishment of criminal offenders who threaten one's world view (Arndt, Lieberman, Cook, & Solomon, 2005), enhances optimism about unlikely victories over opponents in soccer matches (Dechesne, Greenberg, Arndt, & Schimel, 2000), boosts overconfidence about future financial worth (Kasser & Sheldon, 2000), amplifies displays of physical strength among athletes but not among individuals who do not value strength (Peters, Greenberg, Williams, & Schneider, 2005), and even motivates individuals to allocate large quantities of hot sauce to world-view-threatening outgroup members who do not like spicy foods (McGregor et al., 1998). Researchers have even demonstrated that people express more nationalistic views—and believe charities are more important—when surveyed while walking past a funeral home (Jonas et al., 2002).

Several studies have further shown that these efforts to defend cultural world views and personal worth serve the anxiety-buffering function of protecting people against fears of their own mortality. For example, researchers have found that, after inducing death awareness, giving individuals positive feedback reduces self-reported death anxiety and objective measures of physiological arousal (for a review see Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004). Perhaps most important, research suggests that these effects of death awareness may be unique; they do not occur in response to other forms of anxiety, such as worries about future plans and success, fears of public speaking, concerns about intense physical pain or failing a test, and actual poor performance on intelligence tests (Pyszczynski et al., 1999). Although scholars have questioned whether the theory comprehensively explains the origins of motives

for self-esteem and meaning (e.g., Heine, Proulx, & Vohs, 2006; Leary, 2004, 2007; Navarette & Fessler, 2005; Ryan & Deci, 2004), terror management research provides strong empirical evidence that death awareness has a broad array of unique psychological and behavioral effects on individuals. In sum, the core theme cutting across terror management research is that death awareness strengthens *self-protective motivation*—a desire to defend one's identity and image (Ashford, Blatt, & VandeWalle, 2003; Larrick, 1993; Leary, 2007).

Generativity Theories: Death Awareness Increases Prosocial Motivation

Personality and life-span developmental psychologists have offered a different perspective on death awareness. In his classic epigenetic theory of development, psychologist Erik Erikson (1963, 1982) proposed that people progress through eight psychological stages of life, each of which involves a developmental crisis. He dedicated the last two of his eight stages of life to issues related to death. He proposed that in the final stage of life people become increasingly aware of death, which leads to a crisis between ego integrity and despair. Those who overcome this crisis experience ego integrity, finding coherence and meaning in their lives and accepting death. Those who succumb to this crisis experience despair, continuing to fear and dread death. Erikson proposed that, before reaching this stage, in the penultimate stage of life—which occurs throughout middle adulthood—people grapple with the notion that their lives are finite. They undergo a midlife crisis between generativity and stagnation—contributing to the next generation versus ceasing to be a productive member of society. He proposed that people who prevail over this crisis become generative by performing socially valuable work and mentoring members of younger generations. People who fall victim to this crisis, however, become stagnant by withdrawing from socially valuable work and mentoring activities.

Erikson's conceptualization of generativity has itself been generative, motivating several decades of research on the antecedents and consequences of generativity. Research supports the core hypothesis that generativity increases around midlife (Keyes & Ryff, 1998; McAdams et al., 1993; Peterson & Klohnen, 1995; Stewart & Os-

trove, 1998; Stewart, Ostrove, & Helson, 2001; Vaillant & Milofsky, 1980). Survey data and narrative analyses of life stories suggest that generativity emerges most prominently around midlife, resulting from the strengthening of two motives by death awareness: the desire to make lasting contributions and the desire to feel connected with others (McAdams & de St. Aubin, 1992, 1998). As Kotre explains, death awareness strengthens the "desire to invest one's substance in forms of life and work that will outlive the self" (1984: 16). The desire to make lasting, self-transcendent contributions is an agentic desire that motivates individuals to buffer against death by extending their contributions into the future, striving for symbolic immortality (Wade-Benzoni, 2006). The desire to feel connected with others is a communal desire that motivates individuals to buffer against death by linking their actions and identities to enduring relationships, groups, organizations, and institutions (Peterson & Stewart, 1996). As sociologist Morrie Schwartz explained it, "Death ends a life, not a relationship" (Albom, 1997: 174).

By strengthening these agentic and communal motives to meaningfully contribute and connect, death awareness can lead individuals to take personal responsibility for promoting the welfare of other people and the next generation by seeking out work as teachers, mentors, leaders, organizers, and inventors (McAdams & de St. Aubin, 1992). Consistent with this perspective, experimental research indicates that death awareness can lead individuals with self-serving values to endorse more prosocial values (Joireman & Duell, 2005). As an illustration, Jonas Salk, the inventor of the polio vaccine, described the goal of his life as "to be a good ancestor" (Weiner, 2008: 110). Similarly, consider the case of R. Buckminster Fuller, the inventor, engineer, mathematician, architect, and public intellectual often described as the "DaVinci of the twentieth century." In 1922 his four-year-old daughter, Alexandra, died from complications of polio and spinal meningitis. Devastated, he went to the shore of frozen Lake Michigan to commit suicide. Contemplating his death led him to reconsider the meaning of his life, and instead of committing suicide, he decided to embark on an experiment to learn what a single person can accomplish at work to change the world and benefit all of humanity. This led him to work tirelessly and persistently to make lasting contributions to society (e.g., Edmondson, 1987; Sieden, 1989). Thus, the core theme cutting across generativity re-

search is that death awareness strengthens *prosocial motivation*—a desire to give, contribute, help, benefit, make a difference, or protect and promote the welfare of other people (Grant, 2007, 2008).

Reconciling Terror Management and Generativity: Death Anxiety versus Death Reflection

Terror management and generativity theories appear to offer competing predictions about how individuals respond to death awareness. From a terror management perspective, death awareness strengthens self-protective motivation; from a generativity perspective, death awareness strengthens prosocial motivation. We reconcile these two theoretical perspectives by calling attention to two different forms death awareness can take. A significant limitation of both terror management and generativity theories is that they fail to differentiate between the two fundamentally distinct forms of death awareness (Cozzolino, Staples, Meyers, & Samboceti, 2004; Lykins, Segerstrom, Averill, Evans, & Kemeny, 2007). We integrate initial work on death awareness by Cozzolino et al. (2004) and Lykins et al. (2007) with theory and research on information processing systems (Metcalf & Mischel, 1999) to distinguish two discrete psychological pathways through which individuals can be conscious of mortality.

Death anxiety describes an emotional state of death awareness in which individuals experience fear, panic, and dread about their own mortality (Cozzolino et al., 2004; Russac, Gatliff, Reece, & Spottswood, 2007). Death anxiety is processed psychologically in what is known as the “hot” or experiential system, which is characterized by immediate, emotional, intuitive, visceral, and impulsive reactions based on heuristic processing (Metcalf & Mischel, 1999; see also Epstein, 1994, and Haidt, 2001). These hot psychological processes form the basis of the self-protective reactions depicted in terror management theory and research. Indeed, Simon et al. (1997) presented empirical evidence that terror management responses occur in the hot experiential system. When individuals are reminded of their mortality after being primed or instructed to share their natural, emotional reactions, they show strong self-protective reactions. Initially, they deny their personal vulnerability by asserting their health and noting that

death is far off (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997; Simon et al., 1997). They then avoid the paralyzing existential terror that death awareness can provoke by marshaling distal defense mechanisms, seeking to protect themselves by affiliating with value-congruent groups and criticizing value-incongruent groups (Greenberg et al., 1997; Pyszczynski et al., 2004). This evidence suggests that individuals process death anxiety in a hot experiential system to protect the self. Death anxiety can thus be thought of as an affect-driven (Weiss & Cropanzano, 1996; Zajonc, 1980) or reactive (Grant & Ashford, 2008) state in which visceral emotional responses drive the processing of mortality cues.

Death reflection describes a cognitive state of death awareness, one in which individuals put their lives in context, contemplate their meaning and purpose, and review how others will look upon them after they have passed (Cozzolino et al., 2004; Ring, 1984; Ring & Elsaesser Valarino, 1998). Death reflection is processed psychologically in what is known as the “cool” or cognitive system, which is characterized by deliberate, analytical, rational reactions based on systematic processing that is subject to intentional control (Metcalf & Mischel, 1999; see also Bazerman, Tenbrunsel, & Wade-Benzoni, 1998; Epstein, 1994; Haidt, 2001). These cool psychological processes form the basis of the self-transcendent reactions depicted in generativity theory and research. Indeed, Simon et al. (1997) found that when primed or instructed to think about their own deaths in a rational, analytical mode, individuals did not display self-protective reactions, and Cozzolino et al. (2004) found that when asked to engage in death reflection, individuals engaged in the prosocial, self-transcendent behavior of sharing raffle tickets and gift certificates.

Similarly, studies of near-death experiences have shown that as individuals reflect on death, they become increasingly interested in helping others and often change their careers in this direction, as when an accountant becomes a nurse after contemplating death (Ring & Elsaesser Valarino, 1998). Illustrating this point, a woman described how seeing her four-year-old son narrowly survive being hit by a car led her to reflect on death and motivated her to become an emergency medical technician in order to help others survive accidents: “I felt sure he was

dying, and I didn't know of anything I could do to help him or to preserve his life. . . . [it] was a real turning point. . . . I served an ambulance service for 10 years and have saved more than one life" (McAdams et al., 1993: 228).

Moreover, McAdams and de St. Aubin (1992, 1998) reported extensive evidence from longitudinal survey and narrative interview studies indicating that individuals make deliberate choices and commitments to become generative and self-transcendent. This evidence suggests that individuals process death reflection in a cool cognitive system that they deliberately control so as to find ways to contribute to others and have a lasting impact. Death reflection can thus be thought of as a cognition-driven (Weiss & Cropanzano, 1996) or proactive (Grant & Ashford, 2008) state in which thoughts and anticipatory plans about the future drive responses to mortality cues. Together, these arguments and illustrative examples suggest the following proposition.

Proposition 1: Death anxiety and death reflection represent distinct forms of death awareness with discrete motivational consequences: (a) death anxiety engages the hot experiential processing system, strengthening self-protective motivation, whereas (b) death reflection engages the cool cognitive processing system, strengthening prosocial motivation.

This understanding of death anxiety and death reflection as two distinct forms of death awareness provides the basis of the contingency model of death awareness that we develop in this article. To further unpack the differences between these two states of death awareness, our preceding discussion suggests that they can be differentiated in terms of three dimensions: emotionality, duration, and focus of attention.

In terms of emotionality, death anxiety is characterized by extreme, vivid emotions, such as fear, panic, and dread, while death reflection is characterized by less emotionality and calmer, more controlled thoughts. This contrast in emotionality has important implications for understanding how the two states differ in terms of duration. Because death anxiety engages the hot experiential system, like other emotional states focusing on specific

events, it tends to be a short-lived response triggered by situational cues, lasting in many circumstances for moments, hours, or days (Lykins et al., 2007). However, death anxiety can also linger for weeks and months (e.g., Russac et al., 2007), at which point it is processed more like a diffuse mood state than a specific emotion (e.g., Weiss & Cropanzano, 1996). On the other hand, because death reflection is subject to greater intentional, effortful cognitive control, it can involve an extended contemplation and deliberation process that extends for many months or even years (Lykins et al., 2007). Thus, death anxiety is likely to produce faster, more intense psychological responses, whereas death reflection is likely to produce slower, less intense responses. Finally, in terms of focus of attention, death anxiety emphasizes protecting the self against negative outcomes, while death reflection emphasizes promoting positive outcomes for others.

THE EMERGENCE OF DEATH AWARENESS AT WORK

Having developed the distinction between death anxiety and death reflection, we now turn to the antecedents of these two forms of death awareness. When and how does death become salient to employees at work? Research suggests that death awareness is triggered by events—experiences or episodes that occur in a bounded time period and place (e.g., Weick & Roberts, 1993)—that serve as "mortality cues" by making death salient. To capture the range of events that can make employees aware of death, we present a typology of mortality cues, which we derived from a review of the terror management theory literature describing an array of situational forces that increase death awareness, as well as from research in organizational studies referring to death. Our typology focuses on three core situational dimensions along which mortality cues vary: source, self-relevance, and exposure.

Source, the first dimension, captures the origin of the cue—internal or external. Internal mortality cues are events that originate within the workplace, and external mortality cues are events that originate outside the workplace. *Self-relevance*, the second dimension, captures how the individual is connected to the mortality

cue—personally or vicariously. Personal mortality cues are events that trigger death awareness by exposing employees to direct threats to their own lives, and vicarious mortality cues are events that trigger death awareness by exposing employees to others who are dead or in danger. *Exposure*, the third dimension, captures the frequency and duration of the cue—chronic

or acute. Chronic mortality cues are recurring, lasting events, and acute mortality cues are short-lived, intermittent events. Figure 2 represents these three core dimensions of mortality cues in a 2 × 2 × 2 diagram, provides examples of each type, and describes their predicted impacts on death anxiety and death reflection, which we detail below.

FIGURE 2
A Typology of Mortality Cues

		Chronic		Acute	
		Internal	External	Internal	External
Personal		<p>Definition: Extended workplace events that threaten employees' own lives</p> <p>Example: Dangerous jobs, where firefighters, police officers, soldiers, ambulance drivers, astronauts, pilots, mine workers, infectious disease specialists, and intelligence agents are responsible for tasks that directly place their lives on the line (Jermier, Gaines, & McIntosh, 1989)</p> <p>Impact: Low death anxiety, high death reflection</p>	<p>Definition: Extended outside events that threaten employees' own lives</p> <p>Example: Prolonged personal illness or disease (Baldrige & Veiga, 2001)</p> <p>Impact: Low death anxiety, moderate death reflection</p>	<p>Definition: Time-bounded workplace events that threaten employees' own lives</p> <p>Example: Workplace accidents (Hofmann & Stetzer, 1998; Perrow, 1984; Weick & Roberts, 1993)</p> <p>Impact: High death anxiety, low death reflection</p>	<p>Definition: Time-bounded outside events that threaten employees' own lives</p> <p>Example: Crises affecting the self, such as natural disasters, automobile accidents, and terrorist attacks (Pearson & Clair, 1998)</p> <p>Impact: Moderate death anxiety, low death reflection</p>
	Vicarious	<p>Definition: Extended workplace events that place employees in contact with others dead or in danger</p> <p>Example: Dirty work and necessary evils, as experienced by physicians, nurses, hospice workers, paramedics, soldiers, executioners, firefighters, police officers, disaster and rescue workers, trauma and crisis counselors, and funeral workers (Ashforth & Kreiner, 1999; Clark & LaBeff, 1982; Molinsky & Margolis, 2005)</p> <p>Impact: Low death anxiety, moderate death reflection</p>	<p>Definition: Extended outside events that threaten the lives of others in physical or emotional proximity to employees</p> <p>Example: Aging or ill parents (Goodstein, 1995; Ingram & Simons, 1995)</p> <p>Impact: Low death anxiety, moderate death reflection</p>	<p>Definition: Time-bounded workplace events that threaten the lives of others in physical or emotional proximity to employees</p> <p>Example: Executive death (Worrell, Davidson, Chandy, & Garrison, 1986)</p> <p>Impact: Moderate death anxiety, low death reflection</p>	<p>Definition: Time-bounded outside events that threaten the lives of others in physical or emotional proximity to employees</p> <p>Example: Crises affecting other people or organizations, such as terrorist attacks and natural disasters (Pearson & Clair, 1998)</p> <p>Impact: Moderate death anxiety, low death reflection</p>

The Effects of Mortality Cues on Death Anxiety and Death Reflection

Source. We first propose that internal mortality cues are more likely than external mortality cues to increase both death anxiety and death reflection at work. We base this prediction on evidence of the encoding specificity principle in memory theory and research, which demonstrates that memory is context dependent: individuals are most likely to recall events in the domains in which they occurred (Baddeley, 1982). For example, employees will be most likely to think of death at work when they are exposed to mortality cues at work, whether through performing a dangerous task, having contact with others in danger or death, or encountering accidents and disasters in the workplace. Accordingly, when mortality cues originate within the workplace, they will be more accessible to employees while working and, thus, have greater potential to elicit both death anxiety and death reflection.

Proposition 2: Internal mortality cues are more likely than external mortality cues to increase (a) death anxiety and (b) death reflection at work.

Self-relevance. Next, we propose that personal mortality cues are more likely than vicarious mortality cues to increase both death anxiety and death reflection at work. As discussed previously, terror management research reveals that individuals often dismiss vicarious mortality cues by asserting their own health, longevity, or immunity to the triggering events (Arndt et al., 1997; Simon et al., 1997). In contrast, personal mortality cues are more difficult to disregard since employees are confronted with direct evidence that their lives are at risk. For example, physicians and nurses treating sick patients can more easily distance themselves from death than police officers and rescue workers who are risking their own lives. When employees perform dangerous jobs or are injured in accidents or disasters, they will find it difficult to deny the threats that they have experienced. As such, personal mortality cues have greater potential to elicit both death anxiety and death reflection than vicarious mortality cues.

Proposition 3: Personal mortality cues are more likely than vicarious mortal-

ity cues to increase (a) death anxiety and (b) death reflection at work.

The Moderating Role of Exposure

We further propose that these effects of internal and personal mortality cues on death anxiety and death reflection are moderated by exposure. More specifically, we propose that whether mortality cues trigger death anxiety or death reflection is a function of exposure. When employees face acute exposure to mortality cues, these cues will be more likely to elicit death anxiety and less likely to elicit death reflection (Lykins et al., 2007). In the face of acute cues, such as accidents, natural disasters, and terrorist attacks, employees are often overwhelmed by fear of the unknown (Pyszczynski et al., 2003). We predict the opposite, however, when employees are chronically exposed to mortality cues; these cues will be less likely to elicit death anxiety and more likely to elicit death reflection.

We propose that chronic exposure increases awareness of death but enables employees to process mortality cues with reflection in the cool cognitive system, instead of with anxiety in the hot experiential system. Why would chronic exposure to mortality cues change the nature of death awareness from anxiety to reflection, rather than reducing the salience of death altogether? Although one might expect that chronic exposure would enable employees to ignore mortality cues or disengage cognitive processing, theory and research on social cognition reveals that chronic exposure to information tends to increase the accessibility of that information (Higgins, 1996; Schwarz, 1999). Such increases in accessibility under chronic exposure are particularly common when the information is self-threatening (Wenzlaff & Wegner, 2000), which is a defining feature of mortality cues (Baumeister, 1991). Because mortality cues are self-threatening events, they are extremely difficult to ignore or suppress (Arndt et al., 1997; Wenzlaff & Wegner, 2000). Thus, under chronic exposure, employees will still be conscious of mortality, but they will process it differently: instead of reacting emotionally with anxiety, they will respond cognitively with reflection.

Indeed, research on coping with harm doing, trauma, and death suggests that, over time, exposure facilitates a process of emotional habituation, or desensitizing, through which mortal-

ity becomes less terrifying and paralyzing (Ashforth & Kreiner, 1999; Molinsky & Margolis, 2005; Palmer, 1983; Regehr, Goldberg, & Hughes, 2002). Through exposure, employees gain access to supportive occupational ideologies and colleagues and are able to learn cognitive strategies for coping with death, thus rendering mortality less terrifying and unpredictable. As a manager of morticians remarked, "A group of funeral directors . . . could sit around in the restaurant talking about the most gory details and it doesn't bother them a bit" (Ashforth, Kreiner, Clark, & Fugate, 2007: 149).

In other words, chronic exposure to mortality cues enables employees to shut down the hot experiential system that governs death anxiety, processing death instead in the cool cognitive system, where they are able to think and reflect about mortality in a deliberate, rational, controlled fashion. By facilitating emotional habituation and desensitization, chronic exposure softens employees' visceral anxiety reactions, enabling them to engage the cool cognitive system to reflect on the meaning of life and their potential contributions. For example, firefighters often enter their jobs seeking excitement, danger, and job security and benefits (Smith, 1988). However, through chronic exposure to death, they often come to think of saving lives as a central source of meaning. As one firefighter explained it, "I can look back and say, 'I helped put out a fire. I helped save somebody.' It shows something I did on this earth" (Terkel, 1972: 589).

Thus, we expect that mortality cues elicit high death anxiety and low reflection for employees with acute exposure and—reversing the pattern—low death anxiety and high reflection for employees with chronic exposure. From a dynamic viewpoint, this prediction implies that as employees have repeated exposures to acute mortality cues, they may experience these cues as chronic, thereby experiencing less death anxiety and greater reflection (see Lykins et al., 2007).

Proposition 4: Exposure moderates the effect of mortality cues on death awareness such that (a) acute exposure increases death anxiety and decreases death reflection while (b) chronic exposure decreases death anxiety and increases death reflection.

The Moderating Role of Aging Processes

Thus far, our analysis has focused on how situational variations in the source of, self-relevance of, and exposure to mortality cues will influence death anxiety and death reflection. We now consider the impact of aging processes, which play a fundamental role in shaping whether employees react to mortality cues with death anxiety or death reflection. As noted previously, workforces worldwide are aging rapidly, and organizational scholars have begun to call for theory and research to explain how aging affects employees' experiences and behaviors (e.g., Kanfer & Ackerman, 2004; Warr, 2001). However, little theory and research has explored the linkages between aging and death awareness.

We propose that as employees age, mortality cues are decreasingly likely to trigger death anxiety and increasingly likely to trigger death reflection. It is not a coincidence that the vast majority of support for the predictions of terror management theory has been provided by experiments involving college students, for whom mortality cues tend to elicit death anxiety (Maxfield et al., 2007), whereas the bulk of research on generativity has focused on adults at midlife and beyond, for whom mortality cues tend to elicit death reflection (McAdams & de St. Aubin, 1998). Indeed, Maxfield et al. (2007) found that younger adults, but not older adults, displayed the anxiety-driven self-protective reactions to death awareness predicted by terror management theory. Consistent with these findings, several studies suggest that death anxiety peaks when individuals are in their twenties and declines in a relatively linear fashion thereafter (Cicirelli, 2002; Fortner & Neimeyer, 1999; Gesser, Wong, & Reker, 1988), and that, over extended periods of death exposure, individuals' psychological reactions shift away from anxiety and toward reflection (Lykins et al., 2007).

Accordingly, we expect that as employees age, they are increasingly likely to respond to mortality cues with death reflection rather than death anxiety. Research identifies two interrelated mechanisms through which aging shifts reactions to mortality cues away from anxiety and toward reflection. First, aging gives rise to a process of selective optimization and compensation, in which individuals adapt to age-related

changes by prioritizing interests, choosing meaningful and realistic goals, adjusting standards, and finding new methods to complete tasks and accomplish goals (Baltes & Carstensen, 1996; Kanfer & Ackerman, 2004). Several decades ago Kübler-Ross (1969) argued that as they gain exposure to death, individuals move through stages of denial, anger, bargaining, and depression, toward eventual acceptance. Indeed, recent research suggests that individuals are increasingly likely to reflect on death as they age, which leads them to select value-congruent, personally significant goals that reduce death anxiety (Lykins et al., 2007), typically by becoming generative through contributing to other people or to future generations (McAdams & de St. Aubin, 1992; Midlarsky & Hannah, 1989). As they age, rather than fearing death, individuals find value in reflecting on "time passed" and getting the most out of "time left" (Carstensen, Isaacowitz, & Charles, 1999; Kanfer & Ackerman, 2004).

Second, aging enhances employees' capacity for self-control, which has been shown to decrease death anxiety (Gailliot, Schmeichel, & Baumeister, 2006). Research on personality development reveals that as they age, individuals show dominant trends toward becoming increasingly emotionally stable and conscientious (Caspi, Roberts, & Shiner, 2005), two traits that play a central role in self-control and willpower (Metcalfe & Mischel, 1999; Olson, 2005). Accordingly, aging equips employees with a heightened capacity for controlling thoughts and feelings that allow them to override the visceral, impulsive, emotional death anxiety reactions triggered by the hot experiential system and to activate the deliberate, rational, analytical processing guided by the cool cognitive system. Thus, we propose that employees' responses to mortality cues are age dependent such that aging decreases death anxiety reactions and increases death reflection reactions.

It is important to note that these predictions apply to both chronological and symbolic aging processes. As employees age chronologically, they are increasingly likely to experience observable physical and psychological changes that promote death reflection, such as graying hair and losses in vision, hearing, and memory. However, organizational life is replete with symbolic signals that draw attention to aging and can thus promote increased death reflection. Ad-

vancing career stages, achievement of higher levels of organizational and occupational tenure, and retirement planning programs are examples of symbolic aging processes that can strengthen employees' tendencies to reflect on death by serving as reminders of time passed and by highlighting that time left is finite and decreasing. In some organizational and occupational settings, these symbols may be particularly salient, as in the case of air traffic controllers, who face a mandatory retirement age of fifty-six (Kanfer & Ackerman, 2004). We expect that these types of symbolic aging processes, not only chronological aging processes, can trigger death reflection.

Proposition 5: Aging processes moderate the effect of mortality cues on death awareness such that as employees age chronologically and symbolically, they tend to respond to mortality cues with (a) decreasing death anxiety and (b) increasing death reflection.

BEHAVIORAL CONSEQUENCES OF DEATH AWARENESS AT WORK

Now that we have explained how mortality cues and aging processes interact to influence death anxiety and death reflection, we can examine the consequences of these two psychological states for work behavior, an important issue that has rarely been addressed in organizational scholarship (Sievers, 1986, 1993). We focus on two core classes of work behavior: withdrawal behaviors, which involve behavioral disengagement from work through absenteeism, tardiness, and turnover (Harrison, Newman, & Roth, 2006), and generative behaviors, which are actions taken to make meaningful, lasting contributions that benefit other people and groups (McAdams & de St. Aubin, 1992). We focus on these behaviors not only because they can have destructive versus constructive implications for job performance but also because they have been linked directly to aging processes (Ng & Feldman, 2008) and to different psychological states that closely parallel our distinction between death anxiety triggering self-protective motivation and death reflection triggering prosocial motivation. More specifically, researchers have found that withdrawal behaviors are often driven by stress and negative

emotions (e.g., Podsakoff, LePine, & LePine, 2007; Spector & Fox, 2002), whereas generative behaviors are often driven by the desire to help others (e.g., Grant, 2008; McAdams & de St. Aubin, 1992; Rioux & Penner, 2001; Spector & Fox, 2002). In the following sections we develop propositions that explain how both individual and contextual contingencies moderate the effects of death anxiety on withdrawal behaviors and death reflection on generative behaviors in the work domain.

Death Anxiety and Stress-Related Withdrawal Behaviors at Work

We expect that, in general, death anxiety is likely to increase withdrawal behaviors at work. The logic behind this prediction is provided by theory and research on stress, which suggests that death anxiety is a cause of stress and strain, and stress and strain can result in feelings of emotional exhaustion. The consequence of stress and strain caused by death anxiety can be short-term withdrawal behaviors, such as absenteeism and tardiness, since employees lack the emotional energy to attend work or find themselves distracted from work-related thoughts (Byron & Peterson, 2002). In the case of particularly intense or long-lasting levels of death anxiety that employees find emotionally overwhelming, the consequence can be the longer-term withdrawal behavior of turnover, as employees seek to protect themselves by transitioning to jobs with less exposure to mortality cues (e.g., Zaccaro & Stone, 1988).

The proposed linkages among death anxiety, stress, and withdrawal behaviors are supported by several studies. With respect to the effect of death anxiety on stress, a naturally occurring quasi-experiment showed that the deadly Three Mile Island nuclear accident predicated higher levels of employee tension (Chisholm et al., 1983). Similarly, a study of physical danger in police work linked objective hazards to fear of death, which was associated with higher emotional exhaustion and disaffection with the organization (Jermier et al., 1989), and a study of New York city firefighters showed that involvement in the traumatic September 11 events was associated with higher levels of depression and stress (Bacharach & Bamberger, 2007).

Because few researchers have explicitly measured death anxiety, there is little direct evidence that death anxiety causes withdrawal be-

haviors. However, several studies provide indirect evidence of this effect by linking acute mortality cues to withdrawal behaviors through stress processes. One study showed that the death of a family member predicted higher levels of sickness absenteeism among municipal employees in the following year (Kivimäki et al., 2002). Another study showed that employees' reports of strain from the acute events of September 11 predicted higher levels of absenteeism in subsequent weeks (Byron & Peterson, 2002). And a third study showed that employees who perceived high levels of danger in their jobs were likely to report strong intentions to quit (Zaccaro & Stone, 1988). Accordingly, we propose that death anxiety, particularly when it is intense or long-lasting, will lead employees to protect themselves from stress by withdrawing from work.

Proposition 6: Death anxiety increases stress-related withdrawal behaviors of absenteeism, tardiness, and turnover.

However, there are conditions under which death anxiety is more versus less likely to increase withdrawal behaviors. Our earlier propositions suggested that employees will experience greater death anxiety at work when mortality cues are internal rather than external to the workplace. This suggests that internal mortality cues are generally likely to cause death anxiety at work and, therefore, stress and withdrawal behaviors. But when mortality cues are external, different employees may display different patterns of responses. Work-family research indicates that employees differ in their boundary preferences: "integrators" prefer to blur the boundary between work and other life domains, whereas "segmenters" prefer to separate work from other domains of life (Edwards & Rothbard, 1999; Rothbard, Phillips, & Dumas, 2005). Because integrators choose not to compartmentalize their lives, external mortality cues are likely to spill over and influence their thoughts and feelings about death at work, precipitating higher death anxiety, which will lead to more withdrawal behaviors.

Segmenters, on the other hand, are motivated to draw sharp boundaries between work and other life domains. For segmenters, then, work may provide a respite from external mortality cues, promoting task focus and reducing the ten-

dency to display such withdrawal behaviors as absenteeism, tardiness, and turnover. Indeed, terror management research has shown that some individuals seek to escape death anxiety by fleeing from the source of the anxiety and focusing intensely on another domain (McGregor, Gailliot, Vasquez, & Nash, 2007; McGregor & Marigold, 2003). This is a pattern that we expect to see among segmenters: their motivation to compartmentalize their lives will lead them to respond to external mortality cues by increasing their focus on work tasks, which will reduce the stress and distraction of death anxiety and thereby prevent withdrawal behaviors. Thus, in the event of external mortality cues, death anxiety is more likely to influence withdrawal behaviors among integrators than segmenters.

Proposition 7: When mortality cues are external to the workplace, work boundary preferences moderate the effect of death anxiety on withdrawal behaviors such that segmenters engage in fewer withdrawal behaviors than integrators.

Death Reflection and Generative Behaviors at Work

As noted previously, death reflection is likely to trigger prosocial motivation, which has been linked to higher levels of generative behaviors, such as helping, mentoring, and effort and initiative in tasks that benefit others (Grant, 2008; Rioux & Penner, 2001). However, rather than displaying generative behaviors at work, employees can choose to express their prosocial motivations in generative behaviors outside the domain of work (McAdams & de St. Aubin, 1992). In this section we consider the individual and contextual contingencies that shape whether death reflection drives employees to express prosocial motivation in generative behaviors within or outside the domain of work.

From the perspectives of theories of resource allocation (Becker, 1965; Hobfoll, 2002) and value congruence (Cable & Edwards, 2004; Schwartz, 1992), when employees reflect on death, they become increasingly aware that time is finite and turn to their values in order to make decisions about how to allocate their resources. Indeed, recent research shows that death reflection motivates individuals to turn to their values

for cues about how to prioritize tasks, goals, and activities (Lykins et al., 2007). For example, Apple founder Steve Jobs explained that being diagnosed with cancer led him to pursue more value-congruent projects: "I have looked in the mirror every morning and asked myself: 'If today were the last day of my life, would I want to do what I am about to do today?' . . . Remembering that I'll be dead soon is the most important tool I've ever encountered to help me make the big choices in life" (Jobs, 2005).

We expect that whether death reflection drives employees to express their prosocial motivation in generative behaviors within or outside the domain of work depends on their orientations toward work, which capture the values they attach to work (Wrzesniewski, Dutton, & Debebe, 2003). Psychologists and sociologists have argued that employees typically hold one of three orientations toward work—job, career, or calling (Bellah, Madsen, Sullivan, Swidler, & Tipton, 1985; Schwartz, 1986). Job-oriented employees see work as a means to fulfill the values of supporting oneself, one's family, and one's leisure time. Career-oriented employees see work as a means to fulfill the values of status, promotions, achievement, and challenge. Calling-oriented employees see work as an end in and of itself, as an intrinsic source of personal meaning, and as a means to fulfill the value of helping others.

We draw on theories of resource allocation and value congruence to propose that these work orientations play a critical role in influencing employees' behavioral reactions to death reflection. By enhancing the salience of mortality, death reflection increases employees' awareness that time is finite, motivating them to make decisions about where to allocate their energy and attention (Becker, 1965; Hobfoll, 2002). Theories of value congruence explain these responses with reference to values: to determine where to allocate scarce resources, employees turn to their values, or guiding principles, for information about how to prioritize their options (Cable & Edwards, 2004; Schwartz, 1992; Vroom, 1964). Indeed, terror management research indicates that when death is salient, individuals invest more time and energy in activities that are reflective of their personal values and identities (McGregor, Zanna, Holmes, & Spencer, 2001).

The moderating role of work orientations. We propose that work orientations provide a set of principles to guide the decision about how to allocate time and energy. Research on work orientations shows that job-oriented employees tend not to define their identities strongly in terms of work (Wrzesniewski & Dutton, 2001; Wrzesniewski, McCauley, Rozin, & Schwartz, 1997). Accordingly, we expect that employees with job orientations will choose to express their prosocial motivations outside the work domain, since they do not expect to find meaning in work (Wrzesniewski et al., 1997). Thus, death reflection will motivate job-oriented employees to pursue generative activities outside of work, such as childrearing and volunteering, and to invest less time and energy in the work domain. For instance, consider a funeral home director who explains that she has a job orientation toward work: "I didn't want to go into the funeral businesses. . . . I had some choices, some chances to do other things, but, well, it's a family business. . . . It's not something that I picked" (Bowe, Bowe, & Streeter, 2000: 663, 668). She describes how chronic mortality exposure in her job leads to death reflection, which motivates her to spend more time with her family: "I know that seeing so much death firsthand. . . . I appreciate life more because I do this. . . . because I know it could all end like that. . . . I appreciate family and get-togethers more doing this" (Bowe et al., 2000: 668).

Employees with career and calling orientations, on the other hand, will choose to express their prosocial motivations in the work domain. These employees invest their identities more strongly in work than job-oriented employees, thereby attaching more meaning and importance to work as a life domain (Wrzesniewski et al., 1997). For career-oriented employees, work is a central source of status and prestige (Wrzesniewski et al., 1997). Moreover, research on near-death experiences shows that death reflection can broaden individuals' focus of attention beyond their own narrow career goals toward a consideration of helping others and doing good (Cozzolino et al., 2004; Lykins et al., 2007). These findings suggest that death reflection will motivate career-oriented employees to engage in higher levels of generative behavior in order to simultaneously achieve their agentic and communal goals of improving their own reputation and contributing to other people.

For calling-oriented employees, work is a potential source of meaning, identity expression, and social contribution. We expect that death reflection will motivate calling-oriented employees to express their prosocial motivations at work by engaging in generative behaviors. If they recognize opportunities to help and mentor others, they will be likely to take initiative in crafting their jobs to provide more help and mentoring (Wrzesniewski & Dutton, 2001). They also will be likely to display high levels of effort and persistence in tasks that benefit others (Grant, 2007). For example, psychologists have discovered surges in objective contributions as creative workers, such as artists, composers, and writers, reach retirement age in their 60s, 70s, and even 80s (Simonton, 1988). One explanation for this pattern is the "swan-song" phenomenon: reflecting on death strengthens the motivation of calling-oriented individuals to leave behind a meaningful contribution. In a study of nearly 2,000 works of composition by 172 classical composers, Simonton (1989) found that last works had higher objective popularity and expert ratings of aesthetic significance, even after controlling for age and eminence:

As people approach their last years, they may undergo a life assessment, a reflection on where they have been and on how little time remains to travel, and so may feel that the limited future must be exploited to the utmost. . . . For creative individuals, the outcome of this life review may be a significant reshaping of the content and form of those works selected as the career's coda, rendering them qualitatively distinct from other works. Last-works effects hinge not on the creator's chronological or even career age but rather on the perceived proximity of death (Simonton, 1989: 42).

Together, these arguments and examples suggest that death reflection will increase the generative behaviors of calling-oriented and career-oriented employees while it will decrease the generative behaviors of job-oriented employees in the work domain.

Proposition 8: Work orientations moderate the effect of death reflection on generative behaviors in the work domain such that death reflection (a) increases work generativity for career-oriented and calling-oriented employees and (b) decreases work generativity for job-oriented employees.

The moderating role of job design. For both calling-oriented and career-oriented employees, the targets of their generative behaviors are likely to depend on the opportunities provided in their job designs. If employees are responsible for meaningful work that is high in task significance and helping opportunities (Grant, 2007; Hackman & Oldham, 1980), they will be likely to express generativity in their current jobs. However, if employees cannot find high levels of task significance or helping and mentoring opportunities in their current jobs, they will be likely to consider two options for expressing generativity. One option is to engage in generative job crafting, altering their tasks and relationships to expand the amount of help and mentoring that they provide to others (Grant, 2007; Wrzesniewski & Dutton, 2001). If their current jobs provide autonomy for job crafting, employees are likely to take advantage of these opportunities. However, if employees lack the autonomy to engage in job crafting, they may eventually change jobs, moving into a service occupation that enables them to express their prosocial motivations more effectively in generative behaviors (e.g., Ring & Elsaesser Valarino, 1998). For example, reflecting on death after the events of September 11 strengthened one man's prosocial motivation, leading him to become a firefighter: "I was on the fence about joining because of the time it would take, then after 9/11, all I wanted to do was help" (Wrzesniewski, 2002: 231).

These arguments suggest that death reflection will be more likely to motivate career-oriented and calling-oriented employees to express greater generativity in their current jobs when those jobs are meaningful or provide autonomy for job crafting. But death reflection will be more likely to motivate these employees to change to more generative jobs when their current jobs lack meaningfulness or autonomy for job crafting.

Proposition 9: Job design interacts with work orientations to moderate the effect of death reflection on generative behaviors such that career-oriented and calling-oriented employees will express generativity within their current jobs when those jobs are high in meaningfulness or autonomy for job crafting, but they will express

generativity by seeking new jobs when their current jobs lack meaningfulness or autonomy for job crafting.

DISCUSSION

We have developed a theoretical framework to expand existing knowledge about death awareness in organizations. Our discussion of the nature, antecedents, contingencies, and behavioral consequences of death awareness at work offers valuable implications for organizational theory and research.

Theoretical Contributions

We have focused on challenging conventional wisdom about death awareness in three key ways. First, we suggest that death awareness is a heterogeneous rather than homogeneous phenomenon. Whereas terror management and generativity theorists have traditionally treated death awareness as a unitary psychological state, we have articulated how death awareness can take the form of either anxiety, processed in the hot experiential system, or reflection, processed in the cool cognitive system. Second, we suggest that death awareness and work motivation are interdependent rather than independent phenomena. Whereas organizational scholars have rarely considered death awareness as an influence on motivation (Sievers, 1993), we have proposed that death awareness can exert surprisingly powerful effects on work motivation. Third, we highlight the upsides as well as the more obvious downsides of death awareness in organizations. Whereas scholars and practitioners alike often have regarded death awareness as a solely destructive phenomenon, we have called attention to conditions under which death awareness can be beneficial in organizations, offering a more thorough, balanced view of the effects of death on organizational life. Our propositions suggest that death awareness is more likely to have constructive effects when it takes the form of reflection rather than anxiety, particularly when employees have calling orientations toward work. In addition to offering these general contributions, our theoretical model advances existing knowledge in several specific areas.

Work motivation and behaviors. Our article advances work motivation theory and research by calling attention to death awareness as an underexplored influence on employee motivation. In examining how situations influence work motivation, scholars have traditionally focused on intentionally designed features of organizational contexts, such as job designs, goals, and rewards (Katzell & Thompson, 1990). We complement these perspectives by accentuating the importance of mortality cues and aging processes that trigger awareness of one's own mortality in shaping work motivation. Moreover, existing motivation theory and research has not considered death anxiety as a trigger of self-protective motivation or death reflection as a trigger of prosocial motivation. By doing so, our article suggests that death anxiety generates a prevention-focused mindset in which employees seek to defend their identities and world views, whereas death reflection generates a promotion-focused mindset in which employees seek to contribute to other people and future generations. These propositions highlight the importance of death awareness as an antecedent of prevention versus promotion regulatory focus—an issue not considered in existing theory and research on regulatory focus (Brockner & Higgins, 2001).

In addition, researchers have not previously examined the role that aging processes play in shaping whether mortality cues trigger death anxiety and self-protective motivation or death reflection and prosocial motivation (see Kanfer & Ackerman, 2004). Our propositions suggest that aging is likely to shift employees' reactions to mortality cues away from death anxiety and self-protective motivation and toward death reflection and prosocial motivation. This implies that by promoting death reflection and prosocial motivation, aging should play an important role in stimulating generative behaviors. Finally, researchers have yet to link death awareness to withdrawal and generative behaviors. Our research identifies death anxiety and death reflection as new influences on withdrawal and generative behaviors.

Threats, aging, and meaning. Our propositions extend existing knowledge about threats, aging, and meaning. First, although organizational scholars have long recognized the importance of threatening events in employees' experiences and behaviors (Pearson & Clair, 1998),

few typologies exist to categorize and classify the content of these threatening events. Our typology of mortality cues introduces three key dimensions along which threatening events can vary: exposure (chronic versus acute), source (internal versus external), and self-relevance (personal versus vicarious).

Second, whereas existing models suggest that threatening events lead to a restricted, narrowed focus of attention (Staw, Sandelands, & Dutton, 1981), we suggest that aging processes place an important boundary condition on threat-rigidity effects. For aging employees, mortality cues may actually broaden the focus of attention by triggering the process of death reflection. These propositions provide new insights into the role of aging in work motivation. As mentioned previously, recent models of aging and work motivation have not accounted for death awareness (Kanfer & Ackerman, 2004). Our model takes steps toward filling this gap by specifying how aging influences employees' psychological responses to mortality cues and how these death anxiety versus death reflection reactions, in turn, are likely to influence behaviors.

Third, we highlight a paradoxical effect of mortality cues on meaning. Baumeister (1991) noted that death awareness threatens meaning by reducing the predictability and controllability of life, eradicating the potential for future meaning, signaling that one's existence is likely to be forgotten, and undermining the value of one's accomplishments. Although mortality cues initially threaten meaning, by triggering states of death anxiety and death reflection, they drive employees to seek out meaning through protecting themselves or contributing to others. Thus, by threatening meaning, mortality cues stimulate self-protective and prosocial motivations that enable employees to restore and renew their feelings of meaning. Accordingly, we suggest that mortality cues serve to threaten meaning in the short run but to enhance meaning in the longer term. These ideas fill a gap in the meaning literature (e.g., Podolny, Khurana, & Hill-Popper, 2005; Pratt & Ashforth, 2003; Wrzesniewski et al., 2003) by illuminating a counterintuitive, time-contingent effect of mortality cues on meaning.

Future Directions

We believe that the most critical starting point is to establish the construct validity of the two death awareness states. We recommend that researchers develop and validate scales to measure death awareness at work. In doing so it is particularly important to assess the discriminant validity of the death anxiety and death reflection scales. We hope that researchers will develop multimethod instruments so that both convergent and discriminant validity can be tested with a multitrait-multimethod matrix (Campbell & Fiske, 1959). However, because death anxiety is often short-lived, we recommend that researchers utilize experience-sampling (Beal & Weiss, 2003) and daily diary (Kahneman, Krueger, Schkade, Schwarz, & Stone, 2004) methodologies, which are designed to capture brief, momentary psychological states and assess their temporal duration. In addition, because of its "hot" nature, death anxiety may be difficult to measure accurately with self-reports. To transcend this limitation, we recommend that researchers consider linguistic analyses of expressive writing, which are well suited to the assessment of the intense emotions that can accompany death anxiety (e.g., Cohn, Mehl, & Pennebaker, 2004).

After establishing construct validity, we recommend that researchers turn to questions of predictive or consequential validity. We believe it is important to study the effects of death awareness before considering its antecedents, since many researchers may not be concerned about how death awareness emerges until we have evidence that it matters. To link death awareness to behavioral outcomes, we recommend that researchers use experimental methodologies to manipulate death anxiety and death reflection (e.g., Cozzolino et al., 2004). Because of the ethical challenges of manipulating death awareness in organizations, quasi-experiments may be the ideal methodology for establishing external validity, for they allow researchers to study the impact of naturally occurring mortality cues on employees' psychological states and behaviors (Cook & Campbell, 1979; Grant & Wall, *in press*). For example, researchers may enter organizations in the wake of traumas, accidents, illnesses, and disasters to study the psychological and behavioral responses of individuals who were exposed to these events in

different ways. In addition to providing theoretical insights into the consequences of death awareness, quasi-experiments may open doors for researchers to help employees cope with these tragic events. Finally, we hope to see researchers turn to an examination of the antecedents of death awareness. For example, relatively little is known about the work events that trigger death awareness states or the frequency of death awareness in the workplace.

In addition to empirically testing our propositions, researchers may explore further questions stimulated by our discussion. Scholars have long observed that cultures vary in their approaches to coping with death (e.g., Phillips & Feldman, 1973; Sims & Baumann, 1972). It is worthwhile to examine whether differences in organizational cultures, norms, values, and beliefs about death moderate employees' reactions to death awareness (see Arndt, Solomon, Kasser, & Sheldon, 2004; Kasser & Sheldon, 2000; Wade-Benzoni, 2006). It is also critical for researchers to examine the dynamic relationship between death anxiety and death reflection. Although emotions and cognitions can act together (Damasio, 1994), in the case of death anxiety and death reflection, the two states are unlikely to co-occur, for two reasons. First, through reciprocal processes, each form of death awareness can reduce the likelihood that the other will emerge. Terror management researchers have suggested that death anxiety motivates individuals to avoid existential terror by avoiding death-related thoughts, which may prevent death reflection (Pyszczynski et al., 2003). Generativity researchers have suggested that death reflection facilitates proactive planning and marshaling of cognitive, emotional, and behavioral coping strategies for meaning making, and these reduce death anxiety (Cozzolino et al., 2004; McAdams & de St. Aubin, 1992).

Second, these bodies of literature also suggest that the two states can trigger each other, but when they do so, a "phase shift" occurs in which the triggering state is replaced by the new state. For example, reflecting on death may lead some individuals to experience anxiety, which will activate the experiential system and shut down the cognitive system, preventing further reflection from occurring. Conversely, when experiencing death anxiety, some individuals may begin to rationalize; this reflection may activate the cognitive system and shut down the experi-

ential system, preventing further anxiety from occurring.

Ultimately, the dynamic relationship between anxiety and reflection may depend on the temporal dimension of exposure. Death anxiety, because it is processed in the experiential system, is likely to be short-lived and acute in nature. When it occurs repeatedly over time, our propositions imply that employees may habituate, which will allow them to transform death awareness into reflection rather than anxiety. Death reflection may arise as a consequence of one or more acute events that initially trigger anxiety and/or through intrinsic age-related processes. We hope to see researchers explore these issues in further depth.

Practical Implications

Because organizations typically provide few guidelines for responding to death, managers are often overwhelmed by uncertainty, discomfort, and doubt about how to deal with mortality cues (e.g., Dutton et al., 2006; Sánchez, Korbin, & Viscarra, 1995). Our model may assist managers in understanding and managing mortality cues. Our propositions suggest that when mortality cues are present, managers stand to benefit from supporting reflection rather than from sweeping the event under the rug. Younger employees tend to react to mortality cues with anxiety, which can prompt withdrawal behaviors, such as absenteeism, tardiness, and turnover. Moreover, the attempt to suppress death anxiety can lead to dysfunctional rebound effects, in which death anxiety becomes increasingly salient and the hot experiential system distracts attention away from work tasks (Gailliot et al., 2006). By structuring forums for thinking about or discussing death-related events, managers may shift younger employees' reactions away from anxiety and toward reflection, encouraging generative behavior among those who are calling oriented and career oriented. If managers seek to facilitate generative behavior among job-oriented employees, it may be particularly important to offer monetary rewards for taking initiative and mentoring others. This may motivate job-oriented employees to invest more time in generative behaviors, with similar effects on career-oriented employees as well.

Our model thus has important implications for promoting safety and preventing errors and ac-

cidents—a topic of substantial importance in organizational theory and practice (e.g., Hofmann & Stetzer, 1998; Weick, Sutcliffe, & Obstfeld, 2005). In organizations in which safety and physical danger are chronically salient concerns, if employees are unwilling to comply with safety practices, managers may consider structuring occasions for death reflection. This may motivate employees with calling orientations to engage in generative behaviors to promote safety for others, and it may motivate employees with career orientations to engage in generative behaviors to build a reputation and leave a legacy. To motivate employees with job orientations to engage in safety-related generative behaviors, managers may be more dependent on incentive compensation practices linking monetary rewards to safety performance.

Conclusion

We anticipate that some scholars may object to the intellectualization of such a philosophically profound, emotionally potent topic. They may fear that systematic theory development and positivistic empirical methods will do violence to its richness. We submit, however, that as scholars seek to understand and explain organizational life, it is important to consider the role of death awareness as a central feature of the human condition.

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