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PSYCHOLOGICAL RESEARCH ON DEATH ATTITUDES: AN OVERVIEW AND EVALUATION

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One of the most substantial legacies of Herman Feifel was his pioneering research on attitudes toward death and dying in a variety of populations. The authors review the large and multifaceted literature on death anxiety, fear, threat and acceptance, focusing on the attitudes toward death and dying of relevant professional and patient groups, and the relationship of death concern to aging, physical and mental health, religiosity, and terror management strategies. We conclude with several recommendations for improving the conceptual and practical yield of future work in this area.

On the morning of September 11, 2001, people the world over were riveted by breaking news of seemingly impossible events: simultaneous terrorist attacks, using three hijacked commercial airliners, on the World Trade Center in New York City and the Pentagon in Washington, DC. As America awoke to the devastating reports on television and radio, the drama continued to unfold, until a fourth jetliner filled with passengers crashed into the earth in rural Pennsylvania, apparently falling short of its intended political target. In the subsequent hours, days, and

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weeks, the terrible cost of the terrorist acts continued to mount, with a death toll exceeding 3,000 people, who only hours before the horrific attacks had begun their day's work or travel unaware that it would be their last. Some of the losses touched Americans with particular poignancy, such as the tragic deaths of hundreds of New York City firefighters and police officers struggling in and around the damaged towers to evacuate survivors, who themselves were buried in the rubble of the collapsing structures. As the grim day ended, a nation and world community mourned the terrible loss of life.

In the days and weeks that ensued, the overwhelming grief associated with the horrendous exposure to death was supplemented by other unsettling reactions, on both a personal and societal level. Prominent among these was a massive upwelling of death anxiety associated with a keen sense of collective vulnerability that swept the nation, from school children to seasoned business travelers, and from government workers to inhabitants of all major American cities. The outpouring of outrage and anger that often accompanied this response was understandable, as a reaction to the feeling of victimization and the invalidation of an "assumptive world" founded on a naive belief in security, justice, and the essential benevolence of humanity (Janoff-Bulman & Berger, 2000). But other reactions were less obviously explained, if no less widespread. Some of these were apparently benign, such as a massive surge in religiosity and patriotism, as people returned to faith communities in record numbers, and nearly every home, business, and automobile displayed an American flag. Others were more insidious, taking the form of jingoistic expressions on talk show programs, or outbreaks of violence and discrimination against many innocent persons even vaguely construed as of Arabic descent. Alongside these more distressing reactions were others of a more self-enhancing and altruistic kind, as a subgroup of citizens spoke of personal growth precipitated by the tragedy, the need to understand human diversity, and effort to embrace non-violent means of conflict resolution in their personal lives and on a global scale.

In summary, the response to a collective tragedy entailed complex ripple effects at individual and societal levels that continue to be felt in the United States and around the world. In a sense, this article provides a frame of reference for understanding, and even predicting, some of the subtle and profound reactions associated with such "real world" phenomena, by exploring many of the causes, correlates, and consequences

of death anxiety. Building on the pioneering research of Herman Feifel (reviewed below) we shall see that human responses to the contemplation of or confrontation with death are remarkably varied, ranging from stark fear and threat to neutral acceptance or approach, and may even influence attitudes in seemingly unrelated areas, such as political conservatism or intolerance of cultural deviants. We will therefore provide a selective review of the burgeoning literature on the relationship between death anxiety and a wide range of variables of interest to the heath and social sciences, including psychological and physical well-being, occupation, age, death salience, and terror management.[1] A companion article reviewing and evaluating methodologies used to assess death attitudes has been published by Neimeyer, Moser and Wittkowski (2003).

An Overview of the Literature

Attitudes toward death became a topic of psychological interest in the late-1950s with Feifel's (1956, 1959) research on geriatric and mentally ill populations, although a handful of pioneering studies appeared before that time. Methodologically, these early studies tended to rely upon projective methods (e.g., the tabulation of death themes in Thematic Apperception Test stories) and simple face valid questionnaires. By the mid-1960s the volume of reports began to increase, coincident with the rising popular interest in the topic of death. But a "publication explosion" in this literature did not occur until the mid-1970s, ushered in by the development of the first widely available instruments designed specifically for the direct assessment of death fear (Collett & Lester, 1969; Lester, 1967b), threat (Krieger, Epting, & Leitner, 1974), and anxiety (Templer, 1970).

At the high point of interest in death attitudes in the late 1970s, several review articles appeared to integrate (Erlemeier, 1972; Pollak, 1979), criticize (Simpson, 1980), and give direction (Kastenbaum & Costa, 1977) to the burgeoning literature. The result was a gradual improvement in the scientific quality of the literature in the field (Neimeyer, 1994), yielding a growing body of findings that we will review below. As death anxiety research moved into the 1980s, there was a plateau of interest followed by another surge of growth that continues through the present

[1]Portions of this chapter have been adapted and expanded from Neimeyer and Fortner (1997), updating the earlier coverage to provide an orientation to the contemporary literature.

day, marked by a gradual expansion of the literature through the growing contributions of researchers in Europe, the Middle East, and Asian countries, extending its original base in North America.

It is difficult to determine any single cause of the second surge of interest in the mid 1980s, but scientific factors include continued development and validation of assessment tools for measuring a broader range of death attitudes (see Neimeyer et al., 2003), the expansion of leading international journals, such as *Death Studies* and *Omega*, that publish relevant literature, and the emergence of professional organizations such as the Association for Death Education and Counseling (ADEC) that promote the presentation of research on death and loss. At a cultural level, the growing interest in the field could reflect a heightened public awareness of such global threats to survival as nuclear proliferation (Dodds & Lin, 1992; Gerber, 1990; Keefe, 1992), terrorism (Klingman, 2001), and the AIDS pandemic (Bivens, Neimeyer, Kirchberg, & Moore, 1994; Hayslip, Luhr, & Beyerlein, 1991; Hintze, Templer, Cappelletty, & Frederick, 1994), all of which have been studied by death attitude researchers.

Correlates of Death Anxiety in Adult Life

Research on attitudes toward death has touched on a remarkable range of topics over the last half-century. Here we will consider five substantive areas of research sparked by Feifel's early efforts, namely death attitudes in the elderly, the relationship of death concerns to physical illness, the death anxiety of medical and non-medical caregivers, the relationship between fear of death and psychopathology, and the association between religiosity and apprehension about death. We will also address one final topic—terror management—that has special contemporary relevance. Although a limited empirical literature has evaluated the death attitudes of children, we will confine ourselves principally to the much larger and more systematic literature on adults, making occasional remarks about the more nascent developmental research where relevant.

Death Anxiety in the Elderly

In keeping with his pioneering predilections, Feifel (1956) was the first psychologist to conduct an empirical study of the death attitudes of older

persons. Lacking any standardized means of assessing death concern, he devised an ingenious set of interview probes for use with 40 White male American veterans of World War I. He discovered that the group was equally divided between viewing death as "the end" versus a doorway to an afterlife (40% in each category), whereas smaller numbers (10% each) viewed it mainly as a release from pain or expressed uncertainty about its meaning. When asked how they would prefer to die, respondents were virtually unanimous in preferring to die in their sleep. Most professed thinking of death only "occasionally" (48%) or "rarely" (32%), although they were generally realistic in projecting a short remaining lifespan for themselves. Interestingly, although Feifel did not directly question interviewees about their own death anxiety, participants tended to believe that fear of death peaked in old age when asked to describe when "people in general" fear death.

In his later studies, Feifel more directly investigated the relation of age to death anxiety at various "levels" of awareness. At both "conscious" and "fantasy" levels, older subjects displayed less fear of death than their middle-aged and younger counterparts (Feifel & Branscomb, 1973). An apparently contradictory finding that older persons were more death anxious at "nonconscious" levels cannot be considered reliable, given the failure of the study to control for the general slowing of reaction times with age, irrespective of task content. Finally, concerning retrospective reports of changes in death anxiety over the years, subjects in later research tended to report either "no change" (40%) or a decrease in death fear (44%), with only a minority reporting heightened death fears with advancing age (16%; Feifel & Nagy, 1980). However, the results of this research should be qualified by its unusual sample, which comprised a heterogeneous group of "risk-taking" men (drug users, deputy sheriffs, etc.). Nonetheless, the results of Feifel's studies suggests that old age is not necessarily a period of morose preoccupation with personal death; indeed, the elderly may report lower levels of death fear than more youthful cohorts.

The overall picture that emerges from studies by other investigators tends to buttress this conclusion (Neimeyer & Fortner, 1996). Age was not found to be a significant correlate of death anxiety in early investigations (Erlemeier, 1978; Lester, 1967a; Pollak, 1979; Wittkowski, 1978, pp. 74ff.), and this finding may explain why age and death anxiety was not examined thoroughly until relatively recently. At least in the earliest research, investigators tended to ignore the extreme poles of the age

continuum, especially the elderly (Lester, 1967a). But as more investigators have turned specific attention to the death attitudes of older persons, evidence has mounted against the intuitive proposition that fear of death increases with age. Indeed, well-designed large scale surveys of ethnically diverse samples have indicated that death anxiety decreases from mid-life to old age (Bengtson, Cuellar, & Ragan, 1977; Kalish, 1977). This finding has generally been corroborated by more fine-grained research using many of the stronger death attitude measures with diverse samples (Gesser, Wong, & Reker, 1987–1988; Neimeyer, 1985; Robinson & Wood, 1984; Stevens, Cooper, & Thomas, 1980; Thorson & Powell, 1989).

A recent comprehensive review of death attitudes in older adults points to several well-supported conclusions. Conducting a meta-analysis of all published research on this population, Fortner and Neimeyer (1999) discovered that death anxiety was heightened for older adults who (a) had more physical health problems, (b) reported a history of psychological distress, (c) had weaker religious beliefs, and (d) had lower "ego integrity," life satisfaction, or resilience. Moreover, place of residence also predicted death concerns: those living in institutions (e.g., nursing homes) were generally more fearful of death than those living independently. Finally, those factors that did not predict death anxiety were as interesting as those that did so: In contrast to research with broader samples, gender and age were unrelated to death concern within the group of older adults, suggesting that these demographic factors wane in importance as markers of death anxieties near the end of life (Fortner, Neimeyer, & Rybarczyk, 2000).

Although most researchers have looked for linear trends in the relation between age and death concern, future investigations should consider the possibility of a more complex pattern. Using the Death Attitude Profile (DAP), Gesser et al. (1987–1988) found a curvilinear trend, showing that the elderly exhibited less fear of death/dying than the middle-aged but not the young. Another consideration concerns the multidimensional nature of death anxiety, which suggests that the specific features of death that arouse fearful anticipation may differ for persons of various ages. Thorson and Powell (1994), for example, found that younger subjects feared such things as bodily decomposition, pain, helplessness, and isolation, whereas older subjects were more concerned about loss of control and the existence of an afterlife. On a related point, investigators should be cautious about adopting an implicit "uniformity myth" regarding the elderly, as recent evidence

suggests that death attitudes in older adults might vary with ethnicity. For example, DePaola, Griffin, Young, and Neimeyer (2003) found that older Caucasian adults displayed greater fears of the dying process, whereas African Americans were more fearful of the unknown, for the status of the body after death, and of being buried alive. This suggests that older adults are themselves considerably diverse in the quality as well as the quantity of their death concerns, a factor that has received too little attention.

Finally, we should be cautious in reaching firm conclusions about the role of age from cross-sectional data. We are hard pressed to draw causal inferences from such designs, and it is likely that if age does exert a causal influence, it does so through moderator or mediator variables that are of more practical and theoretical interest (e.g., coping style, ego integrity, social isolation, context of early socialization). One example of a relevant mediator of death attitudes is one's experience of bereavement, a topic that has received research attention by Florian and Mikulincer (1997). Studying an Israeli sample, these investigators found that those who had experienced important losses early in childhood or adolescence were more fearful of the interpersonal impact of death (e.g., concerns about the loss of social identity and the impact of death on family and friends), whereas the death fears of those who had recent losses concentrated on personal anxieties about annihilation of the body and confrontation with the unknown. Thus, cumulative life experiences may contribute to the evolution of death attitudes across the life span, and, as the years pass, these can have varied and subtle impact. Kastenbaum (2000) aptly has pointed out that elderly people differ from young people in many ways, only one of which is the time they have spent in living here on earth. Additionally, age itself may introduce some selection processes (e.g., by winnowing out risk-takers or the physically ill), which may restrict the range of subjects available for study in old age, thereby complicating comparisons with younger samples.

Health Status

Beginning in the late 1960s, Feifel and his colleagues published a series of studies exploring death attitudes in terminally ill, seriously ill, chronically ill, physically disabled, mentally ill, and healthy adults. Two of these studies (Feifel, Freilich, & Herman, 1973; Feifel & Herman, 1973)

included illness as a variable in relation to death anxiety. Using the multi-level approach, Feifel et al. (1973) found that although the terminally ill reported thinking of death more frequently than healthy controls, they were no more likely to disclose conscious expressions of death concern than were their well counterparts. Nonetheless, terminally ill patients were likely to have a "significantly more religious outlook . . . concerning personal fate after death" (p. 163), a trend that has also been reported in some subsequent investigations (see below).

At putatively "nonconscious" levels, terminally ill subjects in the Feifel et al. (1973) study showed greater response latencies in the Color Word Interference Test, although it is dubious whether this finding reflected greater death anxiety, given the apparent failure to control for general slowing of reaction times to control words in this seriously ill sample. Within the terminally ill patients, no significant differences were detected at any level of measurement between heart and cancer patients. Thus, Feifel's own research failed to indicate reliable differences in fear of death as a function of medical status, the intuitive plausibility of such a link notwithstanding.

Subsequent investigations of health in relation to death anxiety have begun to clarify the conflicting findings reflected in the early literature (Pollak, 1979). Although some studies have found no direct relationship between levels of physical well-being and death threat or anxiety (Baum, 1983; Baum & Boxley, 1984; Robinson & Wood, 1984; Templer, 1971; Wagner & Lorion, 1984), others point to higher levels of death concern among the infirm elderly (Fortner & Neimeyer, 1999; Tate, 1982), people with diminished functional ability (Mullins & Lopez, 1982), smokers (Kureshi & Husain, 1981), and the severely ill (Viney, 1984) relative to comparison groups. It is probable that much of the ambiguity in these results derives from the failure of investigators to measure relevant moderator variables that interact with health status to determine personal fear of death. A study by Ho and Shiu (1995) illustrates this point. Investigating the death attitudes and coping styles of Chinese cancer patients, they found that, as a group, cancer patients' mean scores on the Death Anxiety Scale (DAS) could not be distinguished from those of a comparison group of patients with hand injuries. However, the cancer patients showed much greater variability in death anxiety, with more of them falling into both high and low ranges of the DAS than control subjects. Interestingly, the high-anxiety cancer group was distinguished from the hand-injured group by their reliance on "immature"

coping strategies, such as autistic fantasy and passive aggression. The authors interpreted this finding as reflecting the cultural norm among Chinese to express heightened anxieties and anger only indirectly, but it is equally possible that inadequate coping may itself contribute to heightened death concern.

Investigations of death anxiety related to the AIDS pandemic also tend to measure moderator variables that can explain relationships observed between fear of death and physical threats to well-being. Catania, Turner, Choi, and Coates (1992) found that gay men with HIV infection reported greater death anxiety if they also experienced less family support. Likewise, Hintze et al. (1994) found that death anxiety in HIV-infected men was associated with greater deterioration and with awareness of the AIDS diagnosis by family members, perhaps leading to scapegoating or rejection. Finally, Bivens et al. (1995) found that HIV+ gay and bisexual men were more afraid of premature death than their noninfected counterparts. Interestingly, however, the HIV+ men also tended to report higher degrees of intrinsic religiosity, which was associated with less overall death threat, and fewer specific fears regarding an afterlife. The heightened religiosity in this vulnerable group raises the possibility that the threat of death can trigger a deepening of spirituality, in keeping with a growing body of research on the "posttraumatic growth" that often follows in the wake of great adversity (Tedeschi, Park, & Calhoun, 1998). This quest for meaning, in turn, can help alleviate death anxiety, as explored in the section on religiosity. In combination, these more complex studies suggest that although illness alone may arouse death concerns in some people, the degree of death anxiety triggered by deteriorating health is a function of both interpersonal factors (e.g., social support) and personal resources (e.g., coping styles and religious beliefs), rather than illness per se.

Finally, it is worth closing with a methodological caution for those researchers considering doing research on health status and death anxiety. If physical health does not vary sufficiently within a given sample, statistical validity is jeopardized, as any relationship will be suppressed by the uniformity of health. Myska and Pasewark (1978) exemplify appropriate restraint in not analyzing state of health data given that only one person in each of their groups of institutionalized elderly acknowledged being in poor health. Whenever investigators focus on a single group design (whether ill or healthy), it is incumbent on them to

demonstrate adequate variability in health to make a comparison with death attitudes statistically meaningful.

Death Anxiety among Professional and Nonprofessional Caregivers

Early in his career, Feifel experienced repeated rebuffs by powerful physicians who blocked his access to patients whose death attitudes he wanted to study. Although their objections to his research protocol were commonly phrased in terms of concerns about distressing patients, Feifel was struck by the unwillingness of these same doctors to revise their opinions in light of evidence to the contrary. Perhaps partly as a response to this state of affairs, he developed the hypothesis that the physicians who opposed his research were acting more on the basis of their own exaggerated fears of death than out of concern for patient welfare (Feifel, 1965). This ultimately led him to conduct pilot research on a group of 40 physicians, finding that although they thought less frequently about death, they had greater death anxiety than patients and other nonprofessional controls. As a result of these personal experiences and pilot data, he put forward the provocative hypothesis that "the reason certain physicians enter medicine is to govern their own above-average fears concerning death" (Feifel, 1965, pp. 633–634). He soon extended this speculation to argue that the commonly encountered physician reluctance to inform patients of their impending deaths derived from anxieties in physicians about their own mortality, even though most patients preferred to be informed of the gravity of their condition (Feifel, 1969).

A good deal of subsequent research has been stimulated by Feifel's conjecture, focusing on the distinctive death attitudes of both medical and non-medical caregivers. Some of these studies have supported Feifel's pilot research on physicians. For example, Neimeyer and Dingemans (1980) administered the Collett-Lester Fear of Death Scale, the Threat Index, the Lester Fear of Death Scale, and the Templer Death Anxiety Scale to suicide and crisis intervention workers and controls, finding that crisis intervention workers reported consistently greater threat and apprehension about their own death and dying. Similarly, DePaola, Neimeyer, Lupfer, and Fiedler (1992) found that nursing home staff had greater concern than controls on the Fear of the Unknown factor of the Multidimensional Fear of Death Scale. However, attempts to replicate these findings using other instruments and samples have

proven unsuccessful (DePaola et al., 1992; Neimeyer & Neimeyer, 1984). For the most part, subsequent research has also failed to confirm the assertion that medical caregivers demonstrate greater levels of death anxiety than comparison groups.[2] In particular, differences in death anxiety have not been found between medical students and comparable social science students (Howells & Field, 1982), or between allied health professionals in death education courses and their classmates (Neimeyer, Bagley, & Moore, 1986). In fact, research on gay and bisexual men providing support to persons with AIDS indicates that they actually report lower degrees of death threat than gay men uninvolved in such activities (Bivens et al., 1994).

Apart from the question of whether the average helping professional experiences unusually high levels of death anxiety is the question of how variation in death anxiety among caregivers predicts, and possibly affects, their attitudes and work performance. For example, Vickio and Cavanaugh (1985) found that nursing home employees with higher levels of death concern tended to have more negative views toward elderly persons and aging and were less willing to talk about death and dying. This finding has been replicated by Eakes (1985) and DePaola, Neimeyer, and Ross (1994). The latter study was useful in further specifying which facets of death anxiety were linked to devaluation of the elderly, namely those factors concerning fear of the unknown, fear of consciousness when dead, and fear for the body after death rather than global fear of death per se. Among physicians, higher death anxiety has been associated with more negative attitudes regarding dying patients and more difficulty disclosing a terminal prognosis to a patient (Cochrane, Levy, Fryer, & Oglesby, 1990; Kvale, Berg, Groff, & Lange, 1999).

Perhaps even more disturbing than the implication that death anxious caregivers may devalue those who are close to dying are data suggesting that fear of death is associated with very conservative medical decision making. For example, Schulz and Aderman (1979) discovered that dying patients of physicians having greater death anxiety were in the hospital for significantly more time than the patients of physicians with low death anxiety, implying that those physicians with higher

[2]Other studies have also found no difference between physicians from different specialties—oncology, internal medicine, surgery, psychiatry, and pediatrics—In regards to level of death fear (Cochrane, Levy, Fryer, & Oglesby, 1990; Hamama-Raz, Solomon, & Ohry, 2000).

death anxiety were more likely to perform heroic treatment to prolong the lives of terminal patients during their final days in the hospital. And in line with Feifel's argument about why patients are not informed about the seriousness of their conditions, Eggerman and Dustin (1985) found that doctors who are highly distressed by the possibility of their own death reported considering more factors before informing terminal patients of their prognosis.

Research on counselors underscores concerns about how personal death attitudes can shape response to patients, for better or worse. An initial study by Kirchberg and Neimeyer (1991) demonstrated that beginning counselors ranked client situations involving death and loss (e.g., bereavement, life-threatening illness, suicide risk) as significantly more uncomfortable to confront than other crises ranging from sexual assault to substance abuse. Replicating this finding in a second sample of counselors viewing videotapes of initial client presentations, Kirchberg, Neimeyer, and James (1998) further reported that such distress was higher for counselors with greater personal fear of death. Moreover, those counselors with greater degrees of "fatalism" regarding death as assessed by the Threat Index responded with less empathy to the client scenarios, suggesting that these attitudinal vulnerabilities found expression in counseling behavior. In contrast to these beginning counselors, those with many years of experience in counseling the dying and bereaved rated such situations as quite comfortable, and responded more empathically to these situations than to those involving less "life and death" issues (Terry, Bivens, & Neimeyer, 1995). This finding is further supported by evidence that crisis counselors with higher levels of death acceptance respond more appropriately to client situations involving the risk of suicide (Neimeyer, Fortner, & Melby, 2001). Whether as a function of self-selection or training and experience, or both, it is encouraging that some caregivers are able to meet the challenges posed by working with death and dying in a way that mitigates their personal threat and protective distancing from those they serve.

In summary, although broad group differences between caregivers and controls are not profound, the implications of elevated levels of death anxiety in some medical staff and psychosocial caregivers may be. Research in this area might well be extended to examine how death attitudes, and consequently professional responsiveness, might be improved through specialized training.

Death Anxiety and Psychopathology

Early in his career, Feifel (1955) noted that death themes were often prominent in psychopathology, and for some patients discussion of death-related issues was therapeutic. He argued that, contrary to psychoanalytic theory, death anxiety in such patients might not be secondary to some other difficulty (e.g., separation anxiety) but might itself be a central force from which secondary symptomatology arose. Noting that previous studies had not involved people with psychological problems, Feifel compared the responses of open ward patients (chiefly anxiety, depressive, character, and behavior disorders) and closed ward patients (chiefly schizophrenics) to a variety of interview probes of death attitudes. Both groups typically viewed death as an end to a natural process, followed by the belief that death is stage of preparation for another life. He also noted unexpected themes of violence in patients' depictions of death. However, somewhat to his surprise, degree of disturbance appeared to be unrelated to patients' death attitudes.

In a second study, Feifel and Herman (1973) arranged a more focused design to determine if degree of psychological disturbance predicted higher levels of death anxiety. However, his multi-level assessment failed to disclose any differences between normal and mentally ill samples at any level. Moreover, no substantial differences between psychotic patients and neurotic patients could be identified at conscious, fantasy, or "nonconscious" levels.

Since Feifel's groundbreaking efforts, many studies have examined both general maladjustment and specific manifestations of psychopathology (e.g., depression, anxiety) in relation to death concern. However, contrary to Feifel's methodological preference for comparing patients grouped by approximate diagnosis, the majority of subsequent research has treated psychopathology as a continuous variable, which may be present in milder forms even in "normal" populations. Adopting this correlational rather than classificatory approach, a number of studies suggested that higher levels of death anxiety are generally accompanied by elevated levels of "neuroticism" (guilt-proneness, worry, suspicion, etc.; Howells & Field, 1982; Loo, 1984; Vargo & Black, 1984; Westman & Brackney, 1990). Although this correlation of death anxious and neurotic responses is compatible with self-actualization theories that emphasize that death acceptance is both a hallmark of and contributor to psychological well-being (Tomer, 1994), it is obviously

impossible to infer causal relationships from simple correlational designs of this kind.

As this literature has evolved, investigators have shifted away from the study of death attitudes in relation to generalized measures of neurosis and toward the analysis of measures of specific symptoms. Much of this work has established a link between death anxiety and general anxiety (Neimeyer, 1988; Pollak, 1979). More refined studies have attempted greater specificity by comparing death concerns to both transient (state) and characterological (trait) anxiety. This research suggests that subjects who exhibit greater death anxiety (e.g., Conte, Weiner, & Plutchik, 1982; Gilliland & Templer, 1985; Hintze et al., 1994; Lonetto et al., 1980), fear (Loo, 1984), and threat (Tobacyk & Eckstein, 1980) score higher on validated scales of general anxiety, especially in its more enduring or trait-like form.

A second specific expression of distress to receive attention in the death anxiety literature is depression. Lonetto and Templer (1986) reviewed evidence that the DAS correlates positively with depression as measured by the MMPI, the Zung Depression Scale, and other measures in samples of psychiatric patients and elderly people, whereas both HIV-positive men and a control group showed a strong relationship between scores on the DAS and the Beck Depression Inventory (Hintze et al., 1994). Several other studies have confirmed this relationship, particularly in elderly samples (Baum, 1983; Baum & Boxley, 1984; Rhudick & Dibner, 1961).[3] On the other hand, Wagner and Lorian (1984) found that depression as measured by the Self-Rating Depression Scale failed to contribute to the prediction of DAS scores from several groups of elderly people (i.e., community residents, institutionalized patients, people with sleep disturbance, and people without sleep disturbance), throwing into question the generalizability of this relationship.

Although it is often associated with depression, suicide risk per se has received relatively little attention in studies of death anxiety, despite the intuitively plausible link between one's attitudes toward death and one's conscious selection of it as a solution to life problems. In partial support of this rationale, Lester (1967b) found that suicidal adolescents feared

[3]In fact, the importance of understanding the relationship between death anxiety and depression led Templer et al. (1990) to construct a Death Depression Scale, which, ironically had to be revised as scores on the original scale were found to have very high correlations with other measures of death anxiety.

death less than their nonsuicidal peers. In contrast, however, a study by D'Attilio and Campbell (1990) discovered that scores on the DAS and the Suicide Probability Scale correlated positively, indicating that subjects with greater suicide potential had higher death concern. Clearly, more research is needed in this area. Of particular importance will be future studies that go beyond global assessments of death concern and use more multidimensional measures of death attitudes that permit a clearer identification of what facets of death attitudes inhibit or facilitate self-destructive behavior in stressful circumstances.

In summary, subsequent research has been more successful than Feifel's initial efforts in establishing an association between death anxiety and a broad band of psychopathology. Although further descriptive research may be useful in filling in the outlines of this picture, it would be more valuable to construct causal models of how death fears either exacerbate or are aggravated by other forms of psychological distress, incorporating more sophisticated statistical techniques such as structural equation modeling and regression (Tomer & Eliason, 2000). Ultimately, more research is also needed on the responsiveness of death anxiety to treatment, particularly in clinical syndromes such as panic disorder in which an irrational fear of dying plays a central role.

Death Anxiety and Religiosity

Scholars have argued that the need to address the problem of human mortality is a driving force behind the development of virtually all world religions (Becker, 1973; Choron, 1974). From this perspective, one might reasonably expect that individuals who differ in their spiritual ideologies would also differ in their attitudes toward death. At least four of Feifel's published works speak directly to this question, exploring the distinctive death attitudes of religious versus nonreligious persons. The first reported only the results of pilot data on 82 subjects classified as religious and nonreligious. Feifel (1959) concluded that "The religious person, when compared to the nonreligious individual, is personally more afraid of death" as a function of his or her compound fears of not only the cessation of earthly experience, but also concerns about an afterlife (p. 121). Some evidence for this has been reported by subsequent investigators using multidimensional measures of death anxiety. Florian and Kravetz (1983), for example, found that in 178 Israeli Jews, moderately religious subjects had higher scores on certain aspects death and lower

scores on others. Moderately religious subjects were more upset about such things as the consequences of one's death on family and friends, whereas highly religious subjects were more concerned about such things as being punished in the afterlife.

But in general, these supportive results stand in contrast to much of the subsequent literature in this area. This trend is illustrated even in Feifel's later work. Feifel and Branscomb (1973) subjected 10 predictor variables (i.e., age, education, intelligence, socioeconomic status, religious self-rating, recent experience with death of personal acquaintances, gender, marital status, number of children) to a stepwise regression in which measures of death anxiety at various "levels of awareness" served as the dependent variables. Of the 10 predictor variables, religious self-rating was retained most often, being represented in all of the final regression equations predicting conscious reports of death anxiety, negative death imagery, and the selection of negative adjectives from bipolar pairs. Contrary to Feifel's pilot study, religious self-report predicted lower levels of death anxiety in each equation. Using the same sample of subjects as Feifel and Branscomb, Feifel (1974) improved upon his measure of religiosity by composing religious categories based on multiple dimensions of religious activity (i.e., religious creed, religious self-rating, and religious behavior). Surprisingly, considering the positive findings of Feifel and Branscomb and the improved measure of religiosity, no significant differences between subjects classified as religious and those classified as nonreligious were found on any of the measures in either the healthy or the terminally ill patients.

Feifel's contradictory findings, obtained through different methods of measurement and statistical analysis of the same sample, mirror the conflicting findings typical of early research in this area (Krieger, Epting, & Leitner, 1974; Neimeyer, Dingemans, & Epting, 1977; Pratt, Hare, & Wright, 1985). One early reviewer even refused to attempt an interpretation of the tangled web of diametrically opposed results available at the time (Pollak, 1979). In a more positive light, Feifel's (1974) study anticipated contemporary research that has used a more refined conceptualization of religiosity, a movement that he explicitly encouraged (Feifel, 1959).

More recent and sophisticated religiosity research has distinguished between extrinsic religiosity, which reflects a utilitarian view of religion, and intrinsic religiosity, which aims to reflect the centrality of faith to one's life. Thorson and Powell (1990) showed that of several measures

related to religiosity as well as demographics, only intrinsic religiosity and age correlated negatively with death anxiety. Likewise, Bivens and his colleagues (1994) showed that intrinsic religiosity, but not extrinsic religiosity, in gay and bisexual men was negatively correlated with death threat as measured by the Threat Index. Of the Multi-Dimensional Fear of Death Scale scores, the Fear of the Unknown factor correlated negatively with intrinsic religiosity but positively with extrinsic religious orientation. These and similar results (Rigdon & Epting, 1985) suggest that "deeper" or more genuine religious commitment ameliorates conscious fear of death, perhaps by giving meaning to an afterlife that is, by definition, beyond human experience. "Superficial" or expedient participation in a religious community, on the other hand, may actually be associated with greater death anxiety, as postulated by Wittkowski and Baumgartner (1977). Moreover, although far less research has been conducted with non-western, non-Christian samples, the work that has been done on Muslim samples has tended to corroborate the generally negative correlation between death fears and religious beliefs (Suhail & Akram, 2002).

To date, little attention has been paid to gender differences with respect to the association between religiosity and the fear of dying and/or death. Operationalizing both areas multidimensionally, Wittkowski (1988) found a considerable difference between men and women in mid-life. In men the fear of the dying and the loss of another person was negatively correlated with various aspects of religiosity, whereas in women it was the fear of one's own dying that showed an inverse relationship with religiosity.

In 1981, Feifel and Nagy improved their methodology by including multiple measures of constructs, established scales for measurement, and more sophisticated statistical analysis. They classified groups of men who were thought to display risk-taking behavior into seven groups based on scores to the Collett-Lester Fear of Death Self Scale and Feifel's multi-level measurements of death anxiety. They then performed a factor analysis on measures related to death attitudes, life values, religious orientation, and self-acceptance and submitted the resulting nine factor scores obtained to stepwise discriminant analysis, predicting the variance associated with membership in the seven death anxiety groups. The final predictors selected were a semantic differential rating of concept of death, death awareness, religious orientation, and attitude toward attending funerals. These predictors accounted for 28.6% of the

variance in death anxiety group membership, and reinforced the conclusion that religiosity tends to ameliorate death anxiety even after controlling for other factors.

In line with Feifel and Nagy's (1981) movement toward more complex statistical procedures, other work has called into question the linearity of the relationship between measures of religiosity and death concerns. For instance, Downey (1984) found that middle-aged men who were moderately religious had greater death anxiety than both believers and nonbelievers. Other studies may be interpreted as supporting this nonlinear trend (Florian & Kravetz, 1983; Holcomb et al., 1993; Ingram & Leitner, 1989; Ochsmann, 1993, pp. 103ff.). This suggests that if religiosity is measured across its full range (i.e., from devoutly religious through semi-committed to avowedly nonreligious or nontheistic), people with firm ideological commitments on both ends of the spectrum may be less apprehensive about death than those with more ambivalent personal philosophies.

As the above discussion suggests, the relationship between religious belief and death attitudes is far from simple. For example, in a study by Ochsmann (1984), the belief in an afterlife turned out to be a moderator variable for the amount of the fear of death. Future researchers must continue taking into account the multidimensional nature of both religiosity and death anxiety as well considering the nature of the relationship between the two constructs in terms of linearity and directionality. With respect to causality, we will be in much better position to tease out causal arguments if researchers work within the frameworks of theoretically driven causal models and use experimental or quasi-experimental designs whenever possible.

A final point is as conceptual as it is methodological. The vast majority of studies has examined religiosity in the relatively narrow framework of commitment to Christian, or at most Christian and Jewish, beliefs. However, emerging research on non-Western religions suggest that they may be associated with distinctive forms of death anxiety, such as the intense apprehension reported by many Moslems regarding "the torture of the grave" (a special and horrific set of punishments that can be exacted on the sensate bodies of the dead according to detailed passages in the Koran; Abdel-Khalek, in press). Such findings argue for much more culturally attuned research in the future, a recommendation that carries implications for the development of more diverse measures (Neimeyer et al., 2003). Complementing this need for greater breadth

of research on religious frameworks of meaning is a need for greater depth and specificity of study. For example, the construct of "religiosity" is only thinly interpreted as an "individual difference variable," an intrapsychic endorsement of a certain set of beliefs. Viewed through the disciplinary lens of cultural studies, various religious traditions carry with them different histories of relating to death (e.g., high or low infant mortality, genocide or relative peace), different systems of socialization and social support for dealing with loss (e.g., religious communities that vary in their cohesiveness and enculturation practices), and different spiritual resources for engaging the myriad challenges of living and dying (e.g., prayer, meditation, rituals of atonement, transition, and remembrance). Clearly, research on the relationship between death attitudes and religiosity will be advanced by taking a more refined view of the latter, defining it in terms of a myriad of individual and communal beliefs and practices, rather than as only one or two dimensions that vary principally in their quantity.[4]

Terror Management

In general, research on death attitudes has tended to follow an atheoretical "statistical dragnet" method, as investigators simply report significant associations between variables, or at most test interesting but isolated hypotheses that have little or no relation to broader theories of human functioning (Neimeyer, 1994). A clear exception to this pattern, however, is the elegant series of studies examining fear of personal death deriving from Terror Management Theory (TMT; Greenberg et al., 1990; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). Basing their theory on the work of Ernest Becker (1973), these authors argue that human beings would be immobilized by dread if they lived constantly with the awareness of their mortality and the frailty of human life. Consequently, societies develop cultural worldviews with their associated cosmologies concerning the meaning of life and death as a way of ameliorating the uniquely human predicament of being able to anticipate our own eventual demise. In this account, the symbolic adherence to these worldviews is largely driven by a defensive function—namely, the attempt to minimize the anxiety caused by the

[4]Indeed, steps have been taken, albeit slowly, in this direction in the burgeoning literature on spirituality and health; see Koenig, McCullough, and Larson (2001).

awareness of death. According to TMT, there are both proximal and distal defenses to this anxiety. Proximal defenses—used when thoughts of death enter our consciousness—include suppression and rationalization, which are used to remove these thoughts from our consciousness. A distal defense—used when death-related thoughts are salient but outside of our conscious mind—involves defense of one's worldview. This includes the need to redouble one's commitment to the political, religious, and ideological belief systems one espouses, and derogate and distance ourselves from persons who appear to challenge or depart from such beliefs.

Across a series of dozens of well-controlled laboratory studies, Greenberg, Pyszczynski, and Solomon and their colleagues (1990) have amassed an impressive amount of support for TMT, demonstrating that when mortality is made salient (e.g., through exposing viewers to graphic videos of death and dying or having participants briefly think about their death, and then distracting them so that death-related thoughts are not actively conscious), people respond by resorting to worldview defense. For example, in one study (Rosenblatt et al., 1989), municipal court judges were given a hypothetical legal brief that described transgressions committed by a "defendant" and were asked to set bond. Those judges who were exposed to the mortality salience condition set a significantly larger bond than those in the control condition, clearly demonstrating a worldview defense mechanism. More recently, Florian and Mikulincer (1997) found support for the hypothesis that subjects who showed a predominant type of personal death fear (e.g., having high intrapersonal fear but low interpersonal fear) would be more likely to punish someone who had transgressed a comparable cultural standard, but only under a mortality salience induction. Hirschberger, Florian, and Mikulincer (2002) have subsequently sharpened the focus of one aspect of TMT, finding in both Israeli and American samples that mortality salience enhances the probability of risk-taking (e.g., hang-gliding, trying heroin) in men but not in women. Theoretically progressive and practically relevant research such as that reviewed above should clearly be given high priority by other investigators, along with an exploration of how mortality salience interacts with other factors (personal attitudes toward death, gender of the subject) to shape the individual's covert and overt response.

The contemporary relevance of this theory was vividly exemplified by the American response to the horrific terrorism of September 11,

2001, in which the immense upsurge in death salience resulting from the attacks led to a sharp spike in death anxiety on the part of seemingly all who viewed the events in person or on television, followed by an upwelling of patriotism, conservative religious fervor, and (all too often) a tendency to "get tough" on those who deviated from the cultural mainstream (Pyszczynski, Solomon, & Greenberg, 2003). It is clear that TMT and the research it spawns has practical significance for understanding death attitudes.

Acceptance of Dying and Death

Although the vast majority of studies of death attitudes have implicitly or explicitly identified these attitudes in negative terms, some investigators have also attempted to expand the frame to study positive attitudes toward death and dying. We will close with a brief survey of this work.

Conceptual Approaches

According to the Three-Component Model of Death Acceptance introduced by Wong et al. (1994), *neutral acceptance* delineates an attitude that regards death an integral part of life. Death is neither feared nor welcomed; one simply accepts it as one of the unchangeable facts of life. *Approach acceptance* implies belief in a happy afterlife. The positively toned future time perspective associated with it leads to a positive outlook on death. *Escape acceptance* results from living conditions that are felt unbearable by the individual such that death seems an attractive alternative to life. In contrast, Wittkowski's (2001) Multidimensional Orientation Toward Dying and Death Inventory (MODDI-F) is based on a conception of acceptance that can refer to both the dying process and to death. In this view, acceptance delineates the tendency to regard the dying process on one hand and the prospect of (one's own) death (i.e., the loss of the world) on the other as natural parts of life, incorporating mortality into an overarching context of meaning (e.g., religious belief, justice). This conception of "agreement" with death is similar to Wong et al.'s (1994) component of neutral acceptance. Moreover, it shows common features with the approach of Klug and Sinha (1987–1988) who differentiated between a cognitive and an affective aspect of death attitudes. In the view of these authors, death acceptance is the conscious rational

acknowledgement of the prospect of one's own inevitable death (confrontation with death, cognitive component) and at the same time the positive emotional appraisal of this realization (integration of death, affective component).

Despite their value in broadening the conceptual framework for understanding death attitudes, none of the approaches discussed above is fully comprehensive. The Three-Component Model of Wong et al. (1994) as well as Klug and Sinha's (1987–1988) Two-Component Model both focus on the prospect of death (i.e., being dead one day) only but not on the dying process. Wittkowski's (1996, 2001) conception is constrained to neutral acceptance. An integration of all three approaches with a traditional focus on death anxiety, threat, and depression would seem desirable in accommodating negative, neutral, and even favorable attitudes toward death as a state and dying as a process.

Empirical Findings

At the present time, evidence concerning the relationship between acceptance of dying and death on one hand and various personality characteristics on the other has to be evaluated in light of the fact that such acceptance of dying and death typically has been assessed in only a global or unidimensional way. Data are inconsistent and partly contradictory. As to the association of an accepting attitude toward death with life satisfaction, moderate positive correlations (Flint, Gayton, & Ozman, 1983; Gesser et al., 1987–1988) contrast with zero correlations and especially in men with moderate negative correlations (Wittkowski, 1990, pp. 113ff.). Both Klug (1997) and Wittkowski (1984) found no correlation between "acceptance of death as a natural end" and self-esteem in German men as well as in women. Referring to the relationship between acceptance of death and intrinsic religiosity, Klug (1997, p. 167) reported a low positive and Wittkowski (1990, p. 113) a moderate positive correlation. In sum, an attitude of acceptance toward (one's own) death seems to be associated with more life satisfaction and a stronger religious belief.

Of special interest are the direction and the amount of the relationship between acceptance of dying and death on one hand and fear of dying and death on the other. In studies that assessed both areas unidimensionally, inverse relationships of a moderate (Klug & Boss, 1977; Ray & Najman, 1974) or a higher amount (Vandencreek, Frankowski, &

Ayres, 1994) were found. In studies that assessed death acceptance and fear multidimensionally, low to moderate associations were found (Klug, 1997, pp. 134ff.; Tomer & Eliason, 2000), whereas somewhat stronger relationships were observed with the use of more discriminating measures (Wittkowski, 1996, p. 30).

Although logically independent of one another, there seem to be low to moderate inverse correlations between acceptance of dying and death on one hand and fear of dying and death on the other. Thus, persons who accept both the dying process and the prospect of being dead one day as a natural part of their lives express less intense fear of dying and death, whereas persons not accepting death acknowledge stronger death-related fears. According to the findings of Tomer and Eliason (2000), it is predominantly neutral acceptance that has a significant relationship with the fear of dying and death; both approach acceptance and escape acceptance were negatively, although not always significantly, correlated with the death fear and anxiety.

For an explanation of these findings, the concept of meaning seems well suited. Individuals who strongly endorse death acceptance are probably more able than others to see meaning in death by putting it into an overarching context. This in turn should enable them to experience less fear when thinking of their own death. This hypothesis is in line with both existential and meaning reconstruction theories of coping with death and loss (Neimeyer, 2001; Tomer, 1994) and is a topic worthy of further research.

Coda

Although it is a latecomer to the effort to understand the human encounter with death, psychology has been a productive contributor to this interdisciplinary effort for the last half-century. Much of the resulting literature—literally thousands of published studies in dozens of journals—makes use of self-report questionnaires to assess people's degree of death anxiety, fear, or threat, although a growing subset of this emerging body of research is broadening the focus to include positive attitudes such as death acceptance.

Our goal in the present article has been to survey this research as it applies to several domains—death anxiety in older adults and professional caregivers, and in relation to physical illness, psychological

distress, and religiosity. Even with this wide sweep, we are aware that we are only sampling a far vaster literature and refer the reader to other reviews to supplement the present effort (Neimeyer, 1994; Neimeyer & Van Brunt, 1995). In this closing section, we would like to venture a few suggestions to improve the quality and yield of this field of research, as well as to enhance its clinical relevance.

First, we would encourage the use of well-validated and multidimensional measures of death attitudes, several of which we recently have reviewed elsewhere (Neimeyer et al., 2003). Although this point might seem self-evident, the fact is that the majority of contemporary researchers continue to rely upon older, unidimensional measures that have serious psychometric limitations. Not only does this compromise the scientific quality of the resulting literature, but it also diminishes the clinical utility of death attitude assessment. For example, psychologists are playing an increasing role in end-of-life care contexts such as palliative care settings, in which the assessment of a patient's death concerns and beliefs could help focus support efforts and document progress toward therapeutic goals (Haley, Larson, Kasl-Godley, Neimeyer, & Kwilosz, 2003). But when the assessment methods chosen offer only a global or generic measure of death anxiety, rather than a more refined and specific assessment of death concerns and competencies along a number of dimensions (e.g., fears for others' well-being; fears of bodily annihilation; uncertainties about an afterlife, and escape acceptance of death as a means of ending suffering and indignity), then psychological assessment becomes less useful than it might otherwise be.

Second, we advocate the use of specific rather than general measures whenever these are of relevance, as long as such scales have passed muster in terms of their validity and reliability. One clear example concerns the assessment of attitudes toward hastened death in end-of-life care contexts, which might have more practical value than the evaluation of death anxiety, per se. Likewise, measures of death self-efficacy—one's competence to interact helpfully with dying patients on emotional as well as practical levels—could be of relevance for assessing caregivers who work with this vulnerable population, as well as documenting training efforts to improve their ability to do so.

Third, we recognize that some scientific and practical questions might best be answered by abandoning standardized questionnaires altogether. For example, Tamm and Grandqvist (1995) and Yang and Chen (2002) have demonstrated the reliable use of phenomenographic

approaches to the assessment based upon the coding of themes in drawings of death concepts, a method that was found to have relevance to cultures as diverse as Sweden and China. Not only could such non-questionnaire methods contribute to cross cultural research—especially with children—but it also could allow a non-obtrusive entry into the unique concerns of a given individual who might be reluctant to acknowledge the fearfulness (or attractiveness) of death in response to more direct questions. If used with clinical sensitivity, such methods could open the door to discussion of death attitudes in pertinent groups, ranging from medical and psychiatric patients to students or members of death-related professions.

At a scientific level, research in this field would benefit from the use of more sophisticated statistical techniques such as those that carefully delineate and test conceptual models (e.g., structural equation modeling) and/or those that have strong statistical control (e.g., analysis of covariance, regression). More incisive designs that move beyond correlations to experimental or quasi-experimental procedures (e.g., implementing an intervention designed to alleviate death anxiety in one unit of a palliative care facility, with another serving as a control; randomly assigning groups of subjects to different treatments and/or control groups) would also permit clearer causal inferences about processes at work in shaping attitudes toward dying and death.

Finally, we hope that future work in this field will strive for the twin desiderata of theoretical and practical relevance. As occasional research like that in the domain of terror management suggests, studies that derive from clearly articulated theoretical perspectives (whether existential, psychological, spiritual, sociological, or psychiatric) can and indeed are more likely to have real-world application than isolated studies that relate death attitudes to some other construct with little justification except that both can be measured. As the field moves beyond the occasionally random curiosity of its founders to a more systematic engagement with the problem of death in human life, we are optimistic that its scientific and humane aspirations can be achieved.

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