Article

Coping and Attitudes Toward Dying and Death in German Adults

OMEGA—Journal of Death and Dying
2016, Vol. 72(4) 316–339

DOI: 10.1177/0030222815575283
ome.sagepub.com
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Abstract
The idea of an existential threat caused by the awareness of mortality has been rarely investigated within coping research. The study explores relationships between coping strategies and attitudes toward dying and death in a sample of German adults aged 20 to 93 years. Participants responded to a Stress Coping Inventory and a questionnaire for the multidimensional assessment of attitudes toward dying and death. Pearson correlations for men, women, and the young and old age-groups confirm the expectation that attitudes toward dying and death are mainly associated with disengagement and accommodative coping. Gender- and age-specific findings refer to drug intake and aggression. Results are discussed within both a coping and a thanatological frame of reference and issues for future research are outlined.

Keywords
acceptance of dying and death, attitudes toward dying and death, awareness of finitude, coping, fear of dying and death, mortality awareness

The term *death* is vague and prone to misunderstandings. Following Collett and Lester (1969), four aspects that are often captured by the single word death can be discriminated. *One's own death* means losing one's life and in a psychological sense losing one's world. *One's own dying* addresses a shorter or longer period of adapting to the prospect of losing one's life within a foreseeable time span

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including physical and psychological suffering. *Another person's death* refers to the loss of that person. Finally, *another person's dying* means vicarious suffering as well as the adaptation to the approaching loss. In this article, the distinction of these four components is obeyed although for the sake of the intelligibility of the text, the broader distinction between *dying* and *death* is predominantly used.

The Awareness of the Finitiude of Life From the Point of View of Thanatology

From its beginnings, the idea of an existential threat caused by the awareness of ones's mortality has occupied thanatology. Existential psychologists and philosophers (e.g., Kaufman, 1976; May, 1979; Tillich, 1959) introduced the threat of nonexistence as the source of a unique kind of anxiety. Becker (1973) conceived anxiety as the dread of death, the denial of which he thought to motivate all human enterprise. This has become the core assumption of the death awareness movement. In a gerontological context, Munnichs (1966, p. 4) introduced the term *awareness of finitude* to refer to age-related recognition of impending death. In a similar vein drawing on developmental psychology and also Butler's (1963) conceptualization of a life review process, Marshall (1980, 1986) suggests that heightened awareness of finitude triggers increased self-reflection and reminiscence in preparation for death.

In an elaborated and formalized way, the idea of a latent threat because of death awareness has found its shape in terror management theory (TMT; Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 1991). In short, TMT assumes that the knowledge of the inevitability of death is the source of an enduring existential fear (*terror*) which is buffered by the identification with cultural worldviews. Noteworthy in the present context is the assumption of a lifelong attitude-like anxiety as a motivating force for human behavior in general and for cultural development in particular. In the words of Kastenbaum (2009):

> To live in a stew of terror differs from an intense moment of alarm in a threatening situation. TMT/Becker seem more concerned with anxiety episodes linked to thoughts of death than to actual encounters with survival threats, and to the melancholy recycling of these episodes. (p. 299)

In his critique of TMT, Kastenbaum (2009) notes that "the proposition that we are doomed to mortal terror at the thought of our own death is not especially well supported by everyday observations" (p. 285). Moreover, Kastenbaum and Heflick (2010–2011) question the exclusive focus on anxiety and add sorrow and sadness as emotions to be considered in this context. A complementary approach to TMT's fear-based defensive posture toward life is introduced by Wong's (2008) meaning management theory that "provides a conceptual

framework and guidelines on how to facilitate death acceptance and meaningful living as an indirect but effective way to combat with death anxiety" (p. 78). Of special interest here is the concept of an existential coping that encompasses two coping strategies: "accepting what cannot be changed, and affirming that there is something valuable and meaningful in suffering" (Wong, 2008, p. 75).

In contrast to this speculative as well as empirical dealing with the latent threat of death within thanatology, this conception has been seldom if ever studied in the context of general stress and anxiety research. This study is an attempt to fill this gap.

The Awareness of One's Mortality in Terms of the Psychology of Stress and Anxiety

In general, threat can be conceived as the appraisal of an impending harm to the individual (cf. Carver & Connor-Smith, 2010). There are two large groups of threat described in the literature: ego- or existential threat and physical threat. Events that cause threat are called stressors. Besides losses and challenges, threats belong to three general categories of stressors (Lazarus & Launier, 1978). Features of stressors with relevance to adaptation are (Folkman, 1984; Krohne, Schumacher, & Egloff, 1992; Reicherts, 1992): controllability (i.e., the objective or subjective probability with which a stressor can be influenced by the individual to lose its harmful impact), changeability (i.e., the probability that a stressful event will lose its harmful impact without efforts of the individual), predictability, ambiguity, valence, temporarity versus chronicity, and (expected) frequency of occurrence. To be effective as a stressor, the event or situation must not be real; rather, the individual's imagination is sufficient to constitute a stressor.

With respect to mortality awareness in healthy individuals, we are dealing with a specific kind of threat. Death is principally unavoidable and uncontrollable, it is predictable in the sense that the occurrence of the event is absolutely certain, whereas the time is uncertain and the circumstances of the dying process and the hereafter are highly ambiguous. Furthermore, the prospect of death can be considered to have high valence to the individual; in a goal-based view (cf., Carver & Connor-Smith, 2010), death interferes with the goal of staying alive. Finally, death as a unique event that for most people is far away, is an enduring and long-lasting threat, a kind of concomitant consciousness (cf., Rohracher, 1971, pp. 62–63). From these considerations, we may conclude that the awareness of one's eventual death (i.e., losing one's life) is a constant latent threat to the individual specifically because of its uncontrollability and ambiguity. In the face of terminal illness and loss of life, the individual's resources to head off the threat are by its very nature insufficient (Corr & Doka, 2001). In contrast to death, the dying process is principally controllable to a certain degree although its circumstances remain hardly predictable.

The idea of death-related issues as contents of concomitant consciousness is similar to Thauberger, Thauberger, and Cleland's (1977, 1983–1984) concept of *ontological confrontation* (see Ochsmann, 2003, for an overview). Even without being in a life-threatening situation, the individual always has access to the latent awareness of his or her mortality. In their experiments on TMT, Greenberg and his colleagues triggered death salience by stimulating the participants' coconscious knowledge of their finitude. It is fair to conclude, therefore, that there is at least some plausibility to conceive of a latent awareness of one's own and other persons' dying and death (i.e., loss in the latter case). Empirical research on the impact of this latent awareness on the psychological and physical well-being is, however, extremely sparse. This study is an attempt to fill this gap.

Threatening stressors elicit fears or anxiety in the individual. In fact, anxiety can be considered almost a synonym of psychological stress (cf., Cofer & Appley, 1966, p. 239). In general, anxiety arises when there is an uncertain threat or when existential meaning is endangered (Krohne, 2010; Lazarus, 1991, p. 234). Stated differently, "stress is nothing more (and nothing less) than the experience of encountering or anticipating adversity in one's goal-related efforts" (Carver & Connor-Smith, 2010, pp. 683–684). In contrast to fear, in anxiety, the expected threat is uncertain, existential, and enduring and therefore no secondary appraisal components are essential (Lazarus, 1991). Anxiety is essentially a future-directed emotion. The distinction between state and trait anxiety is well established in the psychology of emotion and motivation (cf., Cattell & Scheier, 1961; Spielberger, 1975). Closely linked to anxiety is worry, the cognitive attempt to make existential anxiety concrete and external in order better to deal with it (Lazarus, 1991).

The general features of anxiety, stress, and worry are exemplified within the context of the awareness of the finitude of human life. Dying and death can be considered the prototype of uncertain threats by which the individual's existential meaning is endangered. The stress *situation*, in this context, is the enduring prospect of losing life, one's own and that of others, that can be expected to be accompanied by a latent apprehension of interindividually varying intensity. If a person experiences anxiety with respect to dying and death, we may infer that the corresponding existential threat has not been controlled successfully by emotion-focused coping.

Coping

Within the psychology of stress and emotion, coping is conceived as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (Lazarus & Folkman, 1984, p. 141) irrespective of the success of these efforts. Thus, coping efforts serve the purpose to buffer stress and minimize its adverse effects (McCrae & Costa, 1986).

There is ample evidence that coping responses are both stable over time at least in a given stress domain and relatively consistent across stressors. Thus, coping styles can be viewed as enduring response tendencies that can vary between individuals (Carver & Connor-Smith, 2010; Miller, 1992; Ptacek, Pierce, & Thompson, 2005; Schwartz, Neale, Marco, Shiffman, & Stone, 1999; Somerfield & McCrae, 2000). Trait coping has been defined as "characteristic ways of responding to changes of any type in the environment" (Beutler, Moos, & Lane, 2003, p. 1158). Lazarus (2006, pp. 103–104) discusses three ways to look at coping from a trait perspective including a "conditional trait approach." Hewitt and Flett (1996) argue that a trait conception of coping does not necessarily exclude the idea of a dynamic process. In their conception, "responses will depend on the personality traits of the individual, the coping period being assessed, and the type of problem confronting the individual" (p. 423).

Theoretically and empirically, various dimensions of coping have emerged. Despite discrepancies in the terms used, they can be reduced to some broad categories that nevertheless show overlappings. Vigilance (cognitive or behavioral approach coping including task- or problem-focused coping), avoidance (cognitive or behavioral disengagement coping), and emotion-focused coping (primary and secondary control engagement) form three fundamental categories (Connor-Smith & Flachsbart, 2007; Endler & Parker, 1990; Krohne, 1996; Moos & Holahan, 2003; Skinner, Edge, Altmena, & Sherwood, 2003). Somewhat different, Carver and Connor-Smith (2010) discern engagement coping, that is aimed at dealing with the stressor or the resulting distress emotions from disengagement coping which is aimed at escaping from dealing with the stressor or the resulting stress emotions and these two from accommodative coping, that is aimed at adapting to the effects of the stressor. In their taxonomy of coping operations, Perrez and Reicherts (1992) discern situation-oriented coping (i.e., active influence on the situation, evasion/withdrawal, and passivity), representation-oriented coping (i.e., search for or suppression of information), and evaluation-oriented coping (i.e., change of goals and reevaluation of the situation). As Krohne (1996) notes, strategies of avoidance should only be adaptive if the aversive event is uncontrollable. Picking up Skinner et al.'s (2003) comment, the problem with the use of these broad categories is that they actually combine multiple dimensions.

An interesting feature in the context of this study is the concept of future-oriented proactive coping (Aspinwall & Taylor, 1997; Folkman & Moskowitz, 2004). Here, people do not react to a given threat, rather they cope in advance to prevent or mute the impact of events that are potentially stressful. While the harmful event has not yet occurred, it is part of the individual's imagination and coping is a response to this subjective reality.

There is a general consensus that coping is influenced by personality dispositions or traits and that some individuals may have particular coping styles, or patterns, in responding to different stressful situations (Costa, Somerfield, &

McCrae, 1996; Endler & Parker, 1990; Hewitt & Flett, 1996; Lazarus, 2006; Strack & Feifel, 1996). Correlations between personality and coping are modest. Although there is an association between both, coping is not simply a direct manifestation of personality under adverse conditions (Carver & Connor-Smith, 2010). Rather, personality dispositions interact with the situation in shaping perceptions of threat and loss. Specifically, personality is considered causally prior to the perception of stressors and dispositional coping (Connor-Smith & Flachsbart, 2007; McCrae & Costa, 1986). Thus, there is reason to suspect that aspects of personality influence assessments of coping dispositions. In fact, Connor-Smith and Flachsbart (2007) found personality to predict more strongly dispositional than situational coping.

A prominent personality dimension with respect to stress and coping is Neuroticism (N), that is, the disposition for heightened sensitivity to negative stimuli (Costa et al., 1996; Strack & Feifel, 1996). Research has found that N is associated with maladaptive coping dispositions (e.g., Costa et al., 1996; Hewitt & Flett, 1996; Vollrath & Torgersson, 2000). More specific, N is associated with the tendency to appraise events as highly threatening and coping resources as low (Carver & Connor-Smith, 2010).

> Because N involves intense emotional and physical responses to stress, it should be linked to attempts to minimize unpleasant arousal through disengagement strategies such as avoidance and withdrawal, through substance use, and through negative emotion-focused coping strategies, such as venting. (Connor-Smith & Flachsbart, 2007, pp. 1082–1083)

The choice of a coping strategy will usually vary with the adaptational significance and the degree of uncertainty or ambiguity of the (expected) situation. When conditions of stress are appraised as uncontrollable and unchangeable, emotion-focused coping and escape will predominate (Lazarus, 2006, p. 121; Perrez & Reicherts, 1992, p. 33). Findings on a gender difference are inconsistent. In general, men manifest more avoidant and women more vigilant coping (Krohne et al., 1992; Miller & Kirsch, 1987; Weidner & Collins, 1993). However, Endler and Parker (1990) in their Multidimensional Coping Inventory found women to score higher than men on the Emotion and Avoidance coping scales.

From the above review of the literature, the expectation may be derived that as a result of the vagueness, ambiguity, uncontrollability, and unchangeability of both the dying process and the loss of life, anxiety with respect to dying and death will be mainly associated with disengagement (avoidance) and accommodative (emotion-focused) coping. Problem-focused coping, that is, attempts to change the environment, is not expected to be linked to fears concerning dying and death. However, engagement coping (vigilance) may occur if its strategies facilitate the individual's cognitive accommodation to the prospect of dying and eventually being dead one day. An attitude of acceptance toward dying and

death is expected to be associated with cognitive engagement and accommodative coping.

Attitudes Toward Dying and Death

The concept of attitudes is one of the master concepts in the field of dying, death, and bereavement (Corr & Doka, 2001; see Neimeyer, Wittkowski, & Moser, 2004, for an overview). In general, by holding an attitude, the individual has an indirect (i.e., imagined and anticipated) relationship with a certain object or idea which in turn stimulates his or her feelings and behavior in a particular situation. For decades of thanatological research, the fear of dying and death and its associated defenses occupied the interest of researchers and practitioners while an attitude of acceptance was deemphasized (Tomer & Eliason, 2008). Only recently has acceptance been brought to the general attention in the field (Neimeyer et al., 2004; Wong, 2008). Within both the domain of anxiety and the domain of acceptance, a multidimensional conceptualization is crucial. Both attitudinal domains have more or less independent facets, respectively. With respect to anxiety, this is illustrated, for example, by Victor Florian's tridimensional model of the fear of personal death which deals with the intrapersonal, the interpersonal, and the transpersonal meaning that people may attribute to their own death (Mikulincer & Florian, 2008). Looking at acceptance, a multidimensional conceptualization has been introduced by Wong and his associates (Gesser, Wong, & Reker, 1987–1988; Wong, Reker, & Gesser, 1994), namely, approach acceptance, escape acceptance, and neutral acceptance.

Instruments for the Assessment of Coping With the Prospect of Mortality

There is virtually no instrument for the assessment of coping with the prospect of one's own and/or significant others' mortality. The Threat Index (Krieger, Epting, & Hays, 1979; Krieger, Epting, & Leitner, 1974; see Neimeyer, 1994) measures a kind of apprehension that results from differences in the individual's descriptions of his or her own self and death. Although bearing the key word in its title, Bugen's (1980–1981) Coping with Death Scale is a measure of death competency, which is defined as "perceived self-efficacy in confronting death" (Robbins, 1994, p. 151). A look at the items shows that the scale is not designed to assess people's ability to come to terms with the stress that is caused by the awareness of one's finitude. The Avoidance of the Ontological Confrontation of Death Scale (Thauberger, 1974; Thauberger, Cleland, & Thauberger, 1979) does not assess specific coping strategies while considering dying and death, rather it seems to touch a concept like repression–sensitization (Byrne, 1964). Finally, the Denial Questionnaire (Westman, Canter, & Boitos, 1984) addresses a more or less positive attitude toward dying and death that shows reminiscence of

acceptance. Denial is inferred from the discrepancy between the fear of one's own dying/death and the fear of dying/death in general; if the former is lower than the latter, denial is assumed to operate. In sum, the field does not provide any specific research instrument for the differentiated psychometric assessment of coping with the prospect of man's finitude.

Empirical Findings on the Relationship Between Coping Dispositions and Attitudes Toward Dying and Death

A review of findings on the relationship between coping and attitudes toward dying and death reveals unspecified coping including defensive mechanisms that is inferred through the interpretation of participants' responses and/or behavior (Chiappetta, Floyd, & McSeveny, 1976; Hui, Bond, & Ng, 2006–2007; Thauberger et al., 1977). In a larger portion of studies, single specific coping strategies have been found such as denial/avoidance (Demi, Moneyham, Sowell, & Cohen, 1997; McLennan, Akande, & Bates, 1993; Neimeyer, Behnke, & Reiss, 1983; Westman, 1992; Westman & Brackney, 1990; Westman et al., 1984), religious coping (Demi et al., 1997; Martz, 2004), maladaptive fantasies (Ho & Shiu, 1995), and emotion-focused coping (Mikulincer & Florian, 1995). An overriding conclusion from this research is that neither coping nor attitudes toward dying and death have been operationalized multidimensionally.

Scope of the Study

This study aims at exploring the relationships that exist between various coping strategies on one hand and a spectrum of attitudes toward dying and death on the other in a large sample of German adults. On both sides, habitual, trait-like characteristics that can be verbally communicated are the object of investigation. Detailed knowledge about these features of personality may have scientific and practical relevance. Following the general idea of the state-trait theory (Spielberger, 1966, 1975) and its empirical foundation, behavioral dispositions to a certain degree determine the actual behavior in a given situation. Thus, expanding our knowledge on the relationship between habitual coping strategies and attitudes toward dying and death might have an impact on our understanding of the behavior of individuals under life-threatening conditions such as suffering from a terminal illness.

Method

Participants and Procedure

The sample consists of 862 German adults (367 men and 495 women) ranging in age from 20 to 93 years ($M = 51.8$; $SD = 19.1$) and is stratified by age and sex.

Data collection was from Spring 1987 through Spring 1993. Using paper and pencil, participants responded voluntarily, anonymously, and without payment. They were recruited by asking undergraduate students of psychology to deliver the questionnaires to members of their extended families.

Materials

The Stress Coping Inventory. The Stress Coping Inventory (SVF; Janke, Erdmann, & Kallus, 1985; SVFe, Janke, Erdmann, & Weyers, in preparation) is a multidimensional self-report instrument for the assessment of habitual, that is, situation unspecific, ways of coping. Its use in research and practice is widespread, as documented by more than 250 papers listed in PSYNDEX, the database for the psychological literature (journal articles, books, dissertations, etc.) from the German-speaking countries, since 1977. In the German version at that time, it consisted of 114 items in 19 subtests with six items, each for the assessment of a separate coping strategy that is considered a stable personality trait (see Table 1). Factor analysis revealed two clusters of negative coping strategies with Subtests 14, 16, and 17 assessing Emotional Dismay, and Subtests 12, 13, and 15 measuring Draw Back and Resignation, as well as three clusters of positive or functional coping strategies, namely, Subtests 01 through 03 (cognitive coping by deevaluation, reevaluation, and defense), Subtests 04 through 06 (distraction from the stressor and turning toward positive situations or imaginations), and Subtests 07 through 09 (strategies to exercise control over the stressor and over the reactions to it).

Responding to the items of the SVF is made in the form of a sentence completion task. Each page of the questionnaire carries the headline "When I am disturbed, irritated, or upset by something or someone . . . "This stem of the sentence has to be completed by the items (e.g.," . . . I say to myself it's not as bad as all that"). A 5-point Likert-type scale was chosen as response format.

The Internal Consistency (Cronbach's α) of the subtests ranges from.76 to .92 with the exception of drug intake (DRU; $\alpha = .65$). Retest reliability for an interval of 4 weeks is between .70 and .85. There is substantial evidence for the construct, divergent, convergent, and differential validity of the SVFe (Erdmann & Janke, 2008). Social desirability has proved to have no influence on those subtests that assess positive coping strategies. In contrast, with respect to those subtests that measure negative coping, some distortion may have an effect.

Empirical findings show significant positive correlations between those subtests of the SVFe that assess dysfunctional coping on one hand and broad personality characteristics on the other, among others neuroticism, trait anxiety, and depression/sadness (Erdmann & Janke, 2008). Resignation, self-pity, and rumination are among those coping strategies with the highest coefficients.

Table 1. SVFe Subtests With Short Descriptions (From Janke, Erdmann, & Weyers, in preparation).

Subtest no.	Abbreviation	Subtest name	Description
01	MIN	Minimization	Devaluate intensity, duration or importance of stress
02	SAG	Self-aggrandizement	Attribute less stress to oneself as compared with others
03	DENGU	Denial of Guilt	Stress one's missing personal responsibility
04	DISTR	Distraction	Distract from stress related activities/situations or turn to stress incompatible actions
05	SUB	Substitute Gratification	Turn to positive activities/situations
06	SEAFFI	Search for Self-affirmation	Obtain for oneself success, acknowledgement, self-confirmation
07	SITCON	Situation Control	Analyze situations, plan actions, act for control and problem solving
08	RECON	Response Control	Bring or keep one's own reactions under control
09	POSI	Positive Self-instructions	Encourage oneself competence and the ability to control
10	SOCSUP	Need for Social Support	Look out for somebody to talk to, for social support and help
11	AVOID	Avoidance	Resolve to prevent or avoid stressful situations
12	ESC	Escape	(Resignative) tendency to escape
13	SOWI	Social Withdrawal	Retreat from others
14	RUMI	Rumination	Ruminate, not being able to break off from one's thoughts
15	RES	Resignation	Give up with feeling of helplessness, hopelessness
16	SEPITY	Self-pity	Pity oneself with a jealous (aggressive) connotation
17	SEBLA	Self-blame	Attribute stress to one's own mistakes
18	AGG	Aggression	React in an irritated, angry, aggressive way
19	DRU	Drug Intake	Take psychotropic drugs (drugs, alcohol, nicotine)

The Multidimensional Orientation Toward Dying and Death Inventory. The Multidimensional Orientation Toward Dying and Death Inventory (MODDI-F; Wittkowski, 2001) consists of 47 items in eight subscales as the result of factor analyses (principal components with orthogonal varimax rotation): (I) Fear of one's own dying (eight items); (II) Fear of one's own death (six items); (III) Fear of another person's dying (six items); (IV) Fear of another person's death (four items); (V) Fear of corpses (four items); (VI) Acceptance of one's own dying and death (eight items); (VII) Acceptance of another person's death (six items); (VIII) Rejection of one's own death (five items).

Thus, both the domain of fear and the domain of acceptance are assessed multidimensionally. The original German version of the MODDI-F (FIMEST-E; Wittkowski, 1996) has been constructed on the basis of a sample of $N = 944$, representing the general population (i.e., not primarily students) and being stratified for age and sex (age span: 18–93 years). The coefficients of internal consistency (Cronbach's α) range from .82 to .92 in the total sample with $M = .87$. There is evidence for the construct validity of the instrument. The influence of social desirability in the MODDI-F is small and to the most part neglectable in women, whereas it is manifest to a certain degree in men.

Results

After having examined the bivariate relationships between SVF variables and MODDI-F variables for asymmetric distributions by means of contingency tables (3×3 tables), product–moment correlations were computed. Table 2 presents the Pearson correlations between the 19 coping strategies and 8 aspects of the attitudes toward dying and death within the subsample of men. With the exception of Social Withdrawal, coping strategies of the two dysfunctional clusters show positive correlations with at least some aspects of the fear of dying and death including the fear of corpses ($r = .21$ to .31). Within the domain of fear, the fear of one's own dying and the fear of another person's death are those components that have positive relationships with all the negative coping strategies except Social Withdrawal. Looking at coping, Resignation and Self-pity are those strategies that generally correlate in a positive manner with all the dimensions of the fear of dying and death. Among the positive coping strategies, Distraction and Search for Self-affirmation are the only strategies that have a positive relationship with one of the aspects of the fear of dying and death, namely, the fear of one's own dying.

With respect to the acceptance domain, there are positive correlations between Situation Control, Response Control, and Positive Self-instruction on one hand and the Acceptance of one's own dying and death on the other ($r = .21$ to .26). Male participants who expressed a strong tendency to accept their own dying and death as a natural part of life also showed a tendency to control

Table 2. Product–moment Correlations Between SVFe and MODDI-F for the Subsample of Men ($N = 367$)—Coefficients $\geq .20$ Only.

	MODDI-F subtests							
SVFe subtests	FODy	FODe	FAPDy	FAPDe	FC	AODD	AAPDe	RODe
01 MIN								
02 SAG								
03 DENGU								
04 DISTR	.20							
05 SUB								
06 SEAFFI	.22							
07 SITCON						.26		
08 RECON						.21		
09 POSI						.26		
10 SOCSUP								
11 AVOID	.26			.22				
12 ESC	.29		.24	.21	.23			.23
13 SOWI								
14 RUMI	.26			.31			−.21	
15 RES	.26	.23	.27	.25	.26	−.28	−.27	.28
16 SEPITY	.29	.21	.28	.31	.25	−.20	−.30	.22
17 SEBLA	.22			.25				
18 AGG								
19 DRU	.21	.25	.20	.22	.20	−.27	−.27	.24

Abbreviations: FODy, Fear of one's own dying; FODe, Fear of one's own death; FAPDy, Fear of another person's dying; FAPDe, Fear of another person's death; FC, Fear of corpses; AODD, Acceptance of one's own dying and death; AAPDe, Acceptance of another person's death; RODe, Rejection of one's own death; MIN, Minimization; SAG, Self-aggrandizement; DENGU, Denial of Guilt; DISTR, Distraction; SUB, Substitute Gratification; SEAFFI, Search for Self-affirmation; SITCON, Situation Control; RECON, Response Control; POSI, Positive Self-instructions; SOCSUP, Need for Social Support; AVOID, Avoidance; ESC, Escape; SOWI, Social Withdrawal; RUMI, Rumination; RES, Resignation; SEPITY, Self-pity; SEBLA, Self-blame; AGG, Aggression; DRU, Drug Intake.
Note. 1% significance level (two-tailed) at $r = .14$.

stressful situations as well as their emotional reactions to them and to give themselves positive comments.

Furthermore, Table 2 depicts inverse relationships between the two dimensions of acceptance and dysfuntional coping strategies ($r = -.20$ to $r = -.30$). Resignation and Self-pity both covary inversely with Acceptance of one's own dying and death and the Acceptance of another person's death, respectively.

Those men who demonstrated an affinity to these coping strategies also expressed low degrees of acceptance. In addition, Rumination is negatively correlated with Acceptance of another person's death, only.

Similar to the various facets of the fear domain, the inner Rejection of one's own death shows positive relationships with some dysfunctional coping strategies, namely, with Escape, Rumination, and Self-pity ($r = .22$ to .28). For the men of the present sample, an inner revolt against the prospect of their own death (i.e., being dead some day) was accompanied by a tendency to escape, to give up, and to feel sorry for oneself in stressful situations.

Finally, Drug Intake shows relationships with both domains of the attitudes toward dying and death. For the domain of fear, the intake of alcohol, nicotine, or drugs goes along with intense fear of all aspects of dying and death ($r = .20$ to .25), whereas for the domain of acceptance, Drug Intake is accompanied by a low level of this attitude ($r = -.27$).

It seems noteworthy that the functional coping strategies Minimization, Self-aggrandizement, and Denial of Guilt do not show any correlations greater than $r = .20$ with the attitudes toward dying and death (i.e., fear and acceptance) and that the functional strategies Situation Control, Response Control, and Positive Self-instructions do not show any relationships greater than $r = .20$ with the dimensions of the fear domain. Overall, those coping strategies that are most consistently correlated with the various attitudes toward dying and death are Escape, Resignation, Self-pity, and Drug Intake.

Table 3 provides the Pearson correlations between the 19 coping strategies and eight dimensions of the attitudes toward dying and death for the subsample of women. In most respects, the picture is similar to that of the male subsample. This applies to the pattern of correlations between the SVF Subtests 12 to 17 and the MODDI-F subtests of the fear domain including the fear of corpses. It also applies to the pattern of correlations between the SVF Subtests 12 to 17 and the two dimensions of acceptance as well as the rejection of one's own death. Finally, it applies to the association between the positive coping strategies Response Control and Positive Self-instructions on one hand and Acceptance of one's own dying and death on the other. The results of the women differ in two features from those of the men. First, the female participants do not show any correlation above $r = .20$ between Drug Intake and the various dimensions of the attitudes toward dying and death. Second, in contrast to the men, a positive association between Aggression and four aspects of the fear of dying and death emerges ($r = .20$ to .25). Thus, only within the female subsample, intense fear of one's own as well as other persons' dying and death is accompanied by the tendency to aggressive behavior in stressful situations. A further discrepancy in the results of men and women refers to the fear of one's own dying. In contrast to the male subsample, the women do not show any correlations greater than $r = .20$ between the fear of one's own dying and Distraction, Self-affirmation, and Avoidance, respectively.

Table 3. Product–moment Correlations Between SVFe and MODDI-F for the Subsample of Women ($N = 495$)—Coefficients $\geq .20$ Only.

SVFe Subtests	MODDI-F subtests							
	FODy	FODe	FAPDy	FAPDe	FC	AODD	AAPDe	RODe
01 MIN								
02 SAG								
03 DENGU								
04 DISTR								
05 SUB								
06 SEAFFI								
07 SITCON								
08 RECON						.22		
09 POSI						.20		
10 SOCSUP								
11 AVOID								
12 ESC	.29	.22	.26	.24			−.26	.22
13 SOWI								
14 RUMI	.28			.28				
15 RES	.29	.22	.27	.29	.26	−.20	−.29	.23
16 SEPITY	.33	.28	.27	.29	.27		−.22	.25
17 SEBLA								
18 AGG	.25	.20	.20	.22			−.23	
19 DRU								

Abbreviations: FODy, Fear of one's own dying; FODe, Fear of one's own death; FAPDy, Fear of another person's dying; FAPDe, Fear of another person's death; FC, Fear of corpses; AODD, Acceptance of one's own dying and death; AAPDe, Acceptance of another person's death; RODe, Rejection of one's own death. MIN, Minimization; SAG, Self-aggrandizement; DENGU, Denial of Guilt; DISTR, Distraction; SUB, Substitute Gratification; SEAFFI, Search for Self-affirmation; SITCON, Situation Control; RECON, Response Control; POSI, Positive Self-instructions; SOCSUP, Need for Social Support; AVOID, Avoidance; ESC, Escape; SOWI, Social Withdrawal; RUMI, Rumination; RES, Resignation; SEPITY, Self-pity; SEBLA, Self-blame; AGG, Aggression; DRU, Drug Intake.
Note. 1% significance level (two-tailed) at $r = .12$.

In addition to these gender-specific results, Pearson correlations for the young age-group (20–39 years, $N = 289$) and for the old age-group (>65 years, $N = 219$) were calculated. In both age-groups, the general pattern of correlations is very similar to that reported above for men and women. A remarkable discrepancy exists, however, with respect to Aggression and Drug Intake. While there are no relationships greater than $r = .20$ between Aggression and the various dimensions of the fear of dying and death in the young adults, such relationships do

exist in the old adults ($r = .22$ to .30). In the old adults, there are no associations between Drug Intake and Acceptance of dying and death. In contrast, in the young adults Drug Intake shows inverse relationships with both components of an accepting attitude toward dying and death (AODD: $r = -.20$; AAPDe: $r = -.23$).

Furthermore, two remarkable findings emerge in the older age-group. Only those participants older than 65 years show a positive association between the fear of another person's death and a cluster of positive ways of coping such as Distraction, Substitute Gratification, and Search for Self-affirmation ($r = .21$ each). Finally, in the older age-group, the negative coping strategies of Emotional Dismay (SVF Subtests 14, 16, and 17) as well as Draw Back and Resignation (SVF Subtests 12, 13, and 15), as a tendency, show higher correlations with the fear of one's own dying and one's own death, respectively, than in the younger age-group ($r = .21$ to .40, $Mdn = .34$ vs. $r = .20$ to .24, $Mdn = .21$).

Discussion

The present results show correlation coefficients of small or at the most of moderate size, the amount of explained variance not exceeding 10%. However, this picture corresponds to that in stress and coping research in general (e.g., Carver & Connor-Smith, 2010; Connor-Smith & Flachsbart, 2007) where correlations between coping and personality traits are reported in the same range as those found in this study. Following these latter authors, one might conclude that thinking of the harmful outcome death and of the process leading to the harmful outcome, namely, dying, are low-grade chronic stressors that evoke few coping variability. As a consequence of large sample sizes, even low coefficients reach statistical significance. Therefore, significance of the correlations is not considered a reasonable basis for their interpretation. Rather, the following discussion focuses upon certain clusters of correlations and the direction of the associations (i.e., positive vs. negative).

For men and women alike, Emotional Dismay and Resignation (i.e., ruminating, expressing self-pity and self-blame, tendency to escape from the situation, retreating from others, giving up, and feeling helpless) show positive correlations with all aspects of the fear of dying and death and negative correlations with two components of an accepting attitude. Participants with a high level in this cluster of accommodative and disengagement coping strategies also expressed stronger fear and weaker acceptance of their own dying, their own death, and other persons' death, respectively. In addition, the coping strategies Escape, Rumination, and Self-pity each correlate positively with an attitude of nonacceptance of one's own death. Being strongly associated with the fear of one's own death (Wittkowski, 2001), this dimension addresses the tendency to rebel against one's finitude and to view one's eventual death as a foreign element or even a violent intrusion in one's life. For both genders, active coping such as

analyzing and solving the problem, controlling one's own emotional and behavioral reactions, reinforcing one's own competence is positively associated with acceptance of one's own death, not, however, with acceptance of other persons' death and also not with all aspects of the fear of dying and death.

In sum, these findings confirm the expectation that attitudes toward dying and death will be mainly associated with disengagement (i.e., avoidant) and accommodative (i.e., emotion focused) coping and they correspond to empirical data (Mikulincer & Florian, 1995). Although generally considered dysfunctional, in the context of dying and loss of life strategies of avoidance and disengagement, coping may facilitate adaptation since the stressor is uncontrollable (Krohne, 1996). Especially with reference to acceptance of dying and death, Wong's (2008) meaning management theory and its concept of an existential coping might deserve a differentiation. Why does active coping go along with acceptance of one's own death, not, however, with acceptance of other persons' death although both cannot be controlled? As a side effect, the positive correlations between disengagement coping as well as emotion-focused coping and fear on one hand and negative correlations between these ways of coping and acceptance on the other confirm the construct validity of the research instruments used.

In contrast to most studies on stress and coping, this study investigates relationships between coping and attitudes toward dying and death by operationalizing both realms of variables as trait-like characteristics. Therefore, a state-like *outcome* of coping efforts cannot be inferred from the results. Rather, we are dealing with two personality variables that may be confounded with and influenced by one or more additional personality variables. A prominent personality variable with relevance in the present context is neuroticism, that is, heightened sensitivity to negative stimuli and an increased amount of personality disorders (Erdmann & Janke, 2008; Eysenck, 1982). Dysfunctional coping strategies on one side and strong fears of dying and death on the other may have a common source in high stress vulnerability. What is emerging here is a syndrome of poor mental health and psychological maladjustment with maladaptive coping strategies, strong fears concerning dying and death, and neuroticism as its symptoms (cf. Folkman & Moskowitz, 2004). It seems reasonable to argue, therefore, that there are two kinds of people: those with a high amount of neuroticism who show negative coping strategies as well as strong fears of various aspects of dying and death and those emotionally stable individuals who habitually use positive coping strategies and express comparatively weak fear of dying and death. In line with the results of the Baltimore Longitudinal Study of Aging (Costa et al., 1996) as well as reviews of the literature (e.g., Carver & Scheier, 1994), the prospect of dying and death can be seen as one of the many threats that individuals high in neuroticism cope with badly. In the words of McCrae and Costa (1986, p. 401): "Well-adjusted individuals use certain styles of coping, and at the same time are temperamentally happy and satisfied with life;

maladjusted people use other ways of coping and are generally unhappy." In this view, "mental health" is the overarching (or underlying) construct that comprises the variables under investigation (cf., Kastenbaum, 2000, p. 129).

Causal relationships can be discussed by referring to models of the joined influence of personality and coping on adjustment. Following the model of mediated moderation (Bolger & Zuckerman, 1995), neuroticism influences both the selection and the effectiveness of coping with the threat of dying and death. In a similar way, the interactive model discussed by Hewitt and Flett (1996) indicates that neuroticism interacts with dysfunctional coping strategies to produce or maintain a high degree of fear toward dying and death. The model of the coping process proposed by Moos and Holahan (2003) posits that ongoing environmental factors (i.e., the prospect of finitude) and personal factors such as neuroticism foreshadow transitory conditions (i.e., mood) and that these three sets of factors shape cognitive appraisal and specific coping responses and, in turn, individuals' health and well-being.

Surprisingly, cognitive coping by Minimization, Self-aggrandizement, and Denial of Guilt (SVF Subtests 01 through 03) that might be especially suitable in view of the unchangeability and uncontrollability of dying and losing life and which are expected to be positively associated with the Acceptance domain does not show any association with attitudes toward dying and death in both genders and only very few correlations in the young and old age-group. As there are correlations between the various components of the attitudes toward dying and death and other ways of coping which require at least some variation in the expression of these attitudes, it seems reasonable to assume that the participants of the present sample did uniformly not use cognitive or appraisal-focused coping sensu Schaefer and Moos (1992) in response to their mortality awareness. This is contrary to the expectation that acceptance of dying and death is associated with cognitive engagement accommodative coping. An explanation for this ineffective psychological function in the face of death has still to be found.

In the present results, remarkable gender and age differences emerge. In men and also in the young age-group, Drug Intake is positively correlated with all components of the fear of dying and death including the fear of corpses and negatively correlated with an accepting attitude toward dying and death. This corresponds with Krohne's (1996, p. 401) assertion that in general men are prone to avoidant coping. In addition, people who report a dispositional tendency to use alcohol as a means of coping are in poorer psychological shape than people who do not do so (Carver & Scheier, 1994, p. 193). The meta-analysis by Connor-Smith and Flachsbart (2007) revealed a moderate positive association between the use of drugs and alcohol as a coping strategy and neuroticism.

In contrast, in women as well as in older adults, there is no association between Drug Intake and any aspect of the attitude toward dying and death, while positive correlations between Aggression and four components of the fear of dying and death exist. In other words, men and younger individuals who

express strong fears toward their own dying, their own death, other persons' dying, and other persons' death report the tendency to take drugs, whereas women and older persons with strong fears toward dying and death express a tendency toward aggressive behavior. This finding is surprising and not easy to explain. The tendency to aggressive feelings and behaviors may be a useful way of coping with an immediate threat that seems principally not changeable. As a way of coming to terms with the latent and enduring awareness of finitude in connection with the uncontrollability at least of death its usefulness may be questioned, however. The association of both Drug Intake and aggression as a coping strategy with attitudes toward dying and death seems to be governed by a complex interaction of gender and age that deserves further exploration. It should be the task of future research to explore the psychological function of aggression as a coping strategy especially in women in more detail.

The differential assessment of coping on one hand and of attitudes toward dying and death on the other gave rise to findings of a high degree of resolution. The accommodative coping strategies Distraction and Self-affirmation are positively associated solely with the fear of one's own dying and in men, only. Furthermore, positive ways of coping such as Distraction, Substitute Gratification, and Search for Self-affirmation show positive relationships with the fear of another person's death in the older subsample, only. This latter finding may be the consequence of the individual's position within the life span. Young adults of 20 to 39 years usually are not exposed to severe and multiple losses of significant others in the same amount as older adults are. Thus, there is no covariation between coping and the fear of another person's death simply because there is no such threat and therefore no need to come to terms with it. Those individuals, in contrast, who are actually experiencing and/or anticipating losses, the old ones, use functional ways of coping that facilitate their accommodation to this unavoidable threat.

Within a specifically thanatological frame of reference, the present findings are not in line with TMT and its assumption of a permanent defense against the threat of annihilation. As Taylor (1979–1980) points out, "[t]he belief that attitudes toward death serve a defensive function is so ubiquitous in the literature that it has gained the status of an unquestioned assumption" (pp. 277–278). If repression, denial, or other strong defense mechanisms would be as effective as proposed by TMT, there should be no variation in the fears of dying and death and consequently zero correlations with coping which is obviously not the case. Instead of focusing at a few defense mechanisms, this study opens the door for the examination of a variety of styles of adapting to mortality awareness and for relating them to other personality variables.

A major limitation of this study is the possible confounding of variables. Correlational research of psychological processes is principally prone to some degree of circularity, especially if personality measures are contaminated by the content of the criterion they are intended to predict (Lazarus, De Longis,

Folkman, & Gruen, 1985; Nichols, Licht, & Pearl, 1982). According to McCrae and Costa (1986), this problem is at least in part unavoidable in studies of personality, coping, and adjustment. "Because personality influences stress exposure, reactivity, and appraisals, it is impossible to disentangle the effects of personality on coping from the effects of stress on coping with cross-sectional studies of dispositional coping" (Connor-Smith & Flachsbart, 2007, p. 1100). In addition, the present data all relied on self-report questionnaires which may have inflated the correlations due to common method variance. Therefore, one has to keep in mind that the present results are preliminary and replication in different kinds of samples and with different instruments is required.

Investigating attitudes toward dying and death in the conceptual context of stress and coping research raises unresolved questions and issues for future research. (a) What kind of threat is experienced by a healthy individual when thinking of dying and death: ego-threat or physical threat or a composition of both? (b) McCrae and Costa (1986, p. 387) discern chronic illness, job disruption, and marital problems as particular kinds of stressors. What would be the place of the awareness of one's finitude and eventually losing life within this systematization? (c) Can the concomitant awareness of dying and death be conceptualized as an *event* or a *situation*? If not, how else should it be conceptualized? (d) What is *environment* with respect to the prospect of finitude? (e) What could a *coping-environment fit* (Folkman & Moskowitz, 2004) or alternatively the idea of a match of coping efforts with situational demands (Moos & Holahan, 2003) look like in the present context? Would *environment* correspond to *life*? (f) Can coping with the lifelong awareness of the finitude of life be considered future-oriented, proactive coping? (g) In what way does coping with the prospect of dying and death change over decades? (h) What should be chosen as unit of analysis in the present context: A situation, a stressful episode? How should these be defined with respect to an enduring threat like dying and losing life? (i) In what way can the behavior rules approach (Reicherts & Perrez, 1992) which is based on the linking of situation characteristics with theoretically derived ways of coping with respect to a specific goal be applied to coping with the latent awareness of dying and death? Answers to these predominantly conceptual questions could build a bridge between specifically thanatological research to stress and anxiety research.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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