

On graves and graven images: A terror management analysis of the psychological functions of art

Mark J. Landau and Daniel Sullivan
University of Kansas, Lawrence, KS, USA

Sheldon Solomon
Skidmore College, Saratoga Springs, NY, USA

We present an existential account of the psychological function of artistic activity derived from terror management theory. From this perspective, artistic creation and response alleviate concerns with mortality by affording opportunities to bolster cultural belief systems that provide death-transcending meaning and significance. We review research showing that reminders of mortality exaggerate people's responses (positive and negative) to artworks that bear on their conceptions of death, cultural ideologies and symbols, and bases of meaning. We also review research on the interplay between the motives for terror management and creative self-expression. We compare a TMT analysis to alternative accounts of art's function derived from uncertainty management theory (e.g., van den Bos, 2009) and the meaning maintenance model (Heine, Proulx, & Vohs, 2006). We conclude by recommending that future research examine whether immersive aesthetic engagement is psychologically beneficial because it provides temporary relief from the awareness of death.

The refusal to believe in the finality of death made the pyramids rise from the sand ... If the word 'death' were absent from our vocabulary, the great works of literature would have remained unwritten.

Arthur Koestler (1978, p. 18)

Along with language and religion, a defining characteristic of our species is the capacity to create and respond to art. Following influential analyses of art (e.g., Freeland, 2001), we adopt Anderson's (1990) definition of art as "culturally significant meaning, skillfully encoded in an affecting, sensuous

Correspondence should be addressed to Mark Landau PhD, Assistant Professor, Department of Psychology, University of Kansas, 1415 Jayhawk Blvd. Rm 527, Lawrence, Kansas 66045-7556, USA. E-mail: mjlandau@ku.edu

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<http://www.psypress.com/ersp>

DOI: 10.1080/10463283.2010.513266

medium" (p. 238). Beginning with intricately carved pendants in Cro-Magnon burial sites, the tendency to make and respond to one or usually more of what are called the arts—sculpting, dancing, musical performance, dramatising, image making, and the adornment of bodies and living spaces with decorated artefacts—is found universally in every human group that exists today, or is known to have existed (Dissanayake, 1995; Donald, 1991; Mithen, 1996; Tattersall, 1998).

Artistic activity is integral to diverse aspects of social life, including rituals to ensure success in group ventures, rites of passage, recognition of seasonal changes, and memorial occasions (Dissanayake, 1990). It also demands enormous effort and resources. As Tolstoy (1898/1995, pp. 3, 4, 9) put it:

Hundreds of thousands of workers – carpenters, masons, painters, joiners, paper-hangers, tailors, hairdressers, jewelers, bronze founders, typesetters – spend their whole lives in hard labor to satisfy the demands of art ... Hundreds of thousands of people devote their entire lives to learning how to twirl their legs very quickly (dancers), to learning how to finger keys or strings very quickly (musicians) ... every ballet, circus, opera, operetta, exhibition, painting, concert, printing of a book, requires the intense effort of thousands and thousands of people, working forcedly at what are often harmful and humiliating tasks.

The fact that people in every known culture have invested considerable time, effort, and emotion in artistic activity suggests that it is not an occasional or incidental occupation; rather, it is central to the lives of individuals and societies. Indeed, many of the ideological founders of social psychology—including John Dewey (1934) and Fritz Heider (1958)—argued that people's engagement with art was a critical subject that warranted rigorous psychological study. These theorists began, as we do, with a basic question: What is art *for*? What does artistic activity do for people that accounts for its integral role in social life? While there is substantial evidence that language is an important evolutionary adaptation, and social psychological research has increasingly explored the motives that drive religious belief and practice (Sedikides, 2010), social psychology lacks a broad and empirically useful account of the motivational underpinnings of artistic activity.

In this chapter we present an account of art's psychological function derived from terror management theory (TMT; Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 2004). According to the theory, people avert the potential anxiety engendered by the awareness of mortality by subscribing to cultural worldviews, which afford opportunities to view one's life as valuable and persisting in some way after physical death. From this perspective, artistic creation and response serve to buffer death anxiety by transforming the meaning of death to make it less threatening, representing cultural beliefs and icons, and offering experiences that temporarily alleviate individuals' awareness of themselves as finite creatures.

In the following sections we elaborate on these points and review empirical evidence for the role of terror management processes in multiple aspects of artistic creation and response. We also argue that TMT offers a more coherent, empirically substantiated, and generative account of art's significance in human affairs compared to accounts derived from other theoretical perspectives on existential motivation.

TERROR MANAGEMENT THEORY

TMT is inspired by cultural anthropologist Ernest Becker's (1971, 1973) efforts to synthesise insights from biology, philosophy, and the social sciences into an interdisciplinary analysis of human motivation. Becker observed that although humans share with all other forms of life a biological predisposition towards continued existence in the service of survival and reproduction, they possess a unique symbolic intelligence that enables them to conceive of their existence in the abstract, ponder the past, and imagine possible future outcomes. As a byproduct of these otherwise adaptive cognitive faculties, people are aware that their death is always potentially imminent, likely to occur for reasons beyond their control, and ultimately inevitable.

Becker and TMT posit that the awareness of mortality conflicts with survival goals and thus creates the potential to experience severe anxiety, or *terror*. To buffer themselves from threatening death-related ideation and avoid the experience of terror, people invest in two interrelated psychological structures. The first is a *cultural worldview*: a set of socially constructed beliefs about reality that provides a meaningful account of the origin and nature of the universe, a set of principles by which to live, and the promise of immortality (either literal or symbolic) to socially valued individuals. The second structure is *self-esteem*: the perception that one is a valuable contributor to something larger, more meaningful, and longer lasting than mere animal existence. Thus Christians adhere to the ten commandments to gain entrance to heaven (literal immortality), academics follow the "publish or perish" maxim hoping to leave some trace of their existence on dusty bookshelves (symbolic immortality), parents "live on" through their children, and so forth. However, because these systems of meaning and personal value are fragile symbolic constructions, people must continually strive to buttress the validity of their cultural worldview, and live up to culturally derived standards of value, to avoid the threatening awareness that death may signal the absolute end of their existence.

Over 350 experiments conducted by independent researchers in 13 countries have produced findings in accord with hypotheses derived from TMT (for reviews of this work, see Burke, Martens, & Faucher, 2010; Greenberg, Solomon, & Arndt, 2008). Most of this research tests variations

of the *mortality salience hypothesis*, which states that if cultural worldviews and the personal significance they afford function to protect individuals against mortality concerns, then asking people to think about their own death should increase their need for this symbolic protection, and consequently should provoke judgements and behaviours that affirm their worldview and culturally derived bases of self-esteem.

In a typical experiment, participants entering the lab are asked to complete a packet of questionnaires as part of an ostensible personality assessment. The mortality salience manipulation follows standard personality inventories that are included to support the cover story. Participants in the mortality salience condition answer two open-ended questions: "Please briefly describe the emotions that the thought of your own death arouse in you", and "Jot down, as specifically as you can, what you think will happen to you as you physically die". Participants in control conditions answer parallel questions about other topics. Participants are then given an opportunity either to assert their self-worth, or to evaluate objects, people, or ideas that support or contradict their cultural worldviews.

For example, Greenberg et al. (1990, Study 1) had Christian participants rate Christian and Jewish targets (who were portrayed as quite similar except for religious background) after a mortality salience or control induction. In the control condition there were no differences in participants' evaluations of the targets; however, mortality salience increased affection for the fellow Christian target and exaggerated hostility towards the Jewish target. In a follow-up experiment (Greenberg et al., 1990, Study 3), American college students primed with mortality or a control topic evaluated essays supposedly written by an American author who either praised or condemned the American way of life. Participants rated the author of the pro-US essay more favourably than the author of the anti-US essay in the control condition; however, in response to mortality salience this tendency was exaggerated in both directions (i.e., more positive and negative reactions to pro- and anti-US authors, respectively).

The general tenor of these and conceptually related studies is that mortality salience increases conformity to and defence of the cultural worldview to which the individual subscribes. A substantial amount of research on the parameters and cognitive processes associated with mortality salience supports the unique role of mortality concerns in mortality salience effects (see Pyszczynski, Greenberg, Solomon, & Maxfield, 2006). Mortality salience has been manipulated in a variety of ways (e.g., explicit death reminders followed by a delay, subliminal primes of the word "death") and has been compared with the salience of a variety of topics that are anxiety provoking (e.g., pain, paralysis), future oriented (e.g., upcoming events), self-relevant (e.g., embarrassment, social exclusion, uncertainty), and existential in nature (e.g., meaninglessness). Mortality

salience-induced worldview adherence is not caused by heightened self-awareness or high cognitive load (e.g., Greenberg et al., 1995a).

Hundreds of studies show that mortality salience inductions do not influence subjective mood (positive or negative) and that the effects of mortality salience on defensive responses remain intact after statistically controlling for variations in mood and affect. These effects are caused by an increase in the accessibility of death-related ideation outside of current focal attention, which signals a heightened *potential* for anxiety, but not the subjective experience of anxiety or "terror" (Greenberg et al., 2003).

Specifically, research shows that an increase in the accessibility of death-related ideation, and not ideation related to aversive outcomes other than death, is the necessary and sufficient condition for mortality salience to elicit worldview defence and self-esteem striving (for a review of this work, see Hayes, Schimel, Arndt, & Faucher, 2010). Both supraliminal and subliminal inductions of mortality salience heighten the accessibility of death-related thoughts (e.g., Arndt, Greenberg, Pyszczynski, & Solomon, 1997a; Jonas & Fischer, 2006); the opportunity to affirm meaning- and value-conferring constructs following a mortality salience prime reduces death thought accessibility back to baseline levels. For example, reminding intrinsically religious people of their religiosity, allowing people to denigrate an essay criticising their country, providing positive personality feedback, and having people think of valued close relationships all reduce mortality salience-heightened death thought accessibility and mortality salience-induced defensiveness (e.g., Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997b; Greenberg, Arndt, Schimel, Pyszczynski, & Solomon, 2001; Harmon-Jones et al., 1997; Jonas & Fischer, 2006; Schimel, Hayes, Williams, & Jahrig, 2007); the effects of stimuli that prime thoughts of death on worldview defence and self-esteem striving are statistically mediated by death thought accessibility (Vail, Vess, & Arndt, 2010); and finally, variables that mitigate mortality salience effects on such defences do so by reducing death thought accessibility (Cohen, Sullivan, Solomon, Greenberg, & Ogilvie, in press).

Taken together, these findings make a strong case that the effects of mortality salience on increasing defensive responses are specifically due to the salience of death-related concerns. Additionally, a substantial body of work demonstrates a specific sequence of cognitive events underlying the effects of explicit death reminders, involving initial proximal defences (e.g., denial of vulnerability, intentions to live more healthily) followed by quite different distal reactions (worldview defence and self-esteem striving; reviews of this work are found in Arndt, Cook, & Routledge, 2004a; Pyszczynski, Greenberg, & Solomon, 1999).

It is important to note that the defensive responses to death-related ideation observed in TMT research are neither directly nor logically

connected to the problem of death. That is, faith in a cultural worldview and self-esteem do not reduce one's vulnerability to death or increase physical longevity in any literal sense. What they do offer, according to TMT, is a symbolic defence against the awareness of mortality by affording opportunities to view one's life or legacy as persisting in some significant way after death. From a TMT standpoint, art functions in large part to buffer mortality concerns by bolstering faith in the socially shared systems of meaning and personal value that imbue life with death-transcending significance. Below we review research findings in accord with this perspective. In the Conclusion section we speculate that art may also buffer mortality concerns by transforming the individual's normal consciousness of self and time.

A note on explanatory scope

Before turning to the research literature, it will be helpful to specify what a TMT account should and should not be expected to accomplish, and what benefits it offers to students of psychology in general or art in particular. As a theory of the function of both self-esteem and culture, TMT is broad in scope, and has indeed been applied to explain a wide range of social phenomena, including prejudice, close relationships, and legal decision making, to name just a few. We can thus expect a TMT account of art to encompass many diverse aspects of artistic activity, including the psychology of artist and audience, positive and negative responses to art of all types, and the creative process. Of course, our account should be evaluated primarily for its internal coherence and ability to generate novel hypotheses that are supported by empirical research. However, insofar as these criteria are adequately met, TMT's breadth provides a definite advantage for the investigator interested in examining multiple aspects of artistic activity, compared to perspectives that focus more specifically on a limited range of art's sociological, anthropological, or economic functions.

With that said, a TMT account does not aspire to explain all aspects of art, nor even to explain certain aspects as well as other, more specialised perspectives. To give one obvious example, as the above quote from Tolstoy suggests, there are socioeconomic aspects of art, such as the budgets allotted different motion pictures or the funding of art museums, which TMT (and indeed most psychological theories) would fail to explain in much detail (see Koerner & Rausing, 2003). Also beyond our current scope are those factors influencing the development and reception of specific artworks in any given historical-cultural context, and the waxing and waning of themes (including death and mortality) in art across cultures and time. And we certainly align ourselves with Berlyne's (1972) view that a useful empirical approach to art should refrain from evaluative judgements, i.e., from commenting on what

works should be considered “good” as opposed to “bad” art. We believe that TMT’s inability to explain all facets of a particular artwork or art movement will be offset by its ability to provide an overarching, empirically substantiated, and generative account of the psychological motivations that influence artistic activity.

It is important to note that theories differ in the relative exclusivity of their definitions regarding which cultural objects and activities qualify as “art”. A long-standing tradition in Western aesthetics (rooted in theories of beauty such as Kant’s, 1790/1987) defines art narrowly as those objects or performances that are valued solely on the basis of their ability to provide a pleasurable and edifying experience that serves no ulterior purpose. On this account, art is properly distinguished from artefacts (e.g., masks designed for a fertility ritual) that seem designed to serve some purpose other than pure aesthetic enjoyment. In contrast to this “art for art’s sake” view, some theorists (e.g., Geertz, 1983) argue that cultural artefacts possessing clear functional properties beyond aesthetic value, such as ornate pieces of furniture, can nevertheless convey culturally significant meanings and thus qualify as art.

For our current purposes, not all cultural artefacts should be considered art. Anderson’s (1990) definition, which we adopt, specifies that art encodes cultural meanings in a *sensuous medium*. In keeping with this definition we focus our review on studies that examine how people respond to and create artefacts that convey culturally significant meaning through media that are widely recognised as artistic media: painting, film, literature, and image design. Thus we will not discuss terror management research focusing on people’s engagement with cultural artefacts that are not rendered in artistic media, such as consumer products. Readers interested in this work are referred to Greenberg, Simon, Porteus, Pyszczynski, and Solomon (1995b) and Arndt, Solomon, Kasser, and Sheldon (2004b).

TERROR MANAGEMENT AND POSITIVE RESPONSES TO ART

One way that art functions to manage mortality concerns is by allowing individuals to come to terms with mortality through cathartic experiences that make death seem to be more than a brute biological fact. Tragedy—one of the most common artistic genres since the dramas of Ancient Greece—seems particularly well suited to allow individuals to vicariously confront the experience of mortality in a safe context (Ariés, 1981; Gonzalez-Crussi, 1993). While experiencing tragic art (which often contains themes of death and bereavement), people are exposed to the idea of death as part of the meaningful framework of a narrative, and emerge from the experience unscathed.

Building on these ideas, Goldenberg and colleagues (1999) empirically assessed the role of mortality concerns in the experience of tragic content in art. Mortality salience was manipulated by asking participants to respond in writing to two open-ended items about the imagined experience of death (the same induction used in the Greenberg et al., 1990, studies described above; participants in the control condition responded to parallel questions about the neutral experience of watching television). Following the mortality salience manipulation, participants evaluated a tragic passage on the topic of mortality from Ernest Hemingway’s novel *A Farewell to Arms* (1929) as well as a neutral passage with no mention of mortality from Hemingway’s *The Sun Also Rises* (1929; the passages were counterbalanced, and pre-tested by a separate group of participants, who rated the *Farewell* excerpt as significantly more tragic than the *Sun* excerpt). After reading each passage, participants were asked to rate their emotional response to the passage (“How touched were you by the story?”, “How much feeling was aroused by the story?”) and their enjoyment of the passage (“How much did you appreciate the story?”, “How much did you enjoy the story?”; responses were made on 1–7 scales).

The results (presented in Figure 1) revealed a main effect of story type, such that participants preferred the tragic story overall, qualified by an interaction with mortality salience. Mortality salient participants were significantly more emotionally responsive to the tragic excerpt, whereas mortality salience did not significantly affect responses to the neutral passage. Furthermore, mortality salient participants expressed significantly

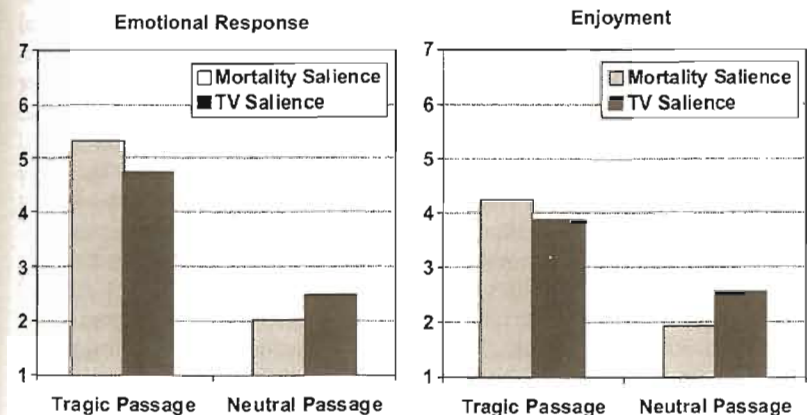


Figure 1. Emotional response to and enjoyment of tragic and neutral literary passages as a function of mortality salience (Goldenberg et al., 1999). Higher scores indicate greater emotional response and enjoyment. Scale ranged from 1 to 7.

less enjoyment of the neutral passage, and a trend towards greater enjoyment of the tragic passage. These findings suggest that concerns with death enhance engagement with tragic (as opposed to non-tragic) art. From the present perspective, we believe that this is because tragic art provides a culturally sanctioned, cathartic but safe encounter with the idea of death.

Of course, art allows safe contemplation of multiple aversive outcomes, ranging beyond the reality of death. Nevertheless, the theme of death has occupied an especially prominent place in art since its inception. Death has been a major theme of all art forms from the earliest known works of literature—such as the ancient Mesopotamian epic of Gilgamesh, which chronicles its hero's quest for eternal life—to the blockbusters of the twenty-first century (Hankiss, 2001). Also, artistic representations of death figure prominently in ceremonial rituals and celebrations such as Halloween and The Day of the Dead (El Día de los Muertos). In these contexts, art forms such as image making and dance are used to transform the meaning of death from an abstract and unpredictable eventuality into stylised images (e.g., skeletons) and anthropomorphised agents (e.g., Grim Reaper), thereby allowing people to “act out” a confrontation with death without triggering the fear engendered by the awareness of their actual impending death (Gonzalez-Crussi, 1993). Although art can offer a vicarious window into any number of trying human experiences—such as depression, madness, betrayal, and drug addiction—death themes in art are historically and cross-culturally ubiquitous (de Pascale, 2009), suggesting that artworks that transform the meaning of death have a unique psychological importance.

In addition to affording vicarious confrontations with death, art facilitates terror management by lending concrete form to the cultural worldview and thereby bolstering faith in its validity. As noted above, cultural worldviews portray the world as having a stable, predictable order within which one can confidently establish a sense of death transcendence. However, worldviews are abstract, symbolic, and thus fragile social constructions, in constant need of reinforcement from others who share one's beliefs, and under constant ideological threat from those who do not (Berger & Luckmann, 1967).

Otto Rank (1932/1998) was among the first to note that engagements with art afford opportunities to give tangible form to abstract cultural ideologies. For example, certain paintings completed during the time of the European Renaissance (e.g., Michelangelo's Sistine Chapel ceiling) were widely praised for their ability to vividly depict otherwise abstract or elusive aspects of Christian ideology, such as Christ's majesty, and thereby support comprehension of and participation in that ideology. Similarly, if early colonisers had asked native Papua New Guineans how they felt secure living in a world that (they believed) was populated by spirits, the natives would

doubtless have pointed to their elaborate ritual masks designed to navigate the spirit world (Corbin, 1998).

Insofar as artworks give concrete form to the culturally derived beliefs and group identities that protect individuals against mortality concerns, then reverence for artwork representing central aspects of the cultural worldview should be exaggerated when mortality is made salient. Research assessing this possibility has examined people's reactions to artistic depictions of culturally iconic individuals. Beginning with the Egyptians and continuing to the present day, cultures have used art as a forum for representing in an enduring medium those individuals who are held up as embodiments of virtue and lasting significance (Hauser, 1951; Rank, 1932/1998). Consequently, TMT would suggest that mortality reminders will increase people's attraction to art that exalts those iconic individuals.

In one study assessing this claim, Landau (2010) hypothesised that mortality salience would increase American participants' preference for art depicting American icons. Participants were first asked to respond in writing to two open-ended items about either their own mortality or aversive feelings of personal uncertainty. Then they viewed paintings on a computer screen at their own pace. The paintings were matched on size, colour intensity, and other formal qualities. Critically, though, half depicted American icons (e.g., Emanuel Leutze's *George Washington Crossing the Delaware*, Andy Warhol's *Superman*), while the others depicted either anonymous individuals (e.g., Manet's *Bar at the Folies-Bergère*) or widely recognised individuals who are not considered American icons (e.g., Warhol's *Chairman Mao*; da Vinci's *Mona Lisa*). Afterward, the paintings were presented again and participants were instructed to rate (on a continuous scale) the familiarity of the individuals depicted in the paintings.

As predicted, mortality salient participants spent almost twice the amount of time looking at paintings representing icons of the American worldview compared to participants in the uncertainty salience condition, whereas mortality salience had no effect on participants' attraction to paintings depicting individuals who are not icons of the American worldview. To ensure that this effect was not simply due to a mortality salience-induced preference for familiar stimuli, Landau (2010) conducted an analysis of covariance with the familiarity ratings as a covariate and the primary predicted effect remained statistically significant. Thus, this finding was not caused by a difference in preference for familiarity between the mortality salience and uncertainty salience conditions.

Additional evidence comes from TMT research on reactions to “celebrity art”. Celebrities are not only represented in art; they often take it upon themselves to produce visual art, even if this sort of creation is in no way related to the area in which they have made their name. Such celebrity “side-projects” are seldom taken very seriously, due to a general assumption that

the works receive attention based on their creator's status rather than their own merit (Knode, 2007). We would therefore expect people to judge an artwork less favourably if they believe it to be the work of a non-artist-celebrity rather than a professional artist.

TMT offers a different way to think about this phenomenon. It suggests that celebrities are valued representatives of the cultural worldview. This analysis yields a testable hypothesis: Mortality salience should increase the appeal of works that reinforce the specialness of celebrities, even in the oft-ridiculed domain of celebrity-created art. In a study testing this hypothesis, Greenberg, Kosloff, Solomon, Cohen, and Landau (2009) had participants complete two open-ended items about either death or aversive feelings of meaninglessness, and then rate the skill and creativity of abstract paintings attributed to either an unknown professional artist or to popular actor Johnny Depp. Results are depicted in Figure 2. Supporting predictions, participants in the control condition liked the paintings better when attributed to the unknown artist than when attributed to the celebrity, whereas mortality salient participants judged the paintings more positively when attributed to the celebrity.

Of course, art can also function to immortalise the artist him or herself. Becker (1973) noted that, through artistic achievements, the person can "earn immortality as a result of his own unique gifts. His creative work ... gives him personal immortality; it is his own 'beyond' and not that of others" (p. 172). Indeed, this "creative solution" to the problem of mortality awareness seems to work: poets, novelists, composers, and painters constitute a large percentage of the few humans who are

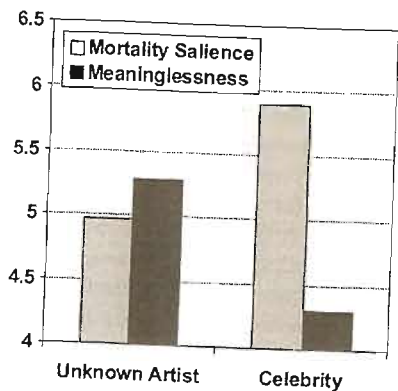


Figure 2. Liking for art by an unknown artist (Stiltson) vs a celebrity (Johnny Depp) as a function of mortality salience (Greenberg et al., 2009). Higher scores indicate greater liking of art. Scale ranged from 1 to 9.

remembered centuries after their deaths. Although experimental research has yet to assess whether terror management motivation heightens people's incentive to immortalise themselves through artistic achievements, observational research shows, in line with our analysis, that artists for whom death is salient are more desirous of creating a personal legacy. Specifically, Simonton (1989) coded and analysed nearly 2000 works by 172 composers of classical music and found that, as they approach their death, composers become more invested in writing non-controversial works that will secure them mass public appeal, and this effect holds even controlling for variables such as composer eminence, total output, and lifespan.

The research reviewed so far shows that positive engagements with art function, at least in part, to buffer the individual against the potential for death anxiety by lending meaning to death and by exalting individuals who embody cultural standards of value. If people rely on art to quell deeply rooted existential fears, then we might also expect that mortality salience would amplify negative reactions to art that threatens to undermine security-providing beliefs in one's cultural worldview, sense of connectedness to others, and feelings of self-esteem. The next section reviews research assessing this possibility.

TERROR MANAGEMENT AND NEGATIVE RESPONSES TO ART AND CREATIVITY

Art as marker of intergroup strife

The history of art is replete with divisive controversies occasionally culminating in violence, resulting sometimes from the defamation by one individual or group of the favoured art of another, and sometimes from moral outrage experienced directly in response to a particular work or type of work. In 1497 Dominican priest Girolamo Savonarola organized a notorious *falò delle vanità* ("bonfire of the vanities"), ordering the public burning in Florence of several sculptures, books, and paintings that he deemed lewd (including works by Michelangelo and Botticelli; Macey, 1998). More recently, the Taliban government oversaw the destruction by tanks of what were once the world's largest standing Buddha statues in Bamiyan, as part of a campaign to eradicate non-Islamic art (CNN.com, 2007).

Such enmity resulting from art-related disputes seems extreme, but it makes sense when considered in light of TMT. As we have seen, artistic symbols lend concrete form to cultural meaning systems that help buffer mortality concerns. Importantly, this defensive function depends on consensus: Giotto's painting *Crucifix* symbolises divine salvation not due to any intrinsic quality of the artwork, but because a group of people

conspire to believe it does (Danto, 1964). This means that the artworks valued by different cultures and subcultures help to unite their members, but also to distinguish them from members of other groups (Reicher & Hopkins, 2001). But the division is not a simple discrepancy in taste; if an artistic symbol carries death-denying meaning and significance, then when others desecrate it (as when artist Andres Serrano presented a photograph of a crucifix suspended in his own urine), this undermines the validity of psychological structures that protect people from death-related fears, and consequently can trigger compensatory efforts to disparage the offending artwork or the individuals associated with it.

Our analysis suggests that people derive terror-assuaging meaning from their aesthetic preferences, and are therefore likely to respond negatively to outgroups perceived to have incompatible artistic preferences, particularly when mortality is salient. Interestingly, several experiments in the tradition of social identity theory (e.g., Tajfel & Turner, 1986) have created *minimal groups* through the assignment of individuals to groups based on their apparent aesthetic preferences. From the perspective of social identity theory, an inherent ingroup bias will lead individuals to show favouritism towards individuals with whom they share a common ingroup identity, as in the case of apparent shared artistic preference (although allocation to groups was, in fact, random, and in numerous studies has been explicitly random). This result has been found in multiple studies (Billig & Tajfel, 1973; Tajfel, Flament, Billig, & Bundy, 1971). From the standpoint of TMT, group identities reinforce our sense of death-transcendence by providing connectivity, continuity, and a shared cultural worldview, and therefore the ingroup bias demonstrated in minimal groups studies should be strengthened by the presence of mortality salience.

Harmon-Jones, Greenberg, Solomon, and Simon (1996) tested this possibility by first leading participants to believe that they were assigned to one of two groups on the basis of either random assignment or their relative preference for the paintings of either Paul Klee or Wassily Kandinsky. The researchers then assigned participants to respond to two open-ended items concerning either death or watching television. Finally they measured ingroup bias by asking participants to rate their liking for ingroup and outgroup members.

Participants who believed they were assigned on the basis of artistic preference showed more ingroup bias than participants who believed they were randomly assigned, replicating prior minimal groups research (Billig & Tajfel, 1973). However, mortality salience led to a larger bias among participants assigned on the basis of aesthetic preferences; in contrast, mortality salience did not increase intergroup bias if the groups were randomly assigned. Taken in conjunction with the minimal groups findings from the wider social identity theory literature, this experiment suggests that

artistic preferences are one source (among many) of intergroup categorisation, and therefore a catalyst of intergroup hostility. Moreover, the Harmon-Jones et al. study suggests that concerns with death may exacerbate disputes between social groups with distinct identities, even when the distinction between those groups appears to be little more than a “mere” matter of taste.

Aside from blatantly catalysing intergroup hostilities, there is another, perhaps more insidious, way in which art can contribute to sociocultural divides with psychological consequences. Many times cultural ideologies are adapted from one culture to the other and expressed in artistic media. For example, North American interior design stores carry “exotic” African masks and carvings, Zuni Indian fetishes, Balinese clothes hooks, cabinets topped with Buddha sculptures, and Feng Shui soaps.

But how do members of the (often minority) worldview react to these adaptations of their culture? They might find them offensive and even exploitive when they involve an appropriation and distortion of culturally valued meanings, particularly if the artistic adaptations serve only to generate revenue for the majority group (Rogers, 2006). Indeed, exposure to such culturally appropriative art has even been shown to negatively impact minority individuals’ sense of personal value. Fryberg, Markus, Oyserman, and Stone (2008) found that Native American students exposed to images from the film *Pocahontas*— a portrayal of a minority (Native American) culture through the eyes of the majority (European American) culture— showed decreased self-esteem compared to Native American students who did not see the film clips.

From a TMT perspective, culturally appropriative art is psychologically threatening to members of the depicted minority culture because it adulterates the cultural systems of meaning that protect them from mortality concerns (Salzman & Halloran, 2004). To test this idea, Klackl and Jonas (2009) examined whether, after being primed with thoughts of their own death, members of one worldview are more threatened when another worldview appropriates its artworks for purposes of commodification. These researchers first asked Austrian participants to complete a computerised word-matching task, during which they were subliminally primed with either the German word for “death” or the word for “pain”. Participants then rated how much they liked photographs of various symbols and artworks associated with Austrian culture (and particularly with the city of Salzburg, where the data were collected). The photographs included three photos of symbols associated with traditional Austrian art: a local statue of Mozart, the house where Mozart was born, and the Residenzbrunnen (an ornate Baroque fountain in the Salzburg city centre). Another photo was a still image from the American film *The Sound of Music*. This film represents a highly sentimentalised distortion of a true

Austrian story that took place in Salzburg, and furthermore features stereotypes of old Europe that many Austrians find offensive (Kammerhofer-Aggermann & Keul, 2000). Participants subliminally primed with mortality salience rated the traditional symbols more positively than pain-primed participants, but exhibited the opposite effect for the commodified symbol of *The Sound of Music*, rating it more negatively. Since mortality concerns prompt people to cling to their cultural worldview, they can also exacerbate aversion to artworks perceived as exploitative of that worldview, even when those artworks superficially appear flattering of the culture (as in the case of *Pocahontas* or *The Sound of Music*).

Responses to apparently meaningless and unconventional art

A TMT account of art's psychological function helps elucidate art's unflattering historical role as an occasional marker of intergroup conflict. On a smaller scale, TMT can also explain individuals' negative responses to particular artworks. Studies show that individuals respond negatively to art that explicitly goes against their values in a way that is perceived as either offensive (because it elicits anger in the viewer) or unpleasant (because it elicits disgust; Silvia & Brown, 2007). But consider negative reactions to artworks that do not directly offend or disgust, but which seem (superficially) either to have no clear meaning or purpose at all—such as the chaotic or shockingly minimalist works characteristic of Modern Art—or to undermine traditional attempts at providing meaning—such as the ironic silence of John Cage's (1952) noteless orchestration *4'33"* (for an overview of other examples, see Barrett, 1962, pp. 42–68). Although these modern works are often intelligible and enjoyable for those with some background in the history of their respective media, experimental research shows that people who are not experienced viewers of art find them highly aversive (Cupchik & Gebotys, 1988).

Although this distaste may stem in part from laypersons' dismissal of the works as snobbishly eccentric (Bourdieu, 1984), TMT suggests that such artworks appear to defy art's typical role of concretising the culture's systems of meaning (discussed above: see "Terror Management and Positive Responses to Art"), and thereby serve more as a threat to one's modes of death-denial than a support for them. This suggests that mortality salience should evoke increased aversion to artworks that eschew or even undermine clear meaning and order, especially among individuals who are predisposed to derive meaning from highly structured knowledge of their environment.

Support for these hypotheses comes from experiments conducted by Landau, Greenberg, Solomon, Pyszcznski, and Martens (2006). In one experiment mortality salience (versus the salience of dental pain) led individuals high in personal need for structure (Thompson, Naccarato,

Parker, & Moskowitz, 2001)—a dispositional preference for simple, unambiguous knowledge—to report less liking for a visually chaotic and superficially meaningless painting by Jackson Pollack when the piece was presented with the unrevealing title of *#12* (in contrast, individuals low in personal need for structure showed no such effect; see Figure 3).

Interestingly, however, the negative effect of mortality salience on high-structure-seeking participants' evaluations of the painting was eliminated when the painting was presented with its actual title—*Guardians of the Secret*—which renders the painting interpretable by giving the viewer a clear idea of how to assign meaningful roles to the objects in the frame (two figures suddenly become "guardians", and a distorted shape between them is now the "secret" they are protecting). Furthermore, in this and other studies reported by Landau et al. (2006), mortality salience did not lead high-structure-seeking individuals to report heightened aversion to modern art with clear representational content (e.g., an egg) or a highly coherent visual structure (symmetric boxes). In other words, death reminders caused those predisposed to seek structured knowledge to dislike renowned art when they perceived it as devoid of meaning; but when they were able to attach some clear interpretation to a work by means of an explanatory title, or if the art contained clear, meaningful structure, the paintings were not perceived as threatening.

One could interpret these findings as evidence that mortality salience simply heightens people's aversion to novel or unfamiliar stimuli. It is important to note, however, that mortality salience does not simply increase

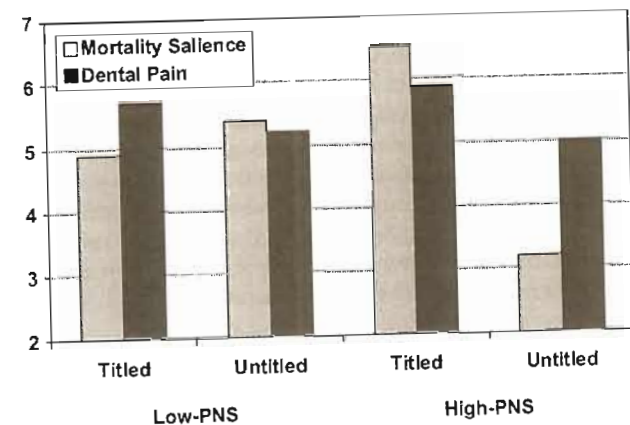


Figure 3. Liking for superficially meaningless art as a function of mortality salience, personal need for structure (PNS), and title (Landau et al., 2006). Higher scores indicate greater liking. Scale ranged from 1 to 9.

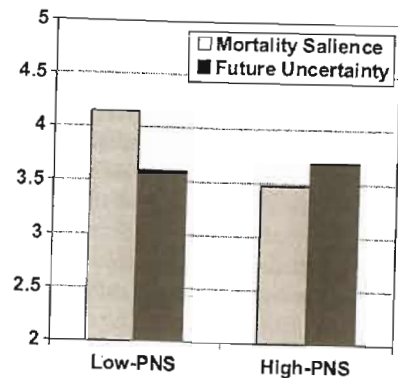


Figure 4. Interest in culturally unconventional films as a function of mortality salience and personal need for structure (PNS) (Vess et al., 2009). Higher scores indicate greater interest in exploring unconventional films. Scale ranged from 1 to 7.

preference for structured knowledge; rather, it heightens people's preference for stimuli that affirm their preferred source of meaning. This yields an interesting hypothesis: among individuals who derive meaning from novelty and openness to experience, mortality salience will *increase* interest in exploring culturally unfamiliar artworks.

This hypothesis was recently tested by Vess, Routledge, Landau, and Arndt (2009). Participants completed either the standard open-ended items about their death or, in the control condition, parallel items about uncertain outcomes in the future. Afterwards participants reported their interest in films that examine culturally unconventional themes, such as the difficulties of being a Chinese immigrant in American society. Results are presented in Figure 4. Supporting hypotheses, low-structure-seeking individuals primed with mortality were more interested in seeing these films, but mortality salience did not influence high-structure-seeking individuals' level of interest.¹ That is, after mortality salience, low-structure-seeking individuals are not simply less inclined to seek structured knowledge; rather, mortality salience prompts them to actively pursue opportunities for exploration by means of exposure to culturally unfamiliar artworks.

¹At first glance, the null effect at high levels of personal need for structure may seem to contradict Landau et al.'s (2006) finding that high-structure-seeking individuals are averse to non-structured art. However, it is important to note that the artworks used in the Vess et al. studies were not devoid of apparent meaning; rather their meaning was comprehensible but culturally unconventional. In other words, the film attitude measure appears to capture explorative interest rather than aversion to meaninglessness.

Taken together with Landau et al.'s (2006) findings, this work shows that mortality salience does not simply increase a general preference for conventional or easily comprehensible art. Rather, mortality salience motivates people to cling to their individualised sources of meaning for protection against mortality concerns: for individuals high in personal need for structure, representational and visually coherent art provides such meaning; for individuals low in personal need for structure, novel and unconventional art provides such meaning.

Disrupting the balance: Ambivalence over creative behaviour

Why do relatively few individuals pursue art as a career or even as a hobby? Why are people reluctant to participate in something as innocent as an informal talent show? Perhaps people are sensitive to their perceived lack of artistic "talent". However, TMT provides a more provocative existential explanation of why people are often reluctant to engage in creative behaviour.

This account builds on the writings of Otto Rank (1932/1998), who proposed that the individual struggles throughout life to maintain a balance between the motivation to avoid the anxiety of taking full responsibility for one's own existence and the alternate motivation to explore and realise one's unique potential. The person derives psychological security from the sense of connection to a larger social structure that provides meaning and routes to lasting value, but at the same time he or she desires to break away from the crowd and assert his or her individuality. This perspective bears striking similarity to Brewer's (1991, 2007) more recent optimal distinctiveness theory of group identification, which holds that individuals seek to identify with small, distinctive groups in order to satisfy conflicting psychological needs for inclusion and differentiation.

Rank went further, though, to posit that these conflicting needs both stem from the desire to obtain symbolic immortality: The individual longs to feel connected to a self-transcending, "immortal" collective, but also desires to be immortalised for his or her own unique accomplishments. Rather than focusing on this "dual-motive" account as it pertains to group identification, Rank originally examined it from the opposite angle in the context of creative behaviour, which he saw as a primary route to individuation and movement away from the group. He argued that people can feel negative emotions—in particular, *guilt*—over their own creative actions because, in expressing their unique self, they alienate themselves from secure social connections. In the terms of optimal distinctiveness theory, creative activity satisfies the need for differentiation, resulting in activation of the opposing need for inclusion, which Rank argued is experienced as a sense of guilt or indebtedness to the collective. Put simply, creative behaviour threatens to

shift the balance too far in the direction of "standing out" and away from "fitting in", and thus threatens to undermine an important resource used to buffer mortality concerns.

Based on Rank's theorising, Arndt, Greenberg, Solomon, Pyszcznski, and Schimel (1999, Study 1) hypothesised that people who are reminded of their mortality and who subsequently behave creatively will experience increased feelings of guilt. Participants were asked to write about either their mortality or the experience of pain, and were then led to either write a creative story about dreams or, in the non-creative control condition, copy text from an article about dreams. Participants then completed Kugler and Jones's (1992) State Guilt scale, indicating their agreement with 10 statements such as "I currently feel calm and worry-free" and "At the moment, I don't feel particularly guilty about anything I have done" (reverse-scored). Mortality salient participants who engaged in creative behaviour reported higher levels of guilt than those in the other conditions. These findings support Rank's claim that when security needs are active—such as when mortality is salient—people can view their own creative behaviour negatively.

In a follow-up study (Study 3) Arndt et al. (1999) hypothesised that creative action after mortality salience would motivate participants to fit in with others, presumably to restore their perceptions of social connectedness. To test this hypothesis they primed participants with either mortality salience or paralysis and then had them engage in a creative or non-creative task before administering a measure of social projection. In this measure, originally developed by Krueger and Clement (1994), participants are presented with 16 attitudinal and behavioural statements (e.g., "I like poetry") and asked to indicate their personal endorsement of each; afterwards the same statements are presented again and participants are asked to estimate the percentage of the population that agrees with each statement. Following past research (e.g., Krueger & Clement, 1994), Arndt et al. calculated social projection scores by correlating endorsements and consensus estimates for each participant (i.e., higher scores indicate a higher perceived convergence between one's own attitudes and those of others, which presumably reflects a greater striving for identification with others). Supporting predictions, mortality salient participants who behaved creatively showed higher social projection than participants in the other conditions, suggesting that being creative under conditions of mortality salience motivated participants to strengthen their perceptions of social consensus for their attitudes.

To sum up this section, multiple lines of experimental research show that terror management motivation underlies negative responses to: members of an outgroup possessing alternative artistic preferences; artworks that adulterate the meaning of one's cultural worldview; artworks that convey

no superficial meaning; and one's own creative behaviour. This work points to a number of fruitful directions for future research. If a TMT analysis helps us understand the psychological factors that contribute to negative responses to art and creativity, then it can conversely point to ways of promoting artistic engagement in everyday life. For example, Landau et al. (2006, Study 4) found that the mortality salience-induced aversion to superficially meaningless artworks among high-structure-seeking individuals was attenuated when participants were prompted to connect the artwork with their personal experiences, suggesting that encouraging people to find personal significance in unfamiliar art may facilitate more open and accepting engagement with that art. Furthermore, the dual-motive account inspired by Rank's theorising suggests that affirming security-providing resources may attenuate the negative responses to one's own creative behaviour elicited by mortality salience. We turn to this possibility next.

SHIFTING THE BALANCE: AFFIRMING SOCIAL CONNECTEDNESS AND SELF-ESTEEM FACILITATES CREATIVE SELF-EXPRESSION IN THE FACE OF DEATH

In the previous section we introduced TMT's dual-motive account of the interplay between a motivation to maintain a sense of connectedness to broader cultural structures and a self-expansive motivation to creatively express one's individuality. We examined one broad hypothesis derived from this analysis: If social connections provide needed psychological defence from the awareness of mortality, and if the perception that one has acted creatively implies a shift towards individuation and a separation from secure social connections, then creative behaviour (though itself a potential route to symbolic immortality) can be psychologically problematic when mortality is salient. Accordingly, Arndt et al. (1999) found that the juxtaposition of mortality salience and creative behaviour increased feelings of guilt and compensatory efforts to assimilate with others.

Importantly, this analysis also implies that it should be possible to reduce the negative consequences of creativity by shifting the balance in the direction of assimilation needs. That is, when mortality is salient and a strong sense of social connectedness is in place, the negative consequences of creative behaviour should be minimised and even reversed. Arndt, Routledge, Greenberg, and Sheldon (2005, Study 1) tested this hypothesis by replicating the procedure of Arndt et al. (1999), first by asking participants to write about death or pain, and then asking them to either write a creative story or copy text. In addition, prior to these manipulations,

the researchers gave half the participants false personality feedback informing them that they tend to conform to other people (assimilation), whereas they gave the other participants neutral feedback. Results are depicted in Figure 5. Replicating and extending the earlier study, mortality salient participants who behaved creatively reported increased guilt, but this effect was eliminated if participants had earlier received feedback affirming their connection to other people.

In related research, Routledge, Arndt, Vess, and Sheldon (2008) applied a dual-motive account to examine the factors influencing actual creativity. They reasoned that not all creative acts are geared toward individuating the self from other people; sometimes they aim to contribute to the broader collective, such as when artists create monuments to commemorate shared cultural experiences (e.g., the Vietnam Veteran's Memorial). Indeed, Rank (1932/1998) observed that guilt over creative behaviour is a historically novel phenomenon associated with the growing conception (in the West, at least) of art as a vehicle for individual self-expression rather than a collective endeavour that enhances social connections.

Routledge et al. (2008) incorporated this observation into the dual-motive perspective, hypothesising that mortality salience will impair creativity on a task directed towards individual gain, but not when the same task is directed towards community gain. To test this hypothesis the researchers asked participants to complete two open-ended items about either their own death or the experience of dental pain. Then, in an ostensibly unrelated task, participants were asked to create a plan for a rock

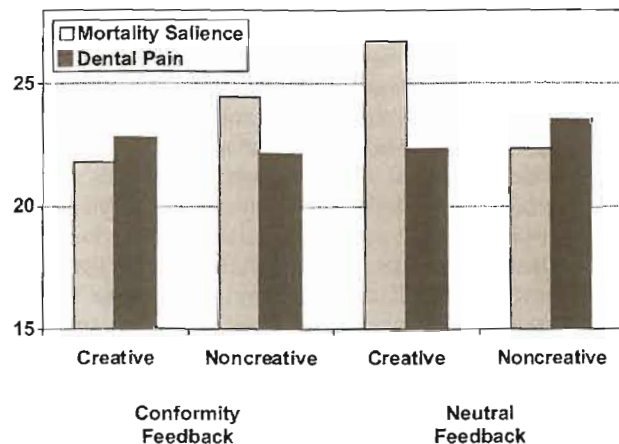


Figure 5. Self-reported guilt as a function of mortality salience, task (creative vs noncreative), and feedback (conformity vs neutral) (Arndt et al., 2005). Higher scores indicate higher guilt.

concert that would generate revenue for either themselves (individuation) or a community charity (assimilation), and the researchers coded these proposals for creativity. The results supported the hypothesis, suggesting that individuals confronted with their mortality may feel free to express themselves creatively in contexts where such expression satisfies, rather than opposes, assimilation needs.

Considerable research has demonstrated that creativity has positive psychological outcomes, such as more open-minded and flexible engagement with the social world (e.g., Deci & Ryan, 1987; McCrae, 1987). Drawing on this work, Arndt et al. (2005, Study 2) reasoned that if satisfying assimilation needs removes the negative consequences of creativity when mortality is salient, then affirming people's sense of social connectedness might allow them to enjoy the psychological benefits of creative expression. After completing open-ended items about either death or pain, participants were asked (in an ostensibly unrelated task) to write about a goal that they are currently engaged in either because they personally value it (individuation) or because other people value it (assimilation). All participants then wrote a creative story, and afterwards completed measures of affective and cognitive aspects of positive psychological engagement, including positive mood (Watson & Clark, 1992), vitality (Ryan & Frederick, 1997), and creative problem solving (Marsh & O'Neill, 1984). As hypothesised, participants who were reminded of their mortality and then led to focus on assimilation goals showed higher psychological engagement after creative expression, whereas mortality salient participants led to focus on individuating goals did not.

Of course, people facing opportunities for creative self-expression risk not only separating themselves from secure social connections, but also failing miserably and suffering a blow to their positive self-image. According to TMT, this risk of failure is threatening because positive self-views provide psychological protection against mortality concerns. Based on this analysis, Landau and Greenberg (2006) reasoned that low self-esteem individuals, who generally lack positive self-views that can be recruited to cope with the threatening implications of failure (Steele, Spencer, & Lynch, 1993), will respond to mortality salience by protecting their self-esteem and avoiding risky opportunities for creative expression that might expose their personal shortcomings. In contrast, high self-esteem individuals, who generally have a larger store of positive self-views to fall back on in the event of failure, may take a chance at creative expressions despite the risk of failure.

To test these hypotheses, Landau and Greenberg (2006, Study 3) measured self-esteem and subsequently had participants think about either mortality or unpredictable bouts of intense physical pain, which simultaneously makes high aversiveness and high uncertainty (two characteristics of

mortality) salient. Participants were then asked to take part in a creativity task that entailed colouring in a piece of paper divided into spaces. Inside some of the spaces were numbers prescribing how the space was to be coloured (similar to children's "paint by numbers" exercises); other spaces, called "open spaces", contained no numbers and were described as providing participants with the opportunity to demonstrate their creative potential. Critically, different task versions contained varying numbers of open spaces (see Figure 6 for an example), and participants were asked to select the version that they wanted to complete and receive feedback on. Results are depicted in Figure 7. As predicted, low self-esteem participants

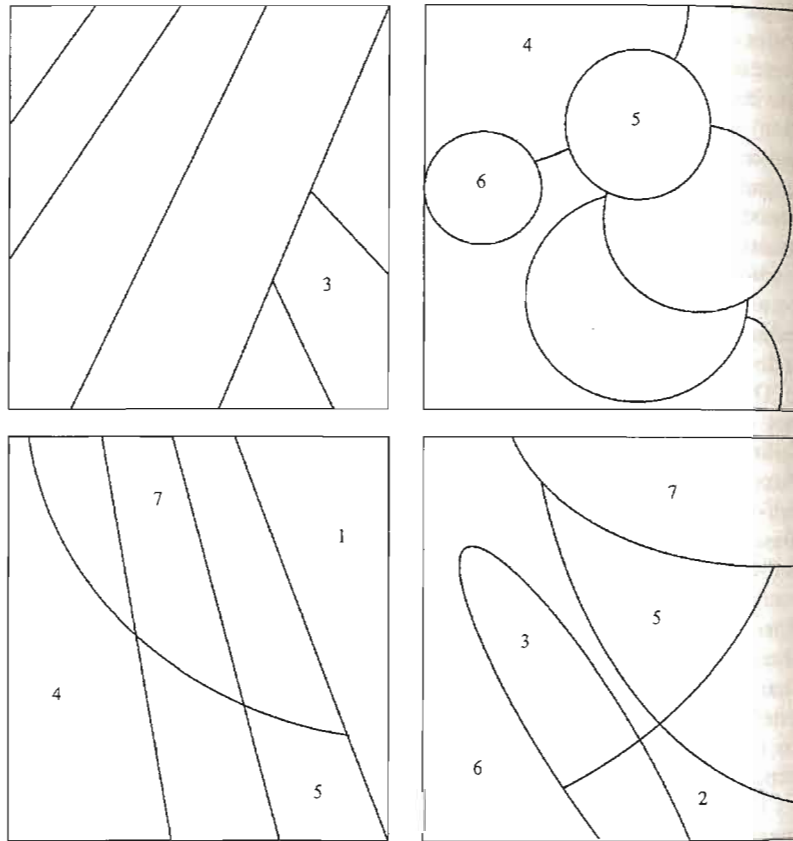


Figure 6. Creativity test versions with varying degrees of opportunity for creative self-expression (Landau & Greenberg, 2006).

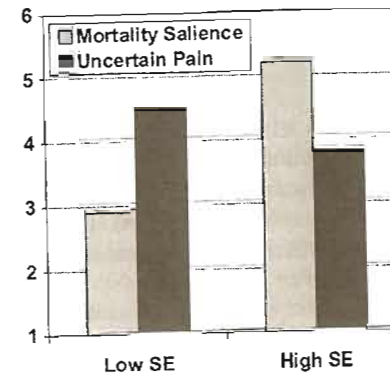


Figure 7. Willingness to take creative risks as a function of mortality salience and self-esteem (SE) (Landau & Greenberg, 2006). Higher scores indicate greater willingness to take creative risks. Scale ranged from 1 to 6.

who thought about death (versus uncertain pain) became more risk-averse, opting to complete a relatively prescribed version of the task that offered little opportunity to show off their creativity or lack thereof. High self-esteem participants, however, showed the opposite tendency, responding to mortality salience by opting for riskier opportunities to show off their creativity.

The research reviewed in this section supports TMT's dual-motive account of creative behaviour derived from Rank's theorising. In order to buffer death-related anxiety, people balance their motivation to "fit in" with others with their motivation to "stand out" by means of creative self-expression. When the salience of mortality heightens the need for existential security, creative self-expression can lead to negative psychological consequences (e.g., guilt) when it threatens to separate the individual from security-providing social connections, and people become less creative if creative engagement is geared towards individual benefit. However, when mortality is salient and a strong sense of social connectedness is in place, or when creative engagement is framed in a way that enhances perceived social connectedness, creativity is not avoided; rather, people express themselves creatively and derive psychological benefits from doing so. Creative expression also threatens to undermine one's terror-assuaging self-esteem because the risk of failure is often high. Accordingly, people who are vulnerable to self-esteem threats respond to mortality salience by protecting their egos and limiting their creative aspirations, whereas those with a strong sense of self-worth opt ambitiously to pursue creative ventures despite the risk of failure.

IS DEATH THE WORM AT THE CORE? COMPARING TMT WITH UNCERTAINTY MANAGEMENT AND MEANING MAINTENANCE ACCOUNTS

So far we have argued that artistic activity functions to assuage the core psychological threat of mortality by concretising and bolstering faith in a cultural worldview and its routes to death-transcendence. In recent years alternative accounts of the motivations underlying worldview defence have emerged. According to uncertainty management theory (McGregor, Zanna, Holmes, & Spencer, 2001; van den Bos, 2009; van den Bos, Poortvliet, Maas, Miedema, & van den Ham, 2005), cultural worldviews manage feelings of personal uncertainty by providing a definite and reliable conception of the world and oneself (see also Hogg, 2007). Heine, Proulx, and Vohs's (2006) meaning maintenance model posits that cultural worldviews provide mental representations of expected relations that serve the individual's underlying need for meaningful conceptions of reality.

We are unaware of any formal attempts to apply these perspectives to explain artistic activity, with the exception of a single meaning maintenance model study conducted by Proulx and Heine (2009) which showed that individuals engage in more meaning-affirming behaviour (pattern seeking in an artificial grammar task) after exposure to an absurd work of art (a short story by Kafka). However, proponents of uncertainty management theory and the meaning maintenance model have criticised TMT research on the grounds that mortality salience effects, such as those reviewed in the current article, are not specific to thinking about death *per se*, and are the result of defensive reactions to thinking about any uncertain or meaningless event. This alternative possibility has been addressed elsewhere (e.g., Greenberg et al., 2008; Landau, Greenberg, & Kosloff, 2010; Pyszczynski et al., 2006) but warrants consideration here as well. We posit that: (1) the experimental evidence favours a terror management explanation of mortality salience effects on artistic activity over explanations of those effects as stemming from concerns with either uncertainty or meaninglessness; (2) TMT can help account for a wide range of art-related phenomena not explicable in terms of uncertainty management or meaning maintenance; and (3) there are broader conceptual concerns about whether uncertainty management theory or the meaning maintenance model can provide an adequate accounts of art's psychological function.

Uncertainty management theory

Some studies testing hypotheses derived from uncertainty management theory show that arousing uncertainty can produce effects parallel to mortality salience. For example, McGregor et al. (2001) demonstrated that

pondering a difficult personal choice dilemma increases conviction on unrelated social issues and adherence to communal values. Similarly, van den Bos and Miedema (2000) found that responding to open-ended items about personal uncertainty (similar to those used in TMT studies to explicitly prime death) increased defence of justice norms as much as a manipulation of mortality salience did. From the perspective of uncertainty management theory, thoughts of death produce defensive reactions not because there is something uniquely disturbing about the prospect of non-existence, but rather because death is one of many outcomes that arouse uncertainty.

Contrary to this alternative explanation, many of the studies reviewed in this article directly compared mortality salience with the salience of various personal uncertainties and found different effects. Landau et al. (2006) found that mortality salience decreased attraction to superficially meaningless modern art, whereas priming participants with the uncertain prospects of an upcoming exam (Study 1) and social exclusion (Study 4) did not. Landau (2010) compared mortality salience specifically with van den Bos and Miedema's (2000) personal uncertainty induction and found that mortality salience, relative to uncertainty salience, increased attraction to paintings depicting culturally iconic individuals. Vess et al. (2009) found that low-structure-seeking individuals were more interested in exploring artistic portrayals of novel cultural information after responding to a survey about their death (e.g., "Do you worry about dying?") but not after responding to a parallel survey about their fears of future uncertainty (e.g., "I am really scared about what might happen in the future"). Landau and Greenberg (2006) found that mortality salience influenced creative behaviour more than an induction of unpredictable bouts of intense physical pain did, which simultaneously makes high aversiveness and high uncertainty salient. These findings converge with well over 30 studies showing that contemplating uncertain outcomes (e.g., paralysis, worries about life after college, giving a speech in public) does not produce the same defensive responses elicited by mortality salience inductions (e.g., Friedman & Arndt, 2005; Gailliot, Schmeichel, & Baumeister, 2006; Landau, Greenberg, & Sullivan, 2008; Martens, Greenberg, Schimel, & Landau, 2004; Routledge, Arndt, & Goldenberg, 2004). If death were just one of many uncertainties, why are mortality salience effects so often different than the effects of salience of these uncertainties?

Also, in many of the findings reviewed in this article mortality salience elicits theoretically specified terror management defences that do not seem to bolster general epistemic certainty. For example, Goldenberg, Pyszczynski, Johnson, Greenberg, and Solomon (1999) found that mortality salience increased the appeal of tragic over non-tragic art, which allows vicarious confrontation of death but does not seem to provide certainty *per se*.

Landau and Greenberg (2006) found that mortality salience, relative to uncertainty salience, increased high-self-esteem participants' preference for riskier, uncertain opportunities to creatively express themselves. This finding converges with many studies showing that mortality salience leads people to self-enhance even when doing so entails high levels of uncertainty. For example, mortality salience increases risky driving behaviour among those who base their self-esteem partly on this dimension (Taubman Ben-Ari, Florian, & Mikulincer, 1999). Such findings seem beyond the scope of uncertainty management theory.

An uncertainty perspective seems most relevant to Landau et al.'s (2006) finding that individual differences in personal need for structure moderated the effect of mortality salience on disliking for modern art. According to Landau et al. (2006), high-structure-seeking participants responded to mortality salience by derogating visually chaotic artworks because these individuals invest in structured knowledge as a source of death-denying meaning. However, it is possible that mortality salience simply increased high-structure-seeking individuals' dispositional preference for structured knowledge, and therefore increased their aversion to artworks that defy certain interpretation.

Evidence favouring the TMT interpretation is provided by Vess et al. (2009), who showed that after mortality salience, individuals low in personal need for structure are not simply less inclined to seek structured knowledge; rather, they defensively pursue opportunities for exploration and novel discovery, such as by exposing themselves to culturally unfamiliar artworks, and they respond to the juxtaposition of mortality salience and novelty seeking with increased perceptions of meaning in life. These results suggest that mortality salience does not simply increase a general preference for structured knowledge; rather, it increases affirmation of individualised sources of terror-assuaging meaning: for high-structure-seeking individuals, familiar knowledge and well-structured art provide such meaning; for low-structure-seeking people, the novel and unfamiliar provide such meaning. Uncertainty management theory would have difficulty providing a parsimonious explanation of these findings, although they are consistent with TMT.

Meaning maintenance model

In a set of studies testing hypotheses derived from the meaning maintenance model, Heine, MacKay, Proulx, and Charles (2005) showed that false feedback that one's life lacks meaning leads to harsher judgements of prostitutes, greater nationalistic bias, and greater desire for high status products, all of which have been shown to also be affected by mortality salience. Heine et al. (2006) used these findings to argue that people do not

construct meaning systems mainly to assuage their fear of death, as TMT claims; rather, reminders of death are one of many threats to the belief that life has meaning, and thus instigate compensatory efforts to restore meaning.

Studies in favour of TMT show different effects of mortality salience and meaninglessness salience on attitudes towards meaning-bolstering art. Greenberg et al. (2009) found that mortality salience, relative to an induction that focused participants directly on the thought that their life lacks meaning, increased preference for art made by a cultural celebrity, but not by an unknown professional artist. This study converges with other studies showing that meaninglessness salience treatments do not reproduce mortality salience effects (e.g., Baldwin & Wesley, 1996). Similarly, other control conditions that might imply meaninglessness, such as thoughts of paralysis and social exclusion, have failed to reproduce mortality salience effects in studies reported in this article (e.g., Routledge et al., 2008) and elsewhere (Greenberg et al., 2008; Pyszczynski et al., 2006).

Broader concerns about whether uncertainty management theory and the meaning maintenance model can explain artistic activity

Converging insights from aesthetic philosophy and art history cast further doubt on the notion that people create and consume art primarily as a means of minimising uncertainty or seeking epistemic meaning (i.e., expected relations). To be sure, some kinds of art might be enjoyed on the basis of a psychological desire to momentarily arouse uncertainty or encounter unexpected relationships, only to experience relief and satisfaction when certainty and clear meaning are restored (e.g., the detective story; Loewenstein, 1994). Most contemporary aesthetic theorists agree, however, that art is not typically an effective means of conveying practically useful information or representing the world in a veridical manner (Cahn & Meskin, 2009, offer a useful compendium of such views). For some theorists (e.g., Bell, 1914; Schopenhauer, 1883/2009) art affords imaginative detours away from the certainty and expected relationships provided by one's familiar consciousness of self and time (a point we return to in the final section). Others, such as Cassirer (1944), Goodman (1976), and Langer (1979), argue that artistic symbols are deliberately equivocal in a way that sharply distinguishes them from symbolic forms that have more conventional, unambiguous reference, such as discursive language and mathematics. Summarising these views, Gardner (1982, p. 60) notes:

Rather than having a simple unambiguous meaning which is readily accessible and which lends itself to paraphrase or translation, [the artistic symbol] carries a

penumbra of overlapping and difficult-to-separate meanings, each of which contributes to the work's effects.

Indeed, art history reveals a pervasive preference across diverse cultures for artworks that infuse elements of everyday life with elaborate, even arcane meanings (Gombrich, 1961). In the West, for example, the short-lived trend (roughly between 1500 and 1850) to achieve greater depicted realism ended with the advent of Impressionism, and the subsequent Post-impressionist, Symbolist, Surrealist, Cubist, and Expressionist periods shunned surface verisimilitude in favour of creating novel perceptions of the world (Edman, 1939). And presumably this is why audiences value these works. Empirical evidence shows that, at least in the modern era, those people who most routinely derive satisfaction from viewing art prefer art to be complex, resistant to easy comprehension, and challenging of existing beliefs (Freedman, 1988; Winston & Cupchik, 1992).

Uncertainty management theory and the meaning maintenance model cannot explain why people would value art given that it typically distorts empirical reality in such a way as to express unusual, incongruous, or recondite meanings. A TMT account, in contrast, builds on the converging views of classic and contemporary theorists (e.g., Donald, 1991; Langer, 1979; Nietzsche, 1872/1967) who argue that it is precisely the multilayered and nuanced character of artistic symbols that allows them to express the mysterious and unintelligible, excite awe and terror, and portray supernatural dimensions of reality that *oppose* empirical reality. Gombrich (1965, p. 48) sums up these views:

Art has increasingly shied away from the consonant and satisfying to exploit the challenge of the enigmatic, the contradictory and unresolved for its own psychological ends. What it thus loses in clarity it hopes to gain in richness, in that plenitude of meaning that embodies all the ambiguities and ambivalences that orchestrate our experience.

Why would anyone like symbols that embody the irrational, that fuse contradictions and merge multiple layers of meaning? From a TMT perspective these characteristics of artistic symbols enable people to construct conceptions of reality that hold out some hope of death-transcendence; as Nietzsche (1967; Section 822) put it: "We have art so that we will not perish from the truth." Art allows us to apprehend the world in novel and fantastic ways; and while this means that art often defies normal expectations and arouses uncertainty, the temporary escape from reality it provides can relieve us from the burden of defences shored up to cope with a harsh reality in which physical limitations and ultimate death apply. If we can imagine alternate universes in which the standard laws of

physics and biology are suspended, we should be able to momentarily relax the rigid defences we use to cope with the reality of death. This suggests a testable hypothesis: engaging artistic conceptions of alternate realities and experiences—although potentially uncertainty arousing—will actually relieve existential defensiveness, rather than exacerbate it.

This hypothesis was supported in research by Cohen and colleagues (in press), who showed that contemplating artistic depictions of supernatural phenomena attenuated worldview defence normally observed in response to mortality salience. Whereas American participants primed with mortality (vs an aversive control induction) showed increased affection for militaristically defensive policies supported by (then) President George W. Bush (replicating Landau et al., 2004), this effect was eliminated if, following mortality salience, participants vividly imagined themselves as a person flying through the sky in a Japanese print. However, participants who visualised the rising of the sun through similar imagery—which, according to Hume (1748/2000), is the one worldly event we feel most certain about—did not show reduced defensiveness after mortality salience. These findings suggest that engaging with artistic portrayals of alternate realities can assuage mortality concerns and attenuate defensiveness. Furthermore, they suggest that art that provides certainty by affirming our standard understanding of everyday causality (such as art depicting the sunrise) is not as effective at reducing defensiveness. This evidence strongly suggests that people sometimes look to art for more than simple affirmation of their ordinary understanding of reality, especially when the prospect of death is salient.

Table 1 presents a comparative summary of those aspects of art that can and cannot be explained by each of these three threat-based perspectives, as well as references to relevant empirical studies from the TMT tradition reviewed in the present paper. If our foregoing analysis is correct, then functional accounts of art derived from either uncertainty management theory or the meaning maintenance model would fail to explain at least six aspects of artistic activity for which TMT provides both a cogent explanation and supporting data: (1) the presence of certain universal themes and genres in art (such as death and tragedy); (2) the considerable social importance of art, evidenced by the substantial human and financial resources expended on it, as well as its role in establishing group distinctiveness; (3) individual differences in the aesthetic preferences of both consumers and artists; (4) the experiences and motivations of artists, as opposed to only those of art-consumers; (5) individual differences in creativity; and (6) the presence of art that, by conveying alternative realities, potentially arouses uncertainty.

A final concern with any account of art based on uncertainty management theory or the meaning maintenance model is that these perspectives do

TABLE 1
Functional accounts of art

	<i>Terror management theory</i> <i>Greenberg et al., 2008</i>	<i>Uncertainty management theory</i> <i>Van den Bos, 2009</i>	<i>Meaning maintenance model</i> <i>Heine et al., 2006</i>
Certain universal themes in the content of art (e.g., death, tragedy)	Yes Goldenberg et al., 1999		
Factors that influence the genesis and reception of particular artworks at particular times in history			
Art's elevated social importance (resource investment; source of intergroup conflict)	Yes Harmon-Jones et al., 1996 Greenberg et al., 2009		
The artistic experiences and motivations of audiences	Yes Goldenberg et al., 1999	Yes	Yes
Individual differences in art preferences	Yes Vess et al., 2009		
The artistic experiences and motivations of artists	Yes Arndt et al., 2005		
Individual differences in creativity	Yes Landau & Greenberg, 2006		
Widespread presence of art that reinforces social norms and conventional meaning sources	Yes Landau, 2010	Yes	Yes
Widespread presence of art that conveys alternative realities	Yes Cohen et al., 2010		
The role of existential concerns in artistic creation and response	Yes	Yes	Yes
The immersive engagement with art	<i>TMT provides theoretical account, but no direct empirical evidence</i>		

Functional accounts of art based on TMT, uncertainty management theory, and the meaning maintenance model (with representative references) and their ability to explain key aspects of artistic activity.

not explain what makes uncertainty and meaninglessness so psychologically problematic. TMT posits that death is a uniquely potent psychological problem because as humans we have a number of biological and

psychological systems, both species-general and species-specific, that are designed to keep us alive, yet we know that death is the only inevitable future event, and it threatens to thwart all our desires, whether for pleasure, control, belonging, or growth. People sustain security in the face of death by investing in a meaning-laden, ordered, and benign view of reality, and the sense that they are valued and therefore protected, and worthy of continuance in some form beyond death. Viewing uncertainty or meaninglessness as the ultimate threat would require a theory that explains why certainty and meaning are so fundamentally important, independent of their role in quelling concerns about death, that they would motivate the enormous time, energy, and resources that people in all known cultures have invested in artistic activity. Indeed, insofar as all animals are motivated to maintain mental representations of expected relations that can be used to effectively navigate their environment, neither uncertainty management theory nor the meaning maintenance model provides a basis for understanding why humans create and respond to art whereas cats and canaries do not.

To sum up this section, uncertainty management theory and the meaning maintenance model posit that people cling to cultural worldviews to defend against the threats of uncertainty and meaninglessness, respectively, and not the threat of mortality, as TMT posits. While these perspectives have not previously been applied to explain art, they raise the possibility that the mortality salience effects reviewed in support of our TMT analysis of art are not due specifically to the threat of mortality, and are instead generalised reactions to thinking about any uncertain or meaningless event. We reviewed research and theory that cast serious doubt on this alternative possibility. Studies show that mortality salience has theoretically specified effects on artistic creation and response, whereas inductions designed to arouse uncertainty and meaninglessness do not. Also, many of the reviewed findings show that mortality salience influences artistic creation and response in ways that are consistent with hypotheses derived from TMT, but are not explicable from the perspectives of uncertainty management theory or the meaning maintenance model. Finally, we pointed to conceptual concerns with any attempt to apply uncertainty management theory or the meaning maintenance model to explain artistic activity writ large, noting that they cannot account for why people commonly create and value art that distorts their familiar understanding of reality, and why uncertainty and meaninglessness are so psychologically threatening. Below we elaborate on some further psychological functions served by art that have yet to be rigorously investigated; while these functions are perfectly consistent with a TMT account of artistic activity, they could not be easily explained by uncertainty management theory or the meaning maintenance model.

CONCLUSION

We fly to beauty as an asylum from the terrors of finite nature.

Emerson (1838/2003, p. 46)

Based on terror management theory and research, we posit that creating and responding to art functions to bolster cultural meaning and personal significance in the service of buffering existential terror. We reviewed multiple independent lines of research examining the unique effect of death-related ideation on attitudinal and behavioural responses to artworks and creative behaviour. We are not claiming that terror management motivation is the exclusive psychological force behind creating and responding to the arts in all their diverse manifestations from prehistory to the present day; rather, we are claiming that the TMT-based view of art that we are proposing, and the supporting empirical work we report, adds an important and heretofore neglected dimension to the discourse on the motivational underpinnings of artistic activity.

Furthermore, this research highlights art's far-reaching significance in various social psychological phenomena, including attitudinal and behavioural engagement with objects symbolising culturally valued meaning; intergroup attitudes; the reactions of minority group members to the appropriation and translation of aspects of their culture by a majority group; attitudes towards culturally iconic figures; willingness to explore culturally unconventional information; and the emotional consequences of deviating from social norms. Thus, in addition to providing evidence of the role of terror management motivation in artistic activities, these findings vividly illustrate that art is not, as commonly assumed, a rarefied activity reserved for the culturally elite; rather, it is intricately interwoven into diverse dimensions of people's everyday social lives. Of course, more research is needed to fully understand the motivational underpinnings of artistic activity and art's sociocultural significance. Throughout this review we have pointed to fruitful directions for future research. We noted, for example, that empirical research should be conducted to determine whether the individual's urge to create is driven by a motivation for symbolic immortality.

Future research should also address an additional means by which art may keep mortality concerns at bay. It is possible that aesthetic engagement—both creation and response—can focus individuals' attention in a way that transforms their normal awareness of time and self, which ultimately enables them to obscure the ever-present realisation that they are mortal creatures. Schopenhauer (1883/2009) noted that in a state of immersive aesthetic engagement, "We do not let abstract thought, the concepts of reason, take possession of our consciousness, but . . . devote the whole power of our mind to perception, sink ourselves completely

therein . . . We lose ourselves entirely in this object" (p. 195). Schopenhauer's description accords with Csikszentmihalyi's (1990) description of "flow" as a full engagement of one's concentration on an intrinsically rewarding activity, a loss of objective self-awareness, and a focus of attention on the present moment. Indeed, Csikszentmihalyi and Robinson (1990) have argued that creating and responding to art is a powerful means of achieving flow. This raises the questions: Why do people seek immersive aesthetic engagement? What are the psychological benefits of being "lifted above the stream of life" by artistic activity (Bell, 1914, p. 266)? Csikszentmihalyi and Robinson (1990) argue that such engagement is *autotelic*—having its end in itself. TMT offers a complementary explanation according to which immersive aesthetic engagement is beneficial because it provides temporary relief from the awareness of the self's mortal fate.

According to Becker and TMT, humans have a unique capacity to symbolically represent the distant past and future, and this makes it possible for individuals to be aware of the inevitability of death in the fullness of time. Immersive aesthetic engagement focuses attention on the temporal present, and may thus allow the individual to avoid the awareness (explicit or implicit) of his or her imminent death. One way in which aesthetic engagement facilitates this reprieve from the mortal implications of time is by adjusting the individual's normal understanding of time's flux. Philosopher Grudin (1982) observes that, in the two hours of physical time it takes an individual to watch a film, he or she can vicariously participate in an expanse of time spanning centuries; conversely, other artworks (e.g., Joyce's *Finnegan's Wake*, 1939) may take a great deal of physical time to consume, yet they richly detail the intricacies of only a relatively short moment of "narrative" time.

In addition to transforming our normal conceptions of time, aesthetic engagement relaxes our common state of heightened self-awareness (Benson, 2001). Becker (1971) and TMT posit that the uniquely human capacity to be self-aware is largely what makes it possible for individuals to recognise the inevitability of their own death. Indirect empirical support for this claim is provided by evidence that mortality salience leads to greater aversion to self-focused attention induced by the presence of a mirror (Arndt, Greenberg, Pyszcznski, & Solomon, 1998). This may be a further reason why, from a terror management perspective, we are motivated to participate in immersive aesthetic engagement, which entails a transfer of conscious focus from the self to the immediate possibilities of the art object or the creative experience.

A final possibility worth noting is that immersive aesthetic engagements may have the capacity not only to minimise threatening mortality-related ideation, but to furthermore promote psychological well-being. Fredrickson's (2001) broaden-and-build theory of emotions suggests that

emotionally positive experiences can allow the person to explore the environment and the self in new ways, resulting in the generation of new psychological resources that improve the individual's power to adapt to new challenges. Perhaps temporarily relieving the self of mortality concerns allows for responses to and creation of art in ways that expand one's understanding of the world.

This possibility, which calls out for additional empirical attention, is nicely expressed in novelist Herman Hesse's (1974) description of the inner resources he acquired through immersion in an alternate reality created by a fellow artist. Hesse writes of leaving his solitary home to go into the city and hear an organ concert. Prior to the performance he is beset by existential doubts and anxieties ("How miserable, how paltry, how bad are the lives we lead!"); but when Bach's fugue begins, Hesse undergoes a profound subjective transformation during which he feels transported to another, perfect universe. When he leaves the concert to return to his solitary home, he is renewed with a sense of existential freedom: "Now I am glad to give life a trial once more and be its plaything."

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