

Windows Into Nothingness: Terror Management, Meaninglessness, and Negative Reactions to Modern Art

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Why do people dislike art that they find meaningless? According to terror management theory, maintaining a basic meaningful view of reality is a key prerequisite for managing concerns about mortality. Therefore, mortality salience should decrease liking for apparently meaningless art, particularly among those predisposed to unambiguous knowledge. Accordingly, mortality salience diminished affection for modern art in Study 1, and this effect was shown in Study 2 to be specific to individuals with a high personal need for structure (PNS). In Studies 3 and 4, mortality salient high-PNS participants disliked modern art unless it was imbued with meaning, either by means of a title or a personal frame of reference induction. Discussion focused on the roles of meaninglessness, PNS, and art in terror management.

Keywords: terror management, meaning, art, aesthetic judgments, need for structure

When in doubt there is always form for us to go on with. Anyone who has achieved the least form to be sure of it, is lost to the larger excruciations.

—Robert Frost, *Robert Frost on Writing*

Few human endeavors carry the social significance of art. Historians, archeologists, and anthropologists often look to the art of remote civilizations and eras to document social, cultural, and even cognitive developments. The creation and enjoyment of art are social acts of considerable importance to people. Indeed, in every known society past and present, people collectively create and consume paintings, music, dance, stories, and other art forms as a means to express and experience feelings and ideas, unify groups,

indicate status, instruct, amuse, and inspire. Of equal social significance, art also has the power to incite disgust and outrage, and efforts to eradicate it, such as Savonarola's "bonfire of the vanities" in 15th-century Florence and the more recent outrage over Robert Mapplethorpe's photography. Such negative reactions often arise in response to art that violates traditional values or otherwise opposes the prevailing worldview.¹ Of present interest, however, is the common tendency to dislike art not because it contains specific objectionable content, but because it appears to be devoid of any meaning. The present article examines reactions to art, particularly modern art, as a means to explore the more general psychological threat of meaninglessness from the perspective of terror management theory (TMT). Specifically, we report four studies that investigate whether mortality concerns and individual differences in personal need for structure (PNS) contribute to negative reactions to seemingly meaningless works of modern art.

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Images of the paintings used in the present studies are available on request.

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A Case in Meaninglessness: The Popular Distaste for Modern Art

Theorists who focus on the psychological determinants of aesthetic preferences commonly observe that people do not generally appreciate art they consider meaningless (e.g., Dissanayake, 1988; Donald, 1991; Humphrey, 1999; Lewis-Williams, 2002; Ram-

¹ Art that exemplifies the dominant worldview can also be despised, as was the case during the French revolution.

achandran & Hirstein, 1999; Rank, 1936/1968). Although art aficionados often derive meaning from their prior knowledge and experience, naive observers tend to rely solely on the artwork's representational and expressive content: What is this a picture or sculpture of? What emotional qualities are clearly represented in this music or dance? What is the plot of this film or play? (see Cupchik & Gebotys, 1988; Neperud, 1988; Peel, 1944; Winston & Cupchik, 1992.)

Of course, many art styles (e.g., impressionism) deviate considerably from the naturalistic imitation of realistic forms in the external world. However, modern abstract art is unique in its explicit abandonment of any representational intentions whatsoever. For example, over the course of his development as a painter, Wassily Kandinsky (1866–1944) came to eschew representational or “imitative” form in favor of increasing abstraction. In accounting for the broad unpopularity of such modern art, theorists such as Ortega y Gasset (1972) and C. Greenberg (1936/1961) noted that modern art alienates the average person by defying prepackaged meaning and requiring special sensibilities to decode, without which the naive viewer is “lost in a chaos of sounds and rhythms, colours and lines, without rhyme or reason” (Bourdieu, 1984, p. 2).

Empirical studies of art appreciation are consistent with the notion that perceived meaninglessness significantly detracts from aesthetic enjoyment. Superficial content accounts for more of the variance in untrained viewers' aesthetic preferences than other sensory properties of the artwork (Martindale, 1988), and evaluations become less favorable as this content becomes more impoverished (Baltissen & Ostermann, 1998; Cupchik & Gebotys, 1988; Kettlewell, Lipscomb, Evans, & Rosston, 1990; Limbert & Polzella, 1998). What underlies this aversion to perceived meaninglessness? Although there are undoubtedly a number of contributing factors, we believe that TMT offers one particularly provocative answer to this question.

TMT, Nonspecific Structure, and PNS

TMT (J. Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 2004) addresses the motivational underpinnings of people's need to perceive meaning in the world. TMT posits that humans, like all life forms, are biologically oriented toward continued survival but are uniquely aware that their lives will inevitably end. This knowledge creates the potential for severe anxiety in the absence of psychological mechanisms designed to ward off thoughts of death. According to TMT, people manage mortality concerns through investment in an individualized version of a cultural meaning system coupled with the sustained conviction of personal worth and significance.

Empirical support for TMT has been obtained primarily through tests of the mortality salience hypothesis: To the extent that meaning and personal value serve to avert mortality concerns, then heightening the salience of mortality should intensify reliance on and defense of psychological structures that sustain a sense that one is a significant being in a meaningful world. This intensified defense is reflected by contempt for anyone or anything that threatens to compromise these structures. Wide-ranging experiments support variants of this general hypothesis (for reviews of this research, see J. Greenberg, Solomon, & Pyszczynski, 1997; Pyszczynski, Solomon, & Greenberg, 2003). For example, mortality salience leads to polarized attitudes toward those who uphold or violate cultural values and increased discomfort when behaving

in ways that violate cultural standards. Furthermore, mortality salience effects have been obtained using diverse operationalizations of mortality salience, including subliminal priming and proximity to a funeral home. This body of research has also demonstrated that these effects are specific to thoughts of mortality and not elicited in response to thoughts of other aversive events. Moreover, many studies have shown that mortality salience effects are mediated not by mood, affect, or arousal but rather by the potential for anxiety signaled by the heightened accessibility of death-related thought (J. Greenberg et al., 2003).

TMT research focuses primarily on how mortality salience affects reactions to people, objects, or ideas that bolster or threaten specific aspects of one's belief systems. More recent research, however, has discovered that mortality salience also heightens concern with more global or nonspecific properties of belief systems, such as simplicity and consistency (see Dechesne, Janssen, & van Knippenberg, 2000; Landau, Johns, et al., 2004; Schimel et al., 1999). Landau, Johns, et al. (2004), for example, found that mortality salience leads people to prefer simple, consistent, and balanced interpretations of others and social events.

This research has also revealed that mortality salience heightens concern with nonspecific structure primarily among individuals chronically disposed to clear, simple, and unambiguous knowledge, as assessed by PNS (Thompson, Naccarato, Parker, & Moskowitz, 2001). For example, high- but not low-PNS individuals responded to mortality primes with reduced liking for a behaviorally inconsistent, and thus dispositionally ambiguous, target (Landau, Johns, et al., 2004). From a TMT perspective, people invest in different sources of meaning and personal value to cope with death, and individual differences in PNS are interpreted as variations in how central perceiving and imposing structure are to one's protective worldview: Whereas high-PNS individuals may find more meaning in order, simplicity, and familiarity, low-PNS individuals may derive meaning from spontaneity, mystery, and open-mindedness.

These findings demonstrate that seeking basic structure and order in the world serves in part to manage mortality concerns, and that PNS is an important moderator of the effects of mortality salience on various structuring tendencies. However, no prior empirical attention has been given to an equally fundamental means of making sense of the world, namely, locating basic, nonspecific meaning (i.e., discerning recognizable forms, patterns, and generally mapping one's perceptual experience with existing knowledge structures). Consistent with TMT, various thinkers have noted the importance of maintaining coherent meaning in managing existential concerns (e.g., Becker, 1971, 1973; Dissanayake, 1988; Frankl, 1963; Rank, 1936/1968). However, we know of no experimental attempts to assess whether increasing the salience of death heightens concern with maintaining basic meaning; the present research aimed to fill this gap by examining how aesthetic preferences for seemingly meaningful and meaningless art are influenced by intimations of mortality.

Death, Meaning, and Aesthetic Preferences

How can a TMT perspective on meaning inform our understanding of people's distaste for certain artworks? We believe that art can threaten protective meaning in two ways. First, art with recognizable content could be perceived as irreverent, cynical, belittling, provocatively hostile, or otherwise insulting to specific as-

pects of the worldview through allegedly lewd, blasphemous, or incongruent creations (e.g., Marcel Duchamp's *Fountain*, actually a porcelain urinal, or Andres Serrano's *Piss Christ*, a photograph of a crucifix submerged in urine). Indeed, there are numerous examples of outrage over such works, such as the 1990 controversy over the funding of the National Endowment for the Arts to allegedly obscene, sacrilegious, or homoerotic art. In these cases, the offensive art is readily interpretable within the individual's existing meaning structures but clearly opposes them, and here the popular negative response reflects the well-documented need to defend specific aspects of the anxiety-buffering worldview in the face of overt threats to it (e.g., J. Greenberg et al., 1990; J. Greenberg, Simon, Porteus, Pyszczynski, & Solomon, 1995).

Second, and more germane to the present research, art may also undermine meaning when it does not appear to possess any recognizable form or content and thereby stretches the latitude of culturally derived or personally relevant concepts to the point that the observer has no vocabulary or perceptual resources to meaningfully interpret it. We view apprehending an artwork as comparable to apprehending everyday experiences (e.g., Arnheim, 1969; Cupchik, 1992; Neperud, 1988) in that they both entail seeking a coherent and stable meaning vis-à-vis the countless associations derived from the individual's culturally mediated history and purely personal experiences. Consequently, modern art, which appears to many as irregular mosaics of pointless shapes and meaningless splatters, may be disliked because of an existential concern with maintaining meaning. To assess this idea, the current research examined the role of mortality concerns in aversion to these windows into "no-thing-ness."

In our first study, we tested the simple hypothesis that mortality salience reduces liking for abstract art. We then considered the possible moderating role of individual differences in PNS on aesthetic preferences in response to subtle reminders of death. As discussed earlier, Landau, Johns, et al. (2004) found that mortality salient high-PNS people reacted negatively to dispositionally inconsistent individuals and imbalanced social relations, suggesting that high-PNS individuals may be particularly invested in conventional sources of aesthetic structure and meaning. Consistent with this notion, PNS is negatively associated with openness to experience (Landau, Johns, et al., 2004; Neuberg & Newsom, 1993; Thompson et al., 2001), which is robustly associated with general interest in novel aesthetic experiences (Costa & McCrae, 1994; McCrae, 1994) and appreciation of abstract art (Rawlings, 2000). Accordingly, we designed Studies 2, 3, and 4 to test the prediction that only relatively high-PNS individuals would devalue seemingly meaningless modern art under conditions of mortality salience. In addition, Studies 3 and 4 assessed whether a title or frame of reference that imbues an abstract painting with meaning would attenuate the mortality salience-induced devaluation of such art.

Study 1

On the basis of TMT, we propose that modern art is often disliked because it lacks appreciable meaning and is thus incompatible with the underlying terror management motive to maintain a meaningful conception of reality. Evaluations of modern art, therefore, should be especially negative after mortality salience. To test this hypothesis, we simply manipulated mortality salience and then asked participants to evaluate two modern paintings.

Method

Participants

Twenty-five introductory psychology students (16 women and 9 men) participated for partial course credit.

Materials and Procedure

The study was conducted in groups that varied in size from 4 to 8 participants and was described as an investigation of the relationship between personality attributes and impressions of art. Participants were randomly assigned a packet and instructed to work through it at their own pace. The packets were identical in content except for the mortality salience manipulation and the order of the artworks. Participants inserted their completed packets into envelopes and dropped them into a box; they were then debriefed.

Mortality salience manipulation and delay. The mortality salience manipulation followed the two personality fillers included to sustain the cover story. The mortality salience treatment (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989) consisted of two open-ended questions: "Please briefly describe the emotions that the thought of your own death arouses in you" and "Jot down, as specifically as you can, what you think will happen to you physically as you die and once you are physically dead." To control for the possibility that the effect of this induction is merely a generalized reaction to reminders of any aversive experience, participants in the control condition were given parallel questions with respect to an important upcoming exam. The next questionnaire was the Positive and Negative Affect Schedule—Expanded Form (PANAS-X; Watson & Clark, 1991) self-report mood scale. This scale was included to determine whether the mortality salience treatment engendered affect.² Delay and distraction were then created by having participants read a mundane, affectively neutral descriptive passage from "The Growing Stone" by Albert Camus because previous research (e.g., J. Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994) has shown that mortality salience effects are more robust after a delay.

Art impressions. Participants were then instructed to look at two untitled pictures of modern art: Wyndham Lewis's *Workshop* and Patrick Caulfield's *After Lunch* (counterbalanced for order). *Workshop* is highly abstract, depicting superimposed lines and blocklike shapes. *After Lunch* has some representational qualities; however, the recognizable elements in the piece do not cohere in any obvious fashion. In debriefings, participants reported that they did not perceive either piece as remotely meaningful. Following each picture, participants were asked, "How attractive do you find this picture?," and responded on a 9-point scale (1 = *not at all*; 5 = *somewhat*; 9 = *extremely*).

Results and Discussion

In this and all the studies reported here, none of the participants were familiar with any of the artworks, and no effects were found for gender or order. Thus, these variables were excluded from

² The PANAS-X (Watson & Clark, 1991) contains 13 subscales: Positive Affect, Negative Affect, Guilt, Fear, Shyness, Happiness, Hostility, Self-Assurance, Sadness, Serenity, Surprise, Attentiveness, and Fatigue. The PANAS-X thus allowed us to assess the possibility of affective consequences of the mortality salience inductions. For all four studies reported here, we performed multivariate ANOVAs and ANOVAs on the various subscales of the PANAS-X and ANOVAs on the aggregate positive and negative affect scores using our primary predictors. Consistent with previous TMT research, these analyses revealed no effects. We also conducted analyses of covariance with the affect subscales scores (including Positive and Negative Affect) as covariates and our primary predicted effects remained significant.

subsequent analyses. A preliminary analysis also found no effect of piece; therefore, the attractiveness ratings for both pictures were averaged to form a composite. A *t* test comparing mortality salience and control prime conditions found that participants in the mortality salience condition found the art less attractive ($M = 3.9$, $SD = 1.64$) than those in the exam salience condition ($M = 5.8$, $SD = 1.70$), $t(23) = 2.99$, $p = .008$.

These results confirm our hypothesis that modern art would be evaluated less favorably after mortality salience. This finding provides initial support for the claim that the popular distaste for modern art lies at least in part in its threat to the terror-assuaging capacity to perceive objects in the world as meaningful. However, because we only assessed evaluations of modern art in Study 1, mortality salience may have reduced regard for any art, not only modern. Consequently, the next two studies used both representational and abstract art to assess the merits of this alternative explanation. The following three studies were also designed to investigate the role of PNS in aesthetic preferences.

Study 2

On the basis of the foregoing analysis, we expected that individual differences in PNS would moderate the effect of mortality salience, such that mortality salient high-PNS participants would rate modern art especially negatively. Low-PNS people, in contrast, are less reliant on conventional structure, so we did not expect mortality salience to affect their judgments of modern art. Study 2 was also designed to determine whether it is specifically the seeming lack of meaning of modern artwork, and not other aspects of art, that influence judgments after mortality salience. We thus had participants evaluate artworks representing three other genres in addition to modern: (a) paintings that depict Christian themes; (b) paintings that depict non-Western iconography (in a nonthreatening way) in order to distinguish the threat of meaninglessness from that of meaning representing nondominant worldviews; and (c) landscape paintings with an impressionistic style to distinguish meaninglessness from stylistic departures from realism. Mortality salient high-PNS participants were expected to rate only the modern pieces negatively. We also wondered whether broadly worldview-consistent art (in this case, art with Christian themes) would be appreciated more after mortality salience. Although not critical for our central claims, this hypothesis is consistent with prior demonstrations of increased regard for culturally sacred objects after mortality salience (J. Greenberg et al., 1995). We also entertained the possibility that mortality salience would reduce liking for the non-Western iconography paintings. However, because they involve images (the Buddha and Native American symbols) that are familiar and not inherently contradictory to mainstream American culture, we did not expect such an effect. To test these hypotheses, we measured PNS, manipulated mortality salience, and then obtained rankings of a series of paintings.

Method

Participants

Sixty-two introductory psychology students (37 women and 25 men) participated for extra credit.

Materials and Procedure

Participants were recruited to take part in two ostensibly separate experiments described as studies of personality characteristics and art atti-

tudes. In cubicles, participants were randomly assigned a packet for each study; they differed only in the mortality salience manipulation and order of art prints (one of two random orders). Participants completed the packets and were debriefed.

The packets began with two filler questionnaires followed by Thompson et al.'s (2001) 12-item PNS Scale to measure individual differences in preference for order, certainty, and definite knowledge. Participants were asked to indicate their agreement with each of 12 statements (e.g., "I don't like situations that are uncertain") on a 6-point scale (1 = *strongly agree*, 6 = *strongly disagree*). Mortality salience was then manipulated as in Study 1, but dental pain was used as the aversive control topic. The PANAS-X and a neutral word-search puzzle served as the delay. Participants were then instructed to look at eight untitled and not well-known paintings representing four genres: a Rothko and a Miro (modern), *The Crucifixion* by Dürer and *Madonna and Child* by Filippo Lippi (Christian), a Dutch landscape by Jacob Van Ruisdael and a French landscape by Corot (landscape), and an anonymous Hopi sand painting and a depiction of Buddha (non-Western). Participants were instructed to rank order the pieces from 1 (*liked the most*) to 8 (*liked the least*).

Results and Discussion

Comparisons of the rankings between the two paintings within each genre revealed no significant differences and were, therefore, averaged to form composite rankings for each genre (composite rankings ranged from 1.5–7.5; high scores indicated less relative preference). Dependent *t* tests showed that modern art was ranked the lowest of the four genres, significantly lower than Christian and landscape paintings, both $t(61) > 5.84$, $ps < .001$, and marginally lower than non-Western paintings, $t(61) = 1.81$, $p < .07$. We then formed high- and low-PNS groups by means of median split (e.g., Moskowitz, 1993; Neuberg & Newsom, 1993) and submitted the ranking scores to a 2 (priming condition: mortality vs. dental pain; between-subjects) \times 2 (high PNS vs. low PNS; between-subjects) \times 4 (art genre; within-subject) mixed analysis of variance (ANOVA). Results revealed a significant three-way interaction, $F(3, 123) = 2.80$, $p = .04$. We then conducted a series of 2 (mortality vs. dental pain) \times 2 (high PNS vs. low PNS) ANOVAs on the rankings for each art genre.³ For modern art rankings, a significant PNS main effect revealed that high-PNS participants liked modern art less ($M = 5.8$, $SD = 1.46$) than low-PNS participants ($M = 5.0$, $SD = 1.48$), $F(1, 58) = 4.87$, $p = .03$. This was qualified by a significant Mortality Salience \times PNS interaction, $F(1, 58) = 5.02$, $p = .03$. The pattern of means (Table 1) indicates that for low-PNS participants mortality salience did not alter preferences for modern art, $F(1, 58) = 1.30$, $p = .27$. Those high in PNS, however, exhibited a decreased liking, as indicated by higher rankings, when primed with death compared with pain, $F(1, 58) = 3.97$, $p = .05$. Also, high- and low-PNS individuals exhibited similar liking for modern art in the dental pain condition, but their scores differed significantly in the mortality salience condition, $F(1, 58) = 10.64$, $p = .002$. The same ANOVAs on evaluations for the other genres revealed no significant effects (all F s < 1.40 , $ps > .24$; means in Table 1).

These results confirm our hypothesis that high-PNS participants in the mortality salience condition would express especially neg-

³ For Studies 2, 3, and 4, we also tested our primary predictions using regression analyses that treat PNS as a continuous variable. These analyses resulted in the same significant pattern of effects as reported in the primary ANOVAs. The results of the ANOVAs are presented for simplicity of presentation.

Table 1
Mean Rankings for Genres of Art as a Function of Personal Need for Structure (PNS) and Mortality Salience in Study 2

Priming condition	High PNS		Low PNS	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Modern				
Mortality salience	6.5	1.04	4.8	1.41
Dental pain	5.3	1.61	5.4	1.62
Christian				
Mortality salience	3.3	1.59	4.0	1.33
Dental pain	3.3	1.27	3.4	1.03
Landscape				
Mortality salience	2.9	1.54	3.2	1.56
Dental pain	3.3	1.16	3.6	1.93
Non-Western				
Mortality salience	5.4	1.05	5.2	1.13
Dental pain	5.2	1.21	5.7	1.70

Note. Higher scores indicate lower relative appreciation. Scale ratings ranged from 1 to 8.

ative ratings specifically of nonrepresentational modern artworks. These results suggest that aesthetic stimuli that are, to the untrained eye, essentially devoid of meaningful content are often disliked because they undermine the meaningful structures that normally contribute to the management of mortality concerns. In addition, PNS is an important factor in susceptibility to this threat of meaninglessness. We did not find main effects or interactions for any of the individual genres besides modern, suggesting that meanings of various types are sufficient to diffuse the potential for the nonspecific threat of meaninglessness.

Study 3

The results of Studies 1 and 2 supported the idea that the terror management threat posed by apparent meaninglessness plays a role in distaste for modern art, particularly among those high in PNS. Studies 3 and 4 explore a further implication of this analysis, namely, that imbuing modern art with meaning will attenuate mortality-induced negative evaluations. This would show that these effects of mortality salience are a response to meaninglessness in art rather than a response to any art identified as modern, a category of art many people view as elitist and pretentious (see, e.g., Halle, 1993).

One way to impute meaning to an abstract artwork is through a title. Titles can serve as explanatory captions that aid interpretation by directing perception to salient content or intended meanings. For example, Russell and Milne (1997) found that adding titles to modern art increased the rated meaningfulness of the works, and Oatley and Yuill (1985) found that participants were more likely to interpret the movements of geometric shapes across a computer screen as reflecting meaningful intention if the film had been given a title. If naive perceivers are searching for some framework with which to structure their aesthetic experience, then a title can reduce

the threat of meaninglessness otherwise posed by modern art. Therefore, we predicted that high-PNS participants would dislike a seemingly meaningless modern artwork after mortality salience, but that this effect would be eliminated if the piece was accompanied by a meaning-laden title.

To determine whether this effect of titles has to do with imbuing meaning rather than something else about providing a title, we also had participants evaluate an artwork that was identifiable as modern art but that featured readily identifiable meaningful content (e.g., Georgia O'Keefe flower paintings). Although classified as modern art, from a TMT perspective such an artwork should not pose a threat of meaninglessness. Therefore, liking for such a piece should not be affected by mortality salience, PNS, or the presence of a title. We thus had participants rate a modern artwork with easily identifiable meaning as well as one that seemed meaningless.

In short, we hypothesized that mortality salient high-PNS participants would dislike a seemingly meaningless artwork but not one with minimally identifiable content, and that this effect would be eliminated if the piece was given a meaningful title. The title manipulation was not expected to affect evaluations of the contentful modern work because it posed no threat to meaning. Support for this predicted pattern would indicate that the interactive effect of PNS and mortality salience is not in response to any pieces that are viewed as modern art but only art lacking in apparent meaning.

Method

Participants

Ninety-five introductory psychology students (65 women and 30 men) participated in partial fulfillment of a class requirement.

Materials and Procedure

Participants were told the experiment concerned how personality factors relate to art preferences and that they would complete a packet of personality questionnaires and evaluate some artworks. The packets differed only in the mortality salience manipulation, the order of the artworks, and which of the two artworks had a meaningful title. After completing the packets, participants were debriefed.

The packet began with Thompson et al.'s (2001) PNS scale followed by the same mortality salience manipulation, PANAS-X, and word-search puzzle used in Study 2. Participants were then instructed to examine two pieces of modern art: Jackson Pollock's *Guardians of the Secret* and Constantin Brancusi's *The Beginning of the World*. The Pollock piece (Figure 1), which served as our seemingly meaningless modern artwork, features a blue canvas with a white box in the middle flanked by vaguely depicted pillars and splotches of paint over the entire surface. The Brancusi piece is a photograph of a large egg-shaped rock on a wooden floor. The Brancusi piece is easily recognizable as an egg or a rock, so it served as our meaningful modern artwork.⁴ For half of the participants, *Guardians of the Secret* was presented with its title in bold letters underneath, whereas *Beginning of the World* was simply labeled #12. For the other participants, *Beginning of the World* was accompanied by its title, whereas *Guardians of the Secret* was labeled #12. By adding the title to *Guardians of the Secret*, the white box in the middle becomes salient as "the secret" and the forms on each

⁴ A pilot investigation supported our assumption that participants readily perceived meaning in the Brancusi piece but not the Pollock piece. Details are available on request.



Figure 1. Jackson Pollock's *Guardians of the Secret* used in Study 3. Reproduced with permission. © 2005 The Pollock-Krasner Foundation/Artists Rights Society (ARS), New York.

side appear as “the guardians”; in this way, the title sets a mysterious tone for the artwork and provides some insight into the artist's intention. After each print were three art evaluation questions: “How much do you like this artwork?” “How much does this particular piece appeal to you at a gut level?” “Relative to other art you've seen, how interested would you be in checking out more art like this?” Responses were made on 9-point scales (1 = *not at all*, 9 = *very much*).

Results and Discussion

Art Impressions

Because the three art evaluation questions demonstrated good reliability for both pieces ($\alpha_s = .92, .96$), they were averaged to yield composite liking scores for each piece (actual composite scores ranged from 1–9 for the Pollock piece and 1–8.33 for the Brancusi piece). We formed high- and low-PNS groups by means of median split and submitted the composite liking scores to a 2 (priming condition: mortality vs. dental pain; between-subjects) \times 2 (high PNS vs. low PNS; between-subjects) \times 2 (title vs. no title; between-subjects) \times 2 (piece: *Guardians of the Secret* vs. *Beginning of the World*; within-subject) mixed ANOVA. The predicted four-way interaction was nonsignificant, $F(1, 83) = 3.21, p < .08, \eta_{\text{partial}}^2 = .03$. However, this is an overly conservative test because we did not expect an opposite pattern among low-PNS participants. Therefore, we proceeded to break down the interaction by examining the Mortality Salience \times Title \times Piece (within-subject) interaction separately within high- and low-PNS groups.⁵ The ANOVA revealed the pre-

dicted three-way interaction within the high-PNS group, $F(1, 42) = 4.17, p = .05$, but not the low-PNS group, $F(1, 45) < 1, p > .90$. To interpret the pattern within the high-PNS group, we then analyzed liking scores for each piece.

Guardians of the Secret. Within the high-PNS group, we performed a 2 (mortality vs. dental pain) \times 2 (titled vs. untitled) ANOVA on ratings of *Guardians of the Secret*. A main effect for title revealed more liking for the titled work, $F(1, 42) = 14.09, p < .001$, which was qualified by the predicted interaction, $F(1, 42) = 5.61, p = .02$ (Table 2). Pairwise comparisons revealed that, as in Study 2, mortality salient high-PNS participants liked the untitled piece less than high-PNS participants in the dental pain condition, $F(1, 42) = 5.22, p = .03$. Furthermore, mortality salient high-PNS participants who viewed the untitled piece liked it less than those

⁵ On the basis of our conceptualization of high-PNS individuals, we believed that this was the most appropriate way to interpret the four-way interaction. An alternative method is to examine the interaction among PNS, title, and piece (within) separately within mortality salience and dental pain conditions. The results of this analysis revealed the predicted three-way interaction within mortality salience, $F(1, 44) = 5.00, p = .03$, but not the dental pain condition ($F < 1, p > .9$). Furthermore, the PNS \times Title interaction within the mortality salience and *Guardians of the Secret* conditions was significant; the pattern of means indicated that high-PNS participants who evaluated the untitled piece rated it less favorably than low-PNS participants who rated the untitled piece and high-PNS participants who rated the titled piece.

Table 2
Mean Liking for Meaningless and Meaningful Art as a Function of Mortality Salience, Personal Need for Structure (PNS), and Title in Study 3

	High PNS				Low PNS			
	Titled		Untitled		Titled		Untitled	
Priming condition	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Meaningless art: <i>Guardians of the Secret</i>								
Mortality salience	6.1	2.31	3.2	1.63	4.8	2.38	5.4	2.68
Dental pain	5.9	1.63	5.0	2.32	5.7	1.96	5.2	2.48
Meaningful art: <i>Beginning of the World</i>								
Mortality salience	3.2	2.13	2.5	1.78	3.0	2.43	2.6	1.55
Dental pain	2.9	2.33	2.6	1.57	3.6	2.25	3.0	2.09

Note. Higher scores indicate higher liking. Scale ratings ranged from 1 to 9.

who viewed the titled piece, $F(1, 42) = 10.10, p < .01$. Viewed differently, there was no hint that mortality salient high-PNS participants derogated the abstract artwork when it was given a meaningful title. No other comparisons attained significance (all $F_s < 1.90, p_s > .2$).

Beginning of the World. The same analyses performed on evaluations of *Beginning of the World* revealed no effects of mortality salience, title, or their interaction ($F_s < 1, p_s > .4$; see Table 2). It is unlikely that these null results are due to a floor effect given that the means in all conditions were about 3—one third of the scale—and could certainly have been lower.

As in Study 2, high-PNS participants responded to mortality salience with especially negative evaluations of modern, seemingly meaningless art. However, this effect was eliminated when the same piece was given a meaningful title. Also, the mortality-induced distaste for untitled modern art was specific to a visually chaotic, meaningless piece; mortality salient high-PNS participants did not derogate an artwork labeled as *modern art* but that conveyed readily identifiable content. This suggests that for those chronically disposed to structure their environments in clear and orderly ways, modern art is often disturbing because its perceived meaninglessness conflicts with their need for simple meaning, a need that serves a terror management function; if the piece is imbued with or conveys apparent meaning, this mortality-induced distaste is eliminated.

Study 4

The results of Study 3 demonstrate that adding a title to a meaningless artwork eliminated the mortality-induced distaste among high-PNS participants. In Study 4 we were interested in replicating this effect with different artworks and a different means of lending art meaning. In addition to explanatory texts, a powerful method of lending meaning and organization to a stimulus is to relate it to personal experience (e.g., Tulving, 1962). In this way, even untrained viewers who lack a technical vocabulary can draw on personal experiences to provide a personal frame of reference within which to interpret novel aesthetic stimuli. Indeed, those who appreciate modern art often relate to pieces as expressions of

personal feelings rather than as representations of objects in the world (Kandinsky, 1977; Meier, 1942). Because it is the visual disorder of these pieces that renders them meaningless, we expected that high-PNS individuals who vividly imagined themselves in an unfamiliar, disordered situation, as opposed to a familiar and structured situation, would subsequently have a personal frame of reference to make sense of a seemingly chaotic artwork, and that this would attenuate the mortality-induced aversion toward that work. To assess this possibility, we followed a mortality salience manipulation with a vivid imagery task designed to activate in half the participants a personal frame of reference that would render a disordered artwork more meaningful.

The results of Study 3 also show that mortality salient high-PNS participants did not derogate a modern artwork that conveyed recognizable content. In the current study, we were interested in whether conventional visual structure would also alleviate the aversion to modern abstract art. It is notable that not all uses of abstraction entail visually chaotic conglomerations of dissonant forms and colors. Geometric patterns have marked the course of art from prehistoric times onward (Dissanayake, 1988; Gombrich, 1984). Indeed, people seem quite comfortable with the geometric abstractions of neckties and carpets. Within the world of modern art, abstraction was central to the Minimalist movement, which sought to strip painting down to its fundamental features by arranging simple, flat shapes, right angles, and primary colors into austere compositions with a universally comprehensible frame of reference. A central Minimalist painter was Joseph Albers, whose paintings contain no representational content but were composed in accordance with aesthetic principles of clarity, symmetry, and order; we did not expect such a piece to be disliked by mortality salient high-PNS participants.

In short, we hypothesized that mortality salient high-PNS participants would dislike a visually chaotic piece but not one with structured visual order, and that this effect would be eliminated if participants had earlier imagined a personal experience with chaos and disorder.

Method

Participants

Ninety-two introductory psychology students (38 men and 54 women) participated in fulfillment of a course requirement.

Materials and Procedure

Participants were recruited to take part in two separate experiments described as studies of personality characteristics and perceptions of paintings. After entering cubicles, they were administered a personality packet, which differed only in the mortality salience and personal frame of reference manipulations.

As in Studies 2 and 3, Thompson et al.'s (2001) PNS Scale was included after two filler personality questionnaires. Mortality salience was manipulated as in the previous studies, except that the aversive control topic was the experience of social exclusion. Participants then completed a personal experience prime presented as an exercise in personal imagery. The instructions were as follows: "How people imagine themselves in certain situations can tell us a lot about their personality. We'd like you to imagine being in the situation described below. As you're reading the description, try to picture vividly in your head the situation described."

Participants in the frame of reference (chaos) condition were asked to imagine being in a strange city where the people speak an unfamiliar



Figure 2. Wassily Kandinsky's *Composition VI* used in Study 4. Reproduced with permission. © 2005 Artists Rights Society (ARS), New York/ADAGP, Paris.

language and the people and the place appear nonsensical. Those in the no frame of reference (order) condition were asked to imagine being in a familiar city that seems like home and where everything about the people and the place makes sense. Participants then read the following instructions: "Now that you've imagined yourself in this situation, we'd like you to write in the space below how you might feel in this situation. What kinds of thoughts would go through your head? How would you feel? Do your best to describe how you would feel in this situation." These instructions were followed by eight double-spaced lines. Participants answered two manipulation check questions: "How confused would you be in a place like this?" "How easy would it be for you to understand this place and its people?" Responses were made on 7-point scales (1 = *not at all*, 7 = *very much*). A pilot study found that this frame of reference induction did increase the perceived meaningfulness of the visually chaotic painting used in the present study.⁶ The PANAS-X followed the personal frame of reference prime.

After completing the personality packet and placing it in a box, participants were instructed to turn on the monitor in front of them and follow the instructions on the screen. Using MediaLab software (Jarvis, 2004), we instructed participants to examine two modern paintings (in counterbalanced order): Kandinsky's *Composition VI* and Albers's *Homage to the Square*. The Kandinsky piece (Figure 2) is a chaotic collection of incongruent, colliding forms and colors. The Albers piece is a highly structured arrangement of three nested and linearly structured squares painted in a single color scheme. For each painting, participants responded to three questions on 7-point scales (1 = *not at all*, 7 = *very much*): "How much do you like this artwork?" "How much does this particular piece appeal to you at a gut level?" "Relative to other art you've seen, how interested would you be in checking out more art like this?"

Results and Discussion

Personal Frame of Reference Manipulation Check

Participants who imagined a chaotic experience imagined feeling more confused ($M = 6.1$, $SD = 1.26$) than those who imagined an ordered experience ($M = 3.4$, $SD = 2.1$), $F(1, 90) = 53.10$, $p < .001$. Chaos-primed participants also imagined being less able to understand the experience ($M = 3.2$, $SD = 1.61$) than order-

primed participants ($M = 5.3$, $SD = 1.51$), $F(1, 90) = 39.45$, $p < .001$. These results suggest that the frame of reference prime successfully activated feelings of chaos or order.

Art Impressions

The three art evaluation questions had a high degree of internal consistency (α s for both pieces = .91), so we analyzed their average (actual composite scores ranged from 1–7 for the Kandinsky piece and 1–6.7 for the Albers piece). These scores were submitted to a 2 (priming manipulation: mortality vs. social exclusion; between-subjects) \times 2 (high PNS vs. low PNS; between-subjects) \times 2 (frame of reference prime: chaos vs. order; between-subjects) \times 2 (piece: *Composition VI* vs. *Homage to the Square*; within-subject) mixed ANOVA. Supporting the idea that the Kandinsky but not the Albers piece threatens meaning, we obtained a marginal Mortality Salience \times Piece interaction, $F(1, 84) = 2.62$, $p = .10$, such that a preference for the Kandinsky over the Albers piece in the exclusion salience condition was eliminated in the mortality salience condition. We also obtained a PNS \times Piece interaction, $F(1, 84) = 4.58$, $p = .04$, such that low-PNS participants liked the Kandinsky piece more than the Albers piece, but this preference was reversed for high-PNS participants. More important, the significant four-way interaction emerged, $F(1, 84) = 4.24$, $p = .04$. To interpret this interaction, we performed separate ANOVAs for each piece.

⁶ Specifically, we had 19 participants from the same pool as in Study 4 complete either the chaos or order prime and then rate the Kandinsky piece on three questions—"How meaningful is this painting to you?" "How well can you relate to this painting?" "To what extent do you think this painting expresses something?"—which were averaged to form a meaningfulness composite ($\alpha = .85$). Participants in the chaos prime condition rated the chaotic artwork as more meaningful ($M = 6.1$) than those in the order prime condition ($M = 4.4$), $t(17) = 2.15$, $p = .04$.

Composition VI

A Mortality Salience \times PNS \times Frame of Reference ANOVA for the Kandinsky ratings revealed only a significant three-way interaction, $F(1, 84) = 4.53, p = .04$. In support of our hypothesis, the pattern of means presented in Table 3 and pairwise comparisons revealed that mortality salient high-PNS participants who were asked to think about order liked the visually chaotic piece significantly less than exclusion salient high-PNS participants who thought about order, $F(1, 84) = 7.45, p = .008$, and mortality salient low-PNS participants who thought about order, $F(1, 84) = 5.93, p = .02$. Furthermore, mortality salient, order-primed, high-PNS participants liked the visually chaotic piece less than mortality salient high-PNS participants who imagined a personal encounter with chaos, $F(1, 84) = 4.32, p = .04$. This pattern of results demonstrates that mortality salient high-PNS participants did not derogate the visually chaotic piece if they had previously imagined a chaotic experience.

Homage to the Square

The same analysis performed on perceptions of the visually structured piece revealed only a main effect for PNS, such that high-PNS participants liked the piece more ($M = 3.3, SD = 1.56$) than low-PNS participants ($M = 2.6, SD = 1.40$), $F(1, 84) = 4.03, p = .05$ (all other F s $< 1.40, p$ s $> .3$; see Table 3).

These results confirm our hypothesis that mortality salient high-PNS participants would dislike a chaotic, fragmented modern artwork, but that this effect would be eliminated if, before viewing it, they vividly imagined a personal experience that provided a personal frame of reference relevant to the piece. Furthermore, this effect was specific to a visually chaotic piece; high-PNS participants actually liked a highly structured piece more than low-PNS participants, but these evaluations were not affected by mortality salience, frame of reference manipulation, or their interaction. Taken together with the results of Study 3, these results indicate that those prone to simple structure dislike seemingly meaningless art when mortality concerns are made salient. When a meaningless artwork is imbued with meaning, either through the use of a

descriptive title (Study 3) or a personally relevant experience that meaningfully relates to the piece (Study 4), the mortality-induced aversion is eliminated.

The results of Studies 3 and 4 allow us to rule out the explanation that the simple recognition of the pieces as modern art accounts for the observed reactions. For one, this explanation could not easily account for the effects of title or frame of reference manipulations. Also, although evaluations for modern artworks with recognizable content (Study 3) or a highly structured composition (Study 4) were not favorable overall, they were not affected by mortality salience or its interaction with PNS. These findings also undermine another alternative: that mortality salience simply increases preexisting aesthetic preferences among high- and low-PNS individuals.

General Discussion

By examining the aesthetic preferences of untrained viewers, four studies tested predictions derived from TMT concerning the psychological threat of meaninglessness: the inability to understand or experience one kind of thing in terms of another. According to TMT, meaninglessness is threatening because maintaining a basic comprehension of the world is a critical component of how people imbue life with death-transcending meaning and significance. Increasing the salience of mortality should, therefore, engender negative evaluations of artworks that are seemingly devoid of meaning, particularly for those chronically invested in simple, unambiguous knowledge, and this effect should be eliminated when these artworks are imbued with meaning. Our results provide strong support for these predictions. Study 1 showed that mortality salience diminished affection for modern artworks. Study 2 showed that this effect was moderated by individual differences in PNS; mortality primes decreased liking for meaningless, but not meaningful, artworks among high-PNS participants. This effect was replicated in Study 3, and it was also shown that mortality salience did not affect high-PNS participants' evaluations of a modern artwork that had been imbued with meaning through an explanatory title. Study 4 explored another common way of imbuing art with meaning—relating it to personal experience—and found that mortality salient high-PNS participants derogated a visually chaotic artwork unless they had been previously primed with an experiential basis for interpreting the artwork. Studies 3 and 4 also showed that mortality salient high-PNS participants were not reacting to anything specifically objectionable about the category of modern art per se; evaluations of pieces presented as modern art but featuring readily identifiable meaning or a high degree of visual structure were not affected by mortality salience, title, or personal frame of reference manipulations or their interaction with PNS.

Table 3

Mean Liking for Visually Chaotic and Visually Structured Art as a Function of Mortality Salience, Personal Need for Structure (PNS), and Personal Frame of Reference in Study 4

	High PNS				Low PNS			
	Frame		No frame		Frame		No frame	
Priming condition	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Visually chaotic art: <i>Composition VI</i>								
Mortality salience	4.3	2.00	2.9	1.52	3.9	1.68	4.8	1.79
Social exclusion	3.8	1.77	5.0	1.50	4.2	1.51	4.6	1.44
Visually structured art: <i>Homage to the Square</i>								
Mortality salience	3.3	1.68	3.2	1.25	2.6	1.73	3.3	1.37
Social exclusion	3.8	1.69	2.6	1.56	2.0	1.29	2.4	1.18

Note. Higher scores indicate higher liking. Scale ratings ranged from 1 to 7.

Considering an Alternative Explanation

Although our findings converge on the idea that mortality salient high-PNS participants are reacting negatively to the apparent meaninglessness of the artworks, one possible alternative explanation is that mortality primes increased the accessibility of death-related themes, leading meaning-seeking high-PNS participants to perceive more disturbing death-related imagery in the ambiguous,

abstract works.⁷ We believe this alternative is unlikely because the abstract pieces used (e.g., the Pollock depicted in Figure 1 and a Rothko consisting of splotchy patches of bright color) do not seem to lend themselves at all to death-related themes, whereas the crucifix painting used in Study 2 does.

To further examine this alternative, we ran a supplementary study in which, after a measure of PNS, the mortality salience treatment and a delay, 40 participants from the same pool of participants as Studies 3 and 4 were shown the Pollock from Study 3 (see Figure 1), the Kandinsky from Study 4 (see Figure 2), and *The Crucifixion* and Dutch landscape paintings from Study 2 (in one of two random orders, all without titles) each for 2 min and asked to write a paragraph offering any interpretations or ideas brought to mind by each painting. We then had two raters who were unaware of our purpose count death-related words in each paragraph. The two raters were in high agreement in their counts ($r = .93$). If mortality salience led high-PNS people to perceive death-related themes in the abstract paintings, we should find an interaction between PNS and painting on number of death-related words. However, a 2 (high PNS vs. low PNS; between-subjects) \times 4 (painting; within-subject) mixed ANOVA yielded only a main effect of painting, indicating that the paragraphs about *The Crucifixion* painting contained significantly more death-related words than the paragraphs about the landscape, $t(39) = 2.98, p = .005$, and Kandinsky paintings, $t(39) = 2.63, p = .01$. No other comparisons approached significance. The mean for the two abstract paintings was .10, suggesting very little perception of death-related themes. Furthermore, if high-PNS people were prone to perceive death-related themes in the abstract paintings, we would expect positive correlations between PNS and number of death-related words in response to those paintings. In fact, for the Pollock, there was no correlation ($r = .03, ns$) and for the Kandinsky, the correlation was actually negative ($r = -.32, p = .05$).

Mortality Salience, Structure, and Meaning

Terror management research has found that people deal with the problem of death using a variety of defenses, including defense of specific aspects of their cultural worldview, investment in romantic relationships, increased self-esteem striving, and denial of the corporeal aspects of the self (for review, see Solomon et al., 2004). Research (Landau, Johns, et al., 2004; Schimel et al., 1999) has assessed another mode of defense that figures centrally in the earliest theoretical articulations of TMT: the organization of information in basic, nonspecific ways to maintain a clear and consistent conception of the world, and the consequent devaluing of anything that threatens to undermine those epistemic goals. These earlier studies demonstrated a preference for intrapersonal and interpersonal consistency and for beliefs in a just and benevolent world. However, TMT posits that people need a worldview that is not only orderly but that imbues reality with meaning as well. A lack of consistency or just outcomes does not necessarily imply a lack of meaning. Imbalanced social relations or a person who vacillates between extraversion and introversion can still be viewed as meaningful. The present studies, in contrast, directly examine the central issue of meaning and the role of mortality concerns in instigating at least those invested in simple structure to derogate stimuli that do not seem meaningful.

These results may also help explain the historically prevalent tendency for some people to dismiss and condemn art that they

consider meaningless. Moreover, these findings have considerable implications for social issues: Although interpersonal and intergroup enmity often stem from specific points of contention, there may also be cases in which people devalue and dismiss others simply because their beliefs, appearance, or actions appear nonsensical. Of course, further research is needed to examine the role of mortality concerns in reactions to other stimuli that seem to lack meaning.

Which Is the Basic Threat: Mortality or Meaninglessness?

This is surely a very thorny question. The original formulation of TMT posits that knowledge of mortality is the ultimate psychological threat because it conflicts with a variety of biological systems designed to keep the individual alive. From this perspective, people need to view life as meaningful to help deny the possibility that death is the absolute end of one's existence. Therefore, reminders of mortality heighten the need to protect and bolster psychological structures that help people sustain the sense that life is meaningful.

An alternative interpretation of the effects of mortality salience might be based on the idea that meaninglessness is the ultimate threat. The knowledge of mortality is a severe threat to believing that life is meaningful, and so reminders of mortality increase people's need to protect and bolster psychological structures that help people sustain the sense that life is meaningful. If this latter view were correct, it might not change much about TMT or its implications. Mortality is probably the most severe threat to believing that life is meaningful: Not only will every individual die, but so will all whom one cares about and, as science suggests, so eventually will our entire species. All humans carry this threatening knowledge—that death is the only inevitability—with them throughout their lives and must defend against it.

It may be that this conceptual issue—whether the need for meaning is caused by the need to deny death as absolute annihilation or the need to deny death as absolute annihilation is caused by the need for meaning—is not fully resolvable. However, we believe that at this point there are conceptual and empirical reasons to favor the original terror management position. First, we believe that TMT is far more comprehensive than any meaning-based theories of which we are aware. TMT was originally formulated to help explain the human need for meaning. Indeed, Ernest Becker's (1971) first book, which provided much of the conceptual basis of TMT, was titled *The Birth and Death of Meaning*. TMT views the knowledge of death as the ultimate psychological threat because it conflicts with our biological predispositions toward continued existence. A meaningful worldview in which one can feel significant and enduring provides a basis for denying that death is the end of existence. Viewing meaninglessness as the ultimate threat would require a theory that explains why meaning is so fundamentally important, independent of its role in quelling concerns about death.

In addition, an analysis focused on meaning as the fundamental concern would have to explain why people do not seem to want just any version of meaning. Beliefs in an immortal soul and afterlife have been central to the vast majority of known cultures, and all worldviews seem to provide not just meaning but meaning

⁷ We thank an anonymous reviewer for pointing this out.

that is geared toward a benign conception of reality in which one can feel protected, significant, and enduring. Thus, meaning systems are geared toward not just any meaning, but meaning that supports the possibility of either literal or symbolic death transcendence to those of value within the context of their stability, order, and meaning providing worldviews.

Would people prefer to live forever knowing that life has no larger meaning beyond the pleasures and joys of the arts, food, sex, sports, and so forth or to live as mortals in life with a certain deep meaning (e.g., providing a service to a deity before being absolutely annihilated at death)? We suspect immortality would be the popular choice, but such conscious decisions would not provide definitive empirical evidence, particularly because neither option is all that plausible to many people.

There is, however, other evidence that bears fairly directly on the death versus meaninglessness issue. As previously noted, the specific content of worldviews past and present supports the original TMT position. In addition, there is experimental evidence that we believe supports the original TMT view. First, Baldwin and Wesley (1996) directly compared a mortality salience treatment and a meaninglessness salience treatment and found that the meaninglessness salience treatment did not reproduce the mortality salience effect. Similarly, other control conditions that might imply meaninglessness, such as thoughts of paralysis, pain, and social exclusion, have failed to reproduce mortality salience effects (see Solomon et al., 2004).⁸

Research on death thought accessibility also supports the specific role of death-related thoughts in mortality salience effects. Studies show that threats to meaning, such as a threat to the belief in a just world (Landau, Johns, et al., 2004), threats to personal significance such as reminders of one's animality (Goldenberg, Pyszczynski, McCoy, Greenberg, & Solomon, 1999), and threats to a romantic relationship (Mikulincer, Florian, & Hirschberger, 2003), increase death thought accessibility. Additional research using subliminal death primes shows that increased death thought accessibility, even in the absence of conscious contemplation of death, leads to increased accessibility of worldview-related constructs and increased worldview defense (Arndt, Greenberg, & Cook, 2002; Arndt, Greenberg, Pyszczynski, & Solomon, 1997). Studies also show that increased defense of the worldview reduces death thought accessibility to baseline levels (e.g., Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997), and that worldview defense is motivated by the potential to experience anxiety aroused by thoughts of death (J. Greenberg et al., 2003). Finally, as TMT predicts, many mortality salience effects involve increased self-esteem striving and defense rather than meaning bolstering. For example, mortality salience increases displays of physical strength (Peters, Greenberg, Williams, & Schneider, 2005) and driving skills (Taubman Ben-Ari, Florian, & Mikulincer, 1999) among those who base their self-worth partly on those dimensions and increased distancing from in-group identifications when the in-group is framed negatively (Arndt, Greenberg, Schimel, Pyszczynski, & Solomon, 2002). These findings support the original TMT formulation because one's personal accomplishments do not make the world more meaningful; rather, they protect and enhance one's value within a world of meaning.

In view of these conceptual arguments and empirical studies, we believe the case for the primacy of the threat of mortality is strong. Nevertheless, there is certainly a need for more research on various existential threats such as death, alienation, uncertainty, freedom,

and meaninglessness, how people cope with them, and how they relate to each other (see J. Greenberg, Koole, & Pyszczynski, 2004, for current research programs on such topics).

The Role of PNS

The current studies, along with other TMT research, suggests that PNS is an important moderator of a number of mortality salience effects related to meaning and structure, including aversion to behaviorally inconsistent others (Landau, Johns, et al., 2004), striving for self-concept coherence (Landau, Greenberg, Solomon, Martens, & Pyszczynski, 2004), rigid adherence to clear group boundaries (Dechesne et al., 2000), and preference for stereotype-consistent others (Schimel et al., 1999). Further research is needed to assess whether PNS moderates other defensive inclinations in response to mortality salience as well.

These studies also raise interesting questions about how low-PNS individuals respond to mortality salience. The present findings suggest that low-PNS people are more open to stimuli that challenge simple structure and may thus characterize the type of person willing and able to develop meaningful views of initially meaningless stimuli such as nonrepresentational art. This may be because, as prior theorizing and research (Kruglanski, 1989; Thompson et al., 2001) suggest, low-PNS individuals are better able to suspend epistemic judgment, assimilate the exceptional and unusual into their existing knowledge structures, and accommodate those structures in light of new experiences.

Given our analysis, one might also wonder why high-PNS participants did not respond to mortality salience with an increased liking for meaningful art. We suggest that people are generally fully embedded in an everyday world of meaning and significance, owing to the seemingly immediate and effortless ability to perceive and infer meaningful objects and relations in an integrated perceptual unity; therefore, people are rarely aware of meaning as a problem to be solved. We thus would not expect the perception of basic meaning (e.g., perceiving an egg) to elicit a positive response. Rather, losing touch with basic meaning seems more subjectively potent. In addition, art preferences are highly idiosyncratic, and the artworks used were unfamiliar to the participants. Although we might expect someone with a strong affinity toward Kandinsky's paintings, for example, to like them more after mortality salience, our studies had diverse participants evaluating unfamiliar works, so we did not expect that the mere identification of some culturally familiar objects or visual structure would necessarily increase aesthetic enjoyment.

⁸ Some studies have found that salience of uncertainty produces effects similar to mortality salience (McGregor, Zanna, Holmes, & Spencer, 2001; van den Bos, 2001). However, other more recent studies have found quite different effects for mortality and uncertainty salience (Friedman & Arndt, 2005; Landau, Johns, et al., 2004; Martens, Greenberg, Schimel, & Landau, 2004; Routledge, Arndt, & Goldenberg, 2004). Perhaps mortality sometimes arouses uncertainty concerns, sometimes thoughts of uncertainty arouse death-related thoughts (Chaudary, Tison, & Solomon, 2002), or these threats simply have similar effects on some variables but not others. It is also uncertain whether uncertainty primarily relates to issues of meaning, self-worth, or anxiety.

Toward a Broader Conception of Artistic Meaning and Terror Management

We fly to beauty from the terrors of finite nature.

—Ralph Waldo Emerson, *Ralph Waldo Emerson: Journals and Miscellaneous Notebooks*

In virtually every known culture, art has served a critical meaning-lending function, so it would be useful to consider briefly the broader significance of art in terror management. An artwork's departure from convincing lifelike renderings is often intended to encourage the viewer to consider possibilities of human experience beyond their own or apprehend the world in a way that lies beyond their existing knowledge (Breton, 1924/1969; Gombrich, 1984; Kandinsky, 1977). However, if art violates the minimal condition of meaningfulness, these loftier engagements with art, however central to a full understanding of the aesthetic response, may be undermined, at least for some people. We believe that this insight into aesthetic judgment can provide a window into why people are so rigidly reluctant to suspend their preconceptions in other domains as well.

Additionally, art can serve terror management in a variety of ways (see Dissanayake, 1988, for a broader, more thorough treatment of the nature and function of art). At the most basic level, representational art immortalizes the ephemeral; it fixes something outside of the flow of time, transforming a transient object or moment into a thing more permanent. Although the bison depicted in cave art, King Tut, and the Mona Lisa all died long ago, their images remain with us to this day. As John Keats phrased it in his classic poem "Ode on a Grecian Urn,"

Fair youth, beneath the trees, thou canst not leave
Thy song, nor ever can those trees be bare;
Bold Lover, never, never canst thou kiss,
Though winning near the goal—yet, do not grieve;
She cannot fade, though thou hast not thy bliss,
For ever wilt thou love, and she be fair! (Keats, 1820/1991, p. 37)

Beyond immortalizing the objects and moments depicted, art can also serve to immortalize the artist. Poets, novelists, composers, and painters constitute a large percentage of the few humans who are remembered centuries after their deaths. Indeed, we suggest that many living humans hold out the secret hope that they will live on somehow through their creative efforts. In addition to their value for the objects depicted and the artists themselves, artistic symbols are often imbued with arcane meaning that can lend tangible form to, and thereby enhance the apparent veridicality of, collectively held constructs that have no material existence (e.g., Zen gardens and Gothic cathedrals both serve as allegories intimately tied to local belief systems). Art has also been useful for maintaining an illusion of control and protection by reifying and personifying supernatural agents and, furthermore, by providing a vehicle by which people can appeal to them to ensure safety and prosperity (e.g., rain dances). Finally, art can also powerfully convey symbolic constructs such as love that elevate our essentially corporeal affectations (e.g., sex) to supernatural significance.

In sum, art has the potential to contribute critically to beliefs in the significance of ordinary experience and the existence of extraordinary worlds, helping to imbue reality with an overall sense of order, beauty, and purpose, thereby helping people to maintain psychological equanimity in the face of death while simulta-

neously enjoying the intrinsic satisfaction that comes with novelty and exploration. This conception of art and its meaning-conferring functions clearly requires further investigation. However, we believe the present work serves as a preliminary step by showing that terror management needs can prevent people oriented toward simple structure from deriving these benefits when the artwork's perceived chaos or vacuity hinders the maintenance of a meaningful conception of the world.

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