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Death and gratitude: Death reflection enhances gratitude

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Although gratitude is important to the good life, little is known about factors that enhance gratitude. Some have suggested that traumatic events such as near-death experiences and life-threatening illnesses might enhance gratitude. If reflecting on death causes one to appreciate life as a limited resource, this might enhance gratitude. This study investigated this theory. Participants were randomly assigned to a death reflection condition, a traditional mortality salience condition, or to a control condition. Participants in the death reflection and the mortality salience conditions showed enhanced gratitude compared to individuals in the control condition, supporting the theory that becoming aware of one's mortal limitations enhances gratitude for the life that what one has.

Keywords: gratitude; death reflection; death; mortality salience

Introduction

The truth is that all genuine appreciation rests on a certain mystery of humility and almost darkness. The man who said, 'Blessed is he that expecteth nothing, for he shall not be disappointed', put the eulogy quite inadequately and even falsely. The truth is, 'Blessed is he that expecteth nothing, for he shall be gloriously surprised'. The man who expects nothing sees redder roses than common men can see, and greener grass, and a more startling sun. Blessed is he that expecteth nothing, for he shall posses the cities and the mountains; blessed is the meek, for he shall inherit the earth. *Until we realize that things might not be, we cannot realize that things are*. Until we see that darkness we cannot admire the light as a single and created thing. As soon as we have seen that darkness, all light is lightening, sudden, blinding, and divine. . . . It is one of the million wild jests of truth that we know nothing until we know nothing.
–Chesterton (1905/1986a, p. 69, italics added).

How do grateful people become grateful? How does gratitude develop in a person? In the epigraph, Chesterton suggests that when one recognizes 'that things might not be' she develops a deep appreciation for these things. Thus, one important component of the grateful person may be that they understand that the benefits they enjoy now 'might not be'. Perhaps when individuals become aware that life is a benefit that is not a given, they then gain an appreciation and gratitude for the life that they have. By reflecting on one's own mortality, this could enhance one's awareness that their life 'might not be', and hence might become more grateful for the life they have. Do people become more grateful when they are reflecting on their own death? The purpose of this study was to investigate this question.

Research has converged to support the conclusion that gratitude is an important component of the good life. Trait gratitude measures are strongly correlated with various measures of subjective well-being (e.g., McCullough, Emmons, & Tsang, 2002; Watkins, Woodward, Stone, & Kolts, 2003b; Wood, Joseph, & Maltby, 2008), longitudinal studies have found that gratitude predicts increased well-being over time, and gratitude is one of the strongest predictors of happiness amongst the strengths identified by the Values In Action project (Park, Peterson, & Seligman, 2004; Peterson & Seligman, 2004). Furthermore, experimental studies have provided promising evidence that gratitude exercises may actually enhance immediate mood state (Watkins et al., 2003b), and long-term subjective well-being (Emmons & McCullough, 2003; Froh, Sefick, & Emmons, 2008; Lyubomirsky, Sheldon, & Schkade, 2005; Seligman, Steen, Park, & Peterson, 2005, for a review, see Watkins, Van Gelder, & Frias, 2009). Thus, not only is there a strong tendency for grateful individuals to be happy, but now there also appears to be some evidence that gratitude *causes* enhanced subjective well-being.

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While there appear to be a number of benefits to gratitude, to date there is little evidence that speaks to the question of *how* gratitude develops in a person. What makes a grateful person grateful? Although this would appear to be an important question, few studies have set out to investigate this issue. Several possible gratitude development mechanisms seem plausible. First, a secure attachment base may be critical for the development of gratitude (Lystad, Watkins, & Sizemore, 2005). In a related vein, it would seem to follow that early emotional training would be important to the development of gratitude. Children exposed to caregivers who model and reinforce grateful responding would seem to be at an advantage in the development of gratitude. Likewise, parents who teach their children to appreciate simple pleasures rather than seeking spectacular pleasures should be more likely to enhance gratitude in their children. Indeed, the appreciation of simple pleasures does appear to be an important factor of trait gratitude (Watkins et al., 2003b). Furthermore, in an experimental design, we found that the appreciation of natural beauty (a simple pleasure) enhances state gratitude (Watkins, Gibler, Mathews, & Kolts, 2005). Spiritual development may also be important to the development of trait gratitude. Some evidence exists in support of this notion in that actively religious/spiritual individuals are more likely to be grateful (Emmons & Kneezel, 2005; McCullough et al., 2002; Watkins et al., 2003b). More generally, the development of prosocial traits such as trust and agreeableness, should provide an important foundation for building the trait of gratitude.

While all of these putative avenues to gratitude deserve empirical attention, we chose to focus on another potential route: exposure to difficult circumstances. In particular, we focused on how life-threatening circumstances might enhance gratitude. Because of the emotional *law of habituation* (Frijda, 1988, 2007), we tend to become accustomed to beneficial situations that are relatively unchanging. Certainly, life itself is one of those benefits that we enjoy constantly (at least while we are alive), and thus we often fail to notice the basic advantages of life and may even take this benefit for granted. When one is confronted, however, with a situation where their life is in jeopardy, appreciation for this benefit may result because they have become more aware of what 'might not be' – which in this case is life itself. Here, we follow the approach of Janoff-Bulman and Berger (2000), who argued that appreciation is simply the cognitive process of appraising something with increased value. Just as real estate may 'appreciate' in monetary value, so one's appreciation for life may increase when confronted with their death.

Several studies have found that people who have been confronted with life-threatening diseases report that their appreciation for life itself has increased (e.g., Taylor, 1983), and others have noted that very grateful people have often gone through very difficult – if not life threatening – circumstances (e.g., Emmons, 2007). These studies rely on retrospective anecdotal reports, and thus experimental designs are needed to test these ideas more carefully. Furthermore, in the appreciation scale developed by Adler and Fagley (2005), one of their items ('thinking about dying reminds me to live each day to its fullest', p. 94) clearly suggests that this may be an important element of appreciation and gratitude. Indeed, we have argued that trait gratitude is characterized by the attitude that all of life is a gift (Watkins et al., 2003b). Perhaps when an individual endures a life-threatening experience, this decreases the tendency to take life for granted and thus increases one's awareness that life itself is a gift to be thankful for. In this study, we sought to test this theory by enhancing awareness of one's own death in the lab.

Two methods have emerged for increasing participants' awareness of their mortality in research settings: mortality salience and death reflection. In mortality salience manipulations, some subjects are exposed to some aspect of death, and simply writing about one's own death seems to be the most commonly used method (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). Mortality salience inductions have been shown to produce a number of unsavory results: increased greed, racism, and ethnocentrism (Koole, Greenberg, and Pyszczynski, 2006). Terror management theory (TMT; Greenberg, Solomon, & Pyszczynski, 1997) has provided a compelling account of these rather diverse effects. TMT argues that when one is indirectly confronted with their own mortality, the individual engages in defenses to enhance their personal value and so to enhance their 'symbolic mortality'. Mortality salience effects, however, seem to be in direct contrast to research on post-traumatic growth (where often the individual has been confronted with their own mortality, Calhoun & Tedeschi, 2001) and to our proposal that becoming more aware of one's own mortality should enhance gratitude. Recently, however, another mortality salience manipulation has appeared in the literature called 'death reflection' (Cozzolino, 2006; Cozzolino, Staples, Meyers, & Samboceti, 2004). In this induction, participants are asked to imagine their own death in a very specific and vivid manner (dying in a house fire). This manipulation was designed to emulate the core features of near-death experiences (Ring & Valarino, 1998). In contrast to conventional mortality salience manipulations, death reflection appears to produce salubrious results, such as increased intrinsic behavior and less greed (Cozzolino, 2006; Cozzolino et al., 2004).

Why the contrasting effects? Working off of several other analyses of this apparent paradox

(Cozzolino, 2006; Pyszczynski, Greenberg, Solomon, & Maxfield, 2006), we propose that in conventional mortality salience manipulations people confront their own mortality in such a way as to allow individuals to use their typical defenses against the full realization of their mortality. Thus, writing about one's own death may permit individuals to look at their mortality in a more abstract, philosophical, and detached manner, which permits them to maintain their own symbolic immortality with cognitive processes that tend to operate more toward the background of awareness. In the death reflection induction, however, individuals must confront their own mortality in a specific and vivid manner, and this pushes them to consider their own mortality more directly in a more personal and experiential manner. Hence, the death reflection manipulation encourages an individual to face their own mortality head on, and people cannot easily use their typical defenses to deny their own inevitable death. When individuals are forced to look at their death in a way that feels more real to them, they must fully confront their mortality and go beyond the typical symbolic immortality defenses to what might be more positive ways of dealing with their mortality. Thus, we submit that individuals who confront their mortality via death reflection will be more likely to show enhanced gratitude than those who engage in the typical mortality salience induction.

In this study, participants were randomly assigned to one of the three conditions: a control condition, the traditional mortality salience condition, or the death reflection manipulation. We measured emotional state (including gratitude), both before and after our manipulation, and then participants completed a number of questionnaires designed to evaluate individual differences that might moderate the treatment effects. We predicted that death reflection would show enhanced gratitude compared to the control condition.

Method

Design and overview

We used a 2 (time: before and after treatment) × 3 (mortality salience condition: control, typical mortality salience and death reflection) mixed factorial design with state gratitude and gratitude for life as the dependent variables. Time was a repeated measure and mortality salience was the between subjects variable in this design.

Participants

Participants were 116 (75% female and 25% male) undergraduates at Eastern Washington University.

Eighty-four percent of participants were between the age of 18 and 25, 14% between 26 and 40, and 2% were 40 or older. Seventy-five participants were Caucasian and 40 were ethnic minorities (13 Hispanic, 8 African American, 4 Asians, 2 Pacific Islander, 1 Native American, 1 Middle Eastern, 8 Biracial, 2 Multiracial, and 1 was of other ethnic background). Twenty-eight percent were freshman, 16% were sophomores, 28% were juniors, and 28% were seniors. Ninety-one percent were single, 3% were married, 3% were divorced, and 2% were remarried. Sixty-one identified themselves as Christian, 18 Catholic, 10 Agnostic, 8 Atheist, 2 Protestant, 2 Muslim, 1 Buddhist, 1 Catholic–Protestant, 1 as Catholic-Christian, 1 Protestant-Christian, and 11 identified themselves as other religious preference. They received a course credit for their participation. Three participants had incomplete data or failed to follow the directions and thus were excluded. Thus, the final participant pool was 113 students.

Materials

Assessment of emotional state both before and after treatment was accomplished with the Positive and Negative Affectivity Scales (PANAS). The PANAS is one of the most well-developed measures of positive and negative affectivity (Watson, Clark, & Tellegen, 1988). This measure is based on the theory that positive and negative emotional states are not simply bipolar opposites, but are largely orthogonal axes in affective space. Before the manipulation, we administered the PANAS-X (Watson & Clark, 1994), and after the manipulation we administered the short version of the PANAS. The PANAS-X was administered with the instructions 'Indicate to what extent you have felt this way during the past few weeks'. This is the extended version of the PANAS and includes 60 items that tap positive and negative affect as well as additional emotional subscales. The instructions for the short PANAS were for immediate emotional state ('Indicate to what extent you feel that way right now, that is, at the present moment'). Psychometrics for the PANAS were good (coefficient alpha pre-test: PA = 0.85, NA = 0.85; Cronbach's alpha post-test: PA = 0.90, NA = 0.89).

Assessment of grateful state

We administered the PANAS with three additional adjectives of grateful, thankful, and appreciative. These adjectives have been shown to provide a reliable indicator of grateful emotion (McCullough et al., 2002) and were included with both administrations of the PANAS (Cronbach's alpha pre-test = 0.90, post-test = 0.94).

Gratitude for life scale

We initially created four questions that we felt tapped the core of gratitude. Participants were instructed to provide an honest answer and indicate their response on a bipolar 4-point Likert type scale (-4 = extremely ungrateful for my life, 4 = extremely grateful for my life). Gratitude for life was assessed by examining responses to the following four questions: (1) How grateful are you for your life?, (2) How thankful are you for being alive?, (3) Right now, how much do you feel that your life is a gift?, and (4) How appreciative do you feel for your life right now? Internal consistency of this measure was good (Cronbach's alpha = 0.87).

Moderator variables

At the end of the study, participants took several questionnaires that tapped potential moderator variables such as intrinsic/extrinsic religiosity, nearness to God, trait gratitude, trait indebtedness, and subjective well-being. Because none of the moderator analyses reached significance, we will not comment on these measures further.

Experimental conditions

Death reflection scenario

We used the mortality salience manipulation reflected in the creation of a scenario, called *death reflection* by Cozzolino et al. (2004). This scenario was developed to encompass the three core elements of the near-death experience as outlined by Ring and Valarino (1998). In the death scenario, participants imagined waking up in the middle of the night in a friend's apartment on the '20th floor of an old, downtown building' to the 'sounds of screams and the choking smell of smoke'. The scenario details the participant's futile attempts to escape from the room and burning building before finally giving in to the fire and eventually death. Cozzolino et al. (2004) created four questions that were generated to activate some of the common elements found in near-death experiences. The questions included: (1) Please describe in detail the thoughts and emotions you felt while imagining the scenario, (2) If you did experience this event, how do you think you would handle the final moments? (3) Again imagining it did happen to you, describe the life you led up to that point, and (4) How do you feel your family would react if it did happen to you?

Mortality salience condition

Previous method of inducing mortality salience as developed by Rosenblatt et al. (1989) was used in this study asking, 'In as many words and in as much detail as possible, please describe the thoughts, feelings, and emotions you experience when thinking about your own death'.

Control condition

Participants read a similar scenario to the death reflection manipulation in that they imagined waking up to 'begin another typical day' (Cozzolino et al., 2004). In this scenario, participants imagined spending the day following a laid back routine and taking care of mundane tasks (i.e., making breakfast, doing laundry, cleaning) before ending the day. After reading the 'no death' control condition, participants answered the following questions: (1) Please describe in detail the thoughts and emotions you felt while imagining the scenario (2) Have you ever experienced an event like the one described in the scenario? (3) Imagining an event like the one described did happen to you, describe the life you led up to that point, and (4) Again imagining this event did happen to you, describe the thoughts and emotions of how your family members would react. These questions were designed to mirror the death reflection questions, providing control participants an opportunity to reflect on their life and to take the perspective of others.

Procedure

Female experimenters tested all participants individually. Participants read and signed a consent form agreeing to participate in the study and then responded to a demographic sheet that included questions regarding gender, age range, class standing, marital status, ethnicity, and religious orientation. These were completed anonymously prior to administration of the study packet. Participants were randomly assigned to one of three conditions. In the death reflection condition, participants were asked to read and vividly imagine themselves experiencing the events described in a scenario and then to answer open-ended questions as if the events actually occurred. After reading the death scenario, participants answered four open-ended questions. In the mortality salience condition, participants were asked 'In as many words and in as much detail as possible, please describe the thoughts, feelings, and emotions you experience when thinking about your own death' (e.g., Goldenberg, McCoy, Pyszczynski, Greenberg, & Solomon, 2000). In the control condition, participants read a similar scenario to the death reflection manipulation in that they imagined waking up to 'begin another typical day'. In all conditions, after reading the scenario, participants were given 3 minutes to complete the respective questions. After the completion of the final question, participants were then told they could complete the rest of the study at their own pace. Following the manipulation, participants completed the Gratitude for Life
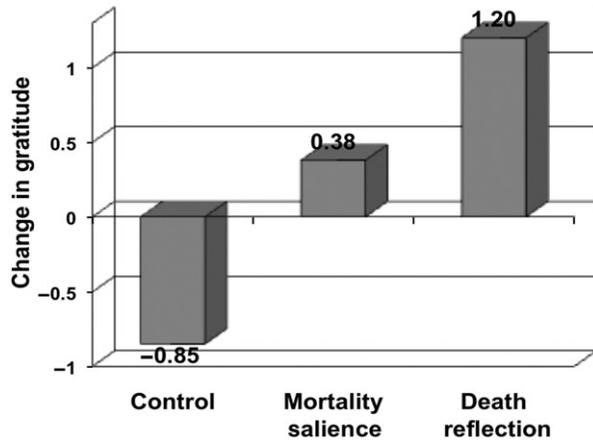
Figure 1. Change in state gratitude by experimental condition.
Note: 'Change in gratitude' is post-treatment state gratitude − pre-treatment state gratitude.

Scale indicating on a bipolar 4-point Likert type scale (−4 to 4) indicating how grateful they felt for their life. Participants then completed the short PANAS (Watson et al., 1988) which included a state gratitude measure, followed by administration of the potential moderator variables. Finally, participants were debriefed and awarded their compensation.

Results

Primary analysis

Our principal analysis involved our two dependent variables: gratitude for life and grateful state. For our grateful state variable, we conducted a univariate GLM ANCOVA where pre-test state gratitude was the covariate and post-test state gratitude was the dependent variable. Results showed that the effect of condition was significant as expected, $F(2, 109) = 5.92$, $p = 0.004$, $\eta^2 p = 0.10$. The pattern of means followed our predictions: the death reflection induction showed the greatest increase in state gratitude, followed by the traditional mortality salience treatment and the controls. Figure 1 demonstrates this effect. LSD pairwise comparisons of post-test estimated marginal gratitude means showed that gratitude was significantly greater in the death reflection condition compared with the controls ($p = 0.001$, $d = 0.80$), and state gratitude in the mortality salience condition was significantly different from the controls ($p = 0.03$, $d = 0.49$), but not the death reflection condition ($p = 0.20$, $d = 0.30$). Means for state gratitude by condition are listed in Table 1. For the gratitude for life dependent variable, we conducted a univariate ANCOVA with pre-gratitude state as a covariate. The effect of condition was marginal, $F(2, 109) = 2.89$, $p = 0.06$, $\eta^2 p = 0.050$. The pattern of means was as expected.[1]

Table 1. Means and standard errors of state gratitude by experimental condition.

	Experimental condition		
	Control	Mortality salience	Death reflection
Pre-treatment	10.90 (0.50)	11.22 (0.48)	11.09 (0.52)
Post-treatment	10.05 (0.55)	11.60 (0.53)	12.31 (0.57)

Note: Standard errors are given within parentheses.

In order to more carefully investigate the changes in gratitude within each experimental condition, we conducted paired *t*-tests comparing pre- and post-gratitude. As expected, in the death reflection condition, a significant increase in gratitude was found, $t(35) = -2.30$, $p = 0.028$. No significant change was observed in the mortality salience condition, $t(39) = -0.98$, $p = 0.332$, and in the control condition there was a non-significant trend for decreased gratitude, $t(37) = 1.74$, $p = 0.90$.

Impact of treatment on positive affect

In order to evaluate whether this effect was unique to gratitude or was more generally applicable to positive affect, we conducted a secondary analysis with positive affect as the dependent variable. Following our previous analyses, we conducted an ANCOVA with pre-test positive affect as the covariate. The effect of condition was not significant, $F(2, 109) = 1.20$, $p = 0.30$, $\eta^2 p = 0.02$. Furthermore, as with gratitude, we conducted paired *t*-tests by experimental condition to more closely evaluate changes in positive affect as a result of the experimental manipulation. In the death reflection condition, positive affect decreased but this change did not reach significance, $t(35) = 0.88$, $p = 0.35$. Similarly, in the mortality salience condition, positive affect showed a non-significant decline, $t(39) = 0.73$, $p = 0.470$. In the control condition, positive affect decreased significantly, $t(37) = 2.56$, $p = 0.015$. In order to more rigorously test whether the impact of our experimental condition was unique to gratitude, we conducted a factorial condition × time (pre- and post-test) ANCOVA for gratitude using both pre- and post-test positive affect as covariates. After controlling for positive affect, the predicted condition × time interaction was still significant, $F(2, 108) = 4.67$, $p = 0.011$, $\eta^2 p = 0.080$, replicating the finding for gratitude as described earlier. Thus, the impact of death reflection on gratitude appears to be unique. Means and standard errors of positive affect can be found in Table 2.

Table 2. Means and standard errors of positive affect by experimental condition.

	Experimental condition		
	Control	Mortality salience	Death reflection
Pre-treatment	30.55 (1.14)	32.90 (1.12)	32.66 (1.19)
Post-treatment	28.21 (1.42)	32.30 (1.39)	31.83 (1.48)

Note: Standard errors are given within parentheses.

Discussion

In this study, we found that death reflection – focusing in a specific and vivid way on one's death – significantly enhanced state gratitude compared to subjects that did not think about their own mortality. Supporting anecdotal reports from those who have experienced near-death or life-threatening diseases, confronting one's mortality in this experiential manner tends to enhance feelings of gratitude. Our experimental findings also provide a theoretical mechanism for some of the apparent benefits that arise from trauma reported in the post-traumatic growth literature (Park & Helgeson, 2006). This adds to a growing literature showing that not all mortality salience inductions result in undesirable consequences; death reflection has now been shown to increase intrinsic motivation, decrease greed (Cozzolino, 2006; Cozzolino et al., 2004), and increase gratitude.

Although death reflection did not show a significantly greater increase in gratitude compared to the traditional mortality salience induction – though when compared to controls the effect size for death reflection was large while the effect size for mortality salience was medium – the pattern of means did follow our predictions showing that death reflection was more effective in enhancing gratitude. Death reflection resulted in a significant increase in gratitude, while the mortality salience condition showed no significant change. Why did the death reflection induction show a greater increase in gratitude than the traditional mortality salience induction? Following Cozzolino (2006) and Pyszczynski et al. (2006), we believe that writing about one's own death may permit subjects to analyze their mortality at a more abstract level, allowing them to maintain their denial of their inevitable demise. Death reflection, however, pushes individuals past these defenses to confronting their mortality in a personal and experiential manner. When one is fully confronted with the reality that life 'might not be', life itself is seen as a limited resource that one is not entitled to, and thus appreciation for life increases. However, because these two conditions were not significantly different in this study, future research may want to develop more definitive mortality salience inductions that clearly distinguish between these mechanisms as we have described them.

We found that reflecting on one's own death enhances gratitude, but might reflecting on other potential losses also increase gratitude? It might be that death reflection is not unique in this regard; focusing on the potential loss of anything might enhance one's awareness that this thing 'might not be', and thus enhance one's appreciation for that which they formerly took for granted. Indeed, there is some evidence for this. In a recent series of studies (Koo, Algoe, Wilson, & Gilbert, 2008), thinking about the potential absence of a positive event from one's past increased gratitude compared to comparison conditions, and thinking about the absence of a romantic partner increased one's appreciation for their partner. Thus, being confronted with the possibility that any benefit 'might not be' – including the benefit of life itself – might increase one's gratitude and appreciation for those benefits.

One rather peculiar finding deserves comment. We found that controls actually decreased in positive affect from pre- to post-test. Although this might be because controls did not particularly enjoy being in this study, we think it is more likely because intensity of emotion declined more generally. Reporting how one had felt 'in the past 2 weeks' (as our participants did at pre-test) is probably an exaggerated estimate of their actual emotional experience, and is probably somewhat enhanced relative to our participant's current emotional state. This represents one limitation of the study, as some would argue that it would be better to measure incoming emotional differences with participant's report of how they are feeling right now. We chose to control for pre-test individual differences in emotional state with 'the past 2 weeks' instruction because we felt that changing the format would reduce demand characteristics and testing effects. Whatever the case, it is likely that our participants' report of their emotional state for the past 2 weeks was highly related to their current emotional state, and hence this served as a good covariate. Thus, the decline of positive affect of those in the control condition likely reflects a general decrease in report of emotional intensity. Given that background, it is even more interesting that participants in the death reflection condition actually showed a significant increase in gratitude.

Our findings encourage us to speculate on several practical implications. First, death reflection may be a good exercise for enhancing state gratitude. Although experimental studies have shown that enhancing gratitude results in increased subjective well-being (e.g., Emmons & McCullough, 2003; for a review, see Watkins et al., 2009), more research needs to investigate exercises that might enhance gratitude. Death reflection appears to be one way that individuals can

enhance their appreciation and gratitude for life. In this study, our participants were engaged in a relatively short death reflection induction. What might be the long-term impact of engaging regularly in a similar exercise? It seems likely that our participants' confrontation with their own death was soon forgotten. But could people develop a more chronic appreciation of their own mortality if they regularly engaged in such an exercise? When one is more consistently aware of their own mortality, how does this impact them? We submit that this may be an important facet of the grateful person, but these questions beg for more research.

In this study our participants focused on their own death, but what might be the impact of reflecting on the death of a loved one? For example, when one believes that their spouse is in a life-threatening situation, such as a dangerous airline flight, it would seem that one's gratitude for their spouse would increase after the incident because they have recognized that their spouse 'might not be' and hence their appreciation and gratitude for their relationship is enhanced. Future research may want to study this possibility, and this might be an interesting intervention for improving relationship satisfaction. Related research that asks subjects to imagine how their relationship might never have come to be has shown that this enhances relationship satisfaction (Koo et al., 2008).

We have argued that by reflecting on one's death, this increases gratitude by increasing appreciation for life as a gift. Because our very existence is a constant benefit that we adapt to easily, this is a benefit that is easily taken for granted. Reflecting on one's own death might help individuals take stock of this benefit and consequently increase their appreciation for life. One way this may affect daily life is through increasing appreciation for simple pleasures. As Chesterton (1905/1986a) suggested in the epigraph, by understanding the darkness of non-existence, this may increase our awareness and enjoyment of everyday pleasures. In Chesterton's words: 'The man who expects nothing sees redder roses than common men can see, and greener grass, and a more startling sun'. Thus, one advantage that results from death reflection may be increased appreciation for simple pleasures. Because research has shown that happiness is not so much composed of spectacular pleasures, but rather the frequency of positive emotional experiences (Diener, Sandvik, & Pavot, 1990), appreciating simple pleasures may be an important component of happiness. This is because by definition these events take place much more frequently than spectacular pleasures such as a Caribbean cruise. Thus, a promising direction of future research would be to investigate whether exercises such as death reflection enhance one's appreciation for simple pleasures.

One clear limitation of this study is that the age range of our participants was relatively small. While this is always an external validity issue in studies using college students, this limitation is particularly worth noting here because some mortality salience studies have found age effects. For example, Maxfield et al. (2007) found that while younger adults showed increased harshness in their moral judgments after a mortality salience induction, older adults did not. Thus, a fruitful path for future research might be to investigate the moderating effect of age on death reflection and gratitude.

The reason that mortality salience seems to have limited impact on older aged adults might be that because of their age these individuals are chronologically closer to death and thus their mortality is already salient to them. If so, one might predict that older adults would show more gratitude than their younger counterparts. Other natural events that expose individuals to their own mortality might be expected to show enhanced gratitude. Indeed, Peterson and Seligman (2003) found that 'theological virtues' such as gratitude increased following the events of 9/11. Similarly, we found that trait gratitude in the fall of 2001 was higher in students than in the fall quarters of the previous 2 years (Watkins, Masingale, & Whitney, 2003a). A possible mechanism for these observed increases in gratitude might be because the events of 9/11 made individuals more aware of their mortality, which increased their appreciation for the benefit of life (i.e., the perceived value of life span enhanced) and hence increased gratitude. Of course, these ideas are highly speculative at this point and future research in this area could be quite informative.

A complimentary explanation for our finding comes from the recent research of King, Hicks, and Abdelkhalik (2009). In their first study they found that after subtle reminders of death, their participants increased their evaluation of life. We feel that the authors' interpretation of their results compliments our findings. When through death reflection one recognizes that 'things might not be' life is viewed as more scarce, and hence appreciation (and gratitude) for life is enhanced. Further investigations into the mechanism of this effect should prove fruitful.

Both philosophers and psychologists have proposed that humility is a prerequisite for gratitude, and that narcissism should inhibit gratitude. Recent research has provided some correlational support for this idea. Trait gratitude is positively correlated with humility (e.g., Uhder, Watkins, & Hammamoto, 2010) and negatively associated with narcissism (after controlling for self-esteem; McLeod, Maleki, Elster, & Watkins, 2005). Because an accurate recognition of one's limitations is often cited as a core component of humility, it would follow that the humble person would have a keen sense of their own mortality.

As the epigraph suggests, Chesterton certainly saw an important relationship between humility and the recognition of the possibility of non-existence. Thus, a chronic recognition of the limitations of life may be an important facet of both humility and gratitude.

Little is known about how the disposition of gratitude develops. We have suggested that amongst other things, experiences that lead to a clear sense of one's mortality may be important in the development of gratitude. Thus, experiences such as near-death events and life-threatening illnesses may lead to lowering one's threshold for gratitude. It would be very unlikely, however, that these events would have a direct relationship with gratitude. Certainly, a close brush with death might lead some to be increasingly bitter about life rather than more grateful. Thus, it would be interesting to investigate what kind of psychological processes might lead some individuals who are confronted with their own mortality to increased gratitude, while others become less grateful. Our experimental finding here supports the theory that experiences where one is confronted with their own mortality lead to enhanced trait gratitude. In this study, however, we necessarily investigated state gratitude, and it is somewhat of a leap to conclude that by manipulating state gratitude with death reflection, this might also lead to increases in trait gratitude over time. Thus, it would be interesting to investigate how actual events that lead individuals to confront their own mortality might impact the development of trait gratitude. Do near-death experiences and surviving a life-threatening illness enhance the development of dispositional gratitude? Although anecdotal evidence suggests that they might, we wait for more controlled research for the answer to this important question.

In conclusion, this study found that when one confronts their own death in a specific and vivid manner, their feelings of gratitude tend to increase. When one is pushed past their defenses of denying their own death, people tend to recognize 'what might not be' and become more grateful for the life they now experience. Fully recognizing one's own mortality may be an important aspect of the humble and grateful person. Perhaps when we recognize that death is a reality we all must face, we may then realize along with Chesterton (1908/1986b, p. 267) that 'Life is not only a pleasure but a kind of eccentric privilege'.

Note

1. We also conducted a parallel multivariate analysis for both of our dependent variables and found that the effect for condition was significant.

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