

THE IMPACT OF MORTALITY SALIENCE ON COLLEGE STUDENTS' INTENT TO
HELP OLDER ADULTS

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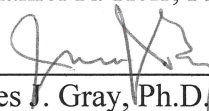
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ABSTRACT

Terror Management Theory (TMT) states that the awareness of one's own death causes humans to experience intense anxiety, which must be continuously managed. The mortality salience hypothesis posits that when a person is reminded of their death, they will rely more heavily on psychological resources in order to cope. Much of the research on TMT and subsequent human behavior has been focused on negative outcomes, rather than prosocial behavior. America is encountering a growing aging population who, in the coming years, will need the public's attention more than ever. This shift in the population will demand that professionals in healthcare, communication, technology, and human services are appropriately trained in geriatrics. The present study recruited 107 participants from American University. They were randomly assigned to the mortality salience (MS) condition, where they were primed with two questions about their own death, or the control condition, where they were given identical questions with the words "death and dying" replaced with "dental pain". Participants completed self-reports of ageism. After the study seemed to end, participants were given a disguised measure of helping behavior, which they believed to be an interest survey for a student volunteer group. The results, though marginal, indicated that there was a trend such that those in the MS condition were more willing to be contacted to volunteer with kids than being contacted to volunteer with older adults and that those in the MS condition were more likely to be contacted to volunteer with kids than those in the control condition. This reflects the importance

of focused efforts on encouraging young people to identify with older adults and on promoting prosocial behavior.

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TABLE OF CONTENTS

ABSTRACT	ii
ACKNOWLEDGMENTS	iv
LIST OF TABLES	vi
LIST OF ILLUSTRATIONS	vii
LIST OF ABBREVIATIONS.....	viii
CHAPTER 1 INTRODUCTION	1
Background	1
The Mortality Salience Hypothesis.....	1
Mortality Salience & Helping Behavior	4
Ageism	6
Present Study	7
CHAPTER 2 METHOD	9
Participants.....	9
Measures	9
Procedure	10
CHAPTER 3 RESULTS	13
CHAPTER 4 DISCUSSION.....	17
APPENDIX A RELATING TO OLDER PEOPLE EVALUATION.....	22
APPENDIX B PRIMES.....	23
APPENDIX C DELAY ACTIVITY	24
APPENDIX D FABRONI SCALE OF AGEISM	26
APPENDIX E INTENT TO HELP QUESTIONNAIRE	28
REFERENCES	30

LIST OF TABLES

<i>Table 1.</i> Descriptive statistics for demographic variables including means (<i>SD</i>) and frequencies by group (and within-group percentages).....	13
<i>Table 2.</i> Correlation table for IHQ items, FSA total scores, and ROPE total scores.	14

LIST OF ILLUSTRATIONS

<i>Figure 1.</i> Those in the Mortality Saliency Condition were Significantly More Likely to be Willing to be Contacted to Volunteer with Kids than Older Adults when Compared to their Control Condition Counterparts when Controlling for Ageism (ROPE).	16
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LIST OF ABBREVIATIONS

DP	Dental Pain
FSA	Fraboni Scale of Ageism
IHQ	Intent to Help Questionnaire
MS	Mortality Salience
ROPE	Relating to Older People Evaluation
TMT	Terror Management Theory

CHAPTER 1

INTRODUCTION

Background

Terror Management Theory (Solomon, Greenberg, & Pyszczynski, 1986) was developed in an effort to more deeply understand self-esteem and its role in social behavior as well as mental health. Humans are unique in that they are aware of their own mortality and know that they will inevitably die. Especially daunting, death can come at any time and in any manner. Terror Management Theory (TMT) is based on the works of Ernest Becker who discussed how people would be in absolute terror if they had to consider their death daily. Solomon, Greenberg, & Pyszczynski posit that this death awareness imparts a level of anxiety that must be managed. TMT points to two distinct psychological resources we use to manage our death terror which are sustaining a faith in our own cultural worldview and maintaining our self-esteem.

Sustaining faith in a cultural worldview gives many people hope for some sort of a symbolic immortality, that we exist on earth to contribute to something greater than ourselves. Latching onto the notion that our time in the world is meaningful allows for a diversion from thinking we are purposeless animals that will simply cease to be someday (Solomon, Greenberg, & Pyszczynski, 2015). Humans consistently pursue self-esteem as it allows us to believe we are significant. High self-esteem is established by living up to the standards of the culture one subscribes to.

The Mortality Salience Hypothesis

A number of hypotheses have been created and empirically tested within the bounds of TMT, however I will focus on the mortality salience (MS) hypothesis for this paper. The MS

hypothesis states that reminding people of their mortality increases positive responses to anyone and anything that bolsters them and negative responses to those who threaten their values (Greenberg & Arndt, 2011).

As outlined below, many studies have been conducted to test this hypothesis and have yielded an array of results when participants were primed with MS. Castano, Yzerbyt, Paladino, & Sacchi (2002) examined a sample of Italian undergraduate students by priming half with a MS prompt and then giving all participants measures of ingroup identification and bias. They found that participants in the MS condition scored higher than control participants on the self-report scale of identification with the ingroup and further that those in the MS condition displayed stronger ingroup bias than individuals in the control condition.

McGregor et al. (1998) used MS primes to explore if levels of aggression were heightened when participants' worldview, in this case political affiliation, was threatened. They wanted to use a measure of aggression in which it was clear that the participant intended to cause physical harm to the target. Immediately the highly controversial yet effective electric shock method most known from the work of Milgram (1963) came to mind. Ultimately the researchers decided against it as that line of research is so widely known that it could confuse participants and because the use of electric shock may not solely measure participants' intent to harm. McGregor and colleagues created a rather unconventional measure of aggression: amount of hot sauce given to a fellow participant. There were four conditions: MS and worldview threatening essay, MS and worldview neutral essay, control and worldview threatening essay, and control and worldview neutral essay. After completing the open-ended question MS prime or dental pain control participants were given a short essay to read (which they thought was written by a fellow participant) which either directly conflicted with their political view or did not. Finally,

participants were instructed to place as many spoonful's of hot sauce as they would like into a cup to be consumed entirely by the author of the essay they read.

McGregor et al. (1998) found that participants in the MS worldview threatening condition, meaning they were primed with their death and were given an essay to read that directly opposed their political views, gave significantly more hot sauce to targets than did participants in the other conditions. Furthermore, there was no significant difference in amount of hot sauce given among the two control conditions which likely means that the increased aggression was a result of both the MS prime and the worldview threat. Not only does this work support TMT's tenet about worldview defense, but it also exemplifies the creative ways with which the MS hypothesis has been experimentally explored.

Greenberg, Porteus, Simon, Pyszczynski, and Solomon (1995) asked participants to complete two tasks, separating sand out of black dye and hanging a crucifix on the wall. Half the participants were primed with MS and the other with a control prime. Participants were given neutral objects (i.e., a white cloth and block of wood) or cultural objects (i.e., an American flag and the crucifix itself) mixed with filler objects (e.g., a package of hot chocolate, cotton balls, a paper clip, a compass watch, etc.). Greenberg et al. (1995) found that those that were reminded of their death and were in the cultural-objects condition took a longer time to complete the tasks, considered more a higher number of alternate solutions to complete the tasks, and expressed reluctance about using the cultural objects. This falls in line with TMT's assertion that these cultural objects contribute to humans' system of worldview security that thus protects them from death anxiety.

Mikulincer and Florian (2002) found that when MS was primed, participants leaned on self-esteem strivings and tended to excuse themselves from any failures while taking personal

responsibility for any success. Similarly, Greenberg, Kosloff, Solomon, Cohen, and Landau (2010) found that when reminded of their death, participants had an increased desire for fame and viewed the appeal of celebrity more favorably than those in the control condition. Wisman and Goldenberg (2005) explored the desire for children as a potential defensive mechanism when primed with MS. They found that for men, not women, that those in the MS condition had an increased desire to have children.

Mortality Salience & Helping Behavior

Gailliot, Stillman, Schmeichel, Maner, & Plant, (2008), conducted a study in which they gave half of their participants a death prime, which was asking two open-ended questions about the emotions that the thought of their own death evokes in them and how they think they will feel when they physically die. For the control condition, participants answered one parallel open-ended question with nearly identical wording, but instead the word “death” was replaced with the phrase “reading a book”. All participants then read a passage about the American value of helping people which served to make prosocial behavior salient. Following the helping prime, participants read four hypothetical scenarios and indicated how likely they would be to help in those situations if they were happening in the current moment. This self-report questionnaire functioned as the dependent measure of helping. Gailliot et al., (2008) found that MS increased self-reported willingness to help others in need, but only when participants were reminded about the importance Americans place on helping others. Priming helping without the MS prime did not increase helping intent. This lends support to the idea that increased helping serves a defensive function when death thoughts are salient, or more practically, when one feels threatened. The work of Gailliot et al. (2008) provided a framework to create a measure of helping intent for this study.

Boudjemadi and Gana (2012) conducted a study with college students and found that regardless of age category (e.g., young-old vs old-old) when death was salient elderly people were evaluated negatively by participants. Hirschberger, Ein-dor, and Almakias (2008) conducted 3 studies and found that when participants were reminded of death they reported higher willingness to donate to charity, they gave higher actual donations to a charitable organization, and there were more participants who positively responded to a trivial request for help. Since the MS hypothesis asserts that people lean on the psychological structures of faith in their worldview and self-esteem, it is logical that people may display more prosocial intent when primed with their own death.

Jonas, Schimel, Greenberg, & Pyszczynski, (2002) found that participants who were interviewed in front of a funeral home showed a more favorable attitude toward charitable causes than those who were interviewed a few blocks away from the funeral home. They dubbed this phenomenon the “Scrooge Effect” because people are reminded of their own mortality, like in the parable of Ebenezer Scrooge, they act in caring ways toward others. Joireman and Duell (2002) extended this line of research to examine whether the Scrooge Effect would emerge after MS primes in people who were already inclined to be prosocial (i.e., “Mother Teresa” types). They differentiate between “proselfs” which are those who value you their own well-being and “prosocials” which are those who value their own well-being and the well-being of others. Self-transcendent values (e.g., a world at peace, protecting the environment & preserving nature, and social justice) and self-enhancement values (e.g., influence, wealth, and authority) were measured. Joireman & Duell (2002) found that when primed with thoughts of their own death proselfs showed a significant increase in self-transcendent values and were nearly indistinguishable from prosocials in the control conditions. The authors believe that when

reminded of their death, proselves recognize that they may not be meeting the standards of society and thus endorse these prosocial values. This means that perhaps “Scrooges” can become “Mother Teresas” under certain conditions.

Ageism

There is no denying that the United States population is aging. In fact, by 2060 the number of Americans ages 65 and older is projected to more than double (Mather, Jacobsen, & Pollard, 2015). This shift in the population will demand that professionals in healthcare, communication, technology, and human services are appropriately trained in geriatrics. Unfortunately, many negative stereotypes exist with regard to old people. Butler (1969) first coined the term ageism describing it as: “A deep seated uneasiness... a personal revulsion to and distaste for growing old, disease, disability; and fear of powerlessness, ‘uselessness’, and death”. His mention of “fear of death” is particularly relevant to the tenants of TMT, a theory that would emerge almost two decades later.

Fiske, Cuddy, Glick, & Xu (2002) explored perceptions of older adults finding that college students were more likely to view elderly people as warm, but incompetent. Further, they found that the elderly group elicited more feelings of pity from college students than 79% of other groups (e.g., rich people, Asians, Jews, young people). The impacts of attitudes like this can be substantial, leading to discrimination in housing, employment, public policy, and inappropriate care in institutional settings (Palmore, 2004). In addition, negative perceptions surrounding aging can have implications on older adults’ cognitive and physical functioning (Vauclair, Lima, Abrams, Swift, & Bratt, 2016). It is clear that the way in which people perceive and interact with older adults can have detrimental effects.

Ageism is similar to other types of stereotyping and discrimination in that older adults may be perceived as an “out group”. Interestingly it is an out-group with which everyone is on track to join someday (Martens, Greenberg, Schimel, & Landau, 2004). Therefore, ageism may not simply be a product of the need for separation from the outgroup. It may be that ageism emerges as a result of a terrifying sameness, that someday we will all grow old. As mentioned earlier, researchers have explored prosocial behavior (Jonas et al., 2002) as well as ageism through MS priming. However, there is a gap in the literature regarding prosocial behavior as it relates to older people and MS. The current study sought to explore both concepts through examining a sample of college aged students about their intent to help older adults at a senior center after answering explicit questions about how they will feel when they are dead.

Present Study

The current study intended to address the main research question: How does priming mortality salience relate to helping intent toward older adults in an undergraduate sample? There is ample evidence of MS primes impacting behavior in various ways, however I focused on the way it may impact participants intent to help older people. I was specifically interested in using this college-aged sample as these young people will be the driving force supporting older adults, be it in caregiving, education, or direct policy-making.

The first hypothesis (Hypothesis 1) was that participants in the mortality salience (MS) condition would have greater intent to help overall than those in the control condition. This was predicted because most people learn from early on that living up to standards of concern for those in need is honorable and highly desirable (Jonas et al., 2002). Since individuals in the MS were primed with thoughts of their own death, it was predicted that they would lean on the faith in their worldview and self-esteem which make them more likely to intend to help people,

regardless of age, overall. The second hypothesis (Hypothesis 2) was that participants in the mortality salience condition would have greater intent to help kids than older adults. This prediction was made because mention of older adults could be viewed as a death prime in and of itself (Martens et al., 2004). In that regard, it was hypothesized that being primed twice with death (via the MS prime and questionnaires about older adults) would cause participants to prefer helping kids over older people. The third hypothesis (Hypothesis 3) was that participants in the mortality salience condition will have less favorable attitudes toward older adults than the control condition following similar logic to Hypothesis 2.

CHAPTER 2

METHOD

Participants

Participants were students recruited from introductory psychology courses at a medium-sized Mid-Atlantic private university. The study was presented as a study of personality traits and reading comprehension. Participants received class credit for their participation. 107 participants were recruited. 85 participants (79.4%) were female and 22 (20.6%) were male and the mean age of the sample was 20.39 years old ($SD = 1.27$). Two participants did not report their age. Of the participants 15 (14%) reported their ethnicity as Spanish, Hispanic, or Latino. 75 (70.1%) indicated their race as White, 21 (19.6%) as Asian, 7 (6.5%) as Black or African American, 5 (4.7%) as Other (with self-reports of Indian, Latino, Middle Eastern, and North African), and 2 (1.9%) as American Indian or Alaska Native.

Measures

Demographics. Participants' age, sex, and ethnicity were collected.

Relating to Older People Evaluation (ROPE). The ROPE (Feinstein, 2011) is a 20-item questionnaire that measures personal discrimination through 14 statements that reflect negative types of ageism, and 6 statements that reflect positive types of ageism. The measure begins with "Please put a check in the box that indicates how often you relate to old people (those over age 60) in these ways:" and questions are rated on a Likert-type scale ranging from *never* to *sometimes* to *often*. Low internal consistency was found in the present sample ($\alpha = 0.577$).

Fraboni Scale of Ageism (FSA). The FSA (Fraboni, Saltstone, & Hughes, 1990) 29-item questionnaire which measures ageist attitudes. Questions are rated on a Likert-type scale from 1 (*strongly disagree*) to 4 (*strongly agree*). High internal consistency was found in the present sample ($\alpha = 0.81$).

Intent to Help Questionnaire (IHQ). The IHQ is a 6-item questionnaire I created to measure intent to help older adults and children. It was disguised as an actual outreach interest survey with the title *The Interpersonal Emotion Lab Presents: Helping Hearts*. The first item asked, “Which group would you prefer to make holiday cards for?” with Likert-type ratings from *strongly prefer kids* to *strongly prefer elderly people*. The second and third items asked “How much time are you willing to spend making cards or doing other tasks for kids?” and “How much time are you willing to spend making cards or doing other tasks for elderly people?” to which participants indicated any amount of hours and/or minutes they were willing. The fourth item asked “We have an event later in the semester where we are going to read to people at a senior center (ages 65 and higher). How interested are you in joining us to volunteer?” with which they rated on a Likert-type scale from 1 (*not at all interested*) to 5 (*extremely interested*). The fifth and sixth items asked “How willing are you to have us contact you if there are future events at the senior center?” and “How willing are you to have us contact you if there are future events at the youth center?” to which participants indicated their contact willingness for each on a Likert-type scale from 1 (*do not want to*) to 5 (*extremely willing*).

Procedure

Upon arrival participants completed the informed consent form and were then directed to a computer where they began a series of questionnaires. First, they completed the demographic survey which asked about their birth year, race, and sex. They were given instructions to

complete each questionnaire and stop once they saw the message “get a research assistant for this portion”. During this time, they completed the ROPE, SDS-17, and other measures that were not used in this study. Participants were directed back to the computer screen where they either received the MS prime or the DP control prime.

Those in the MS condition were asked two 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 as you physically die and once you are physically dead”. Those in the DP control condition answered the same two questions with the words “death” and “dead” replaced with “dental pain.”

Following the prime, participants read "The Growing Stone" which is a short passage with vivid imagery about a man driving around a forest at night. They answered two general questions about the story. The purpose of this was as a delay and distraction activity to allow the effects of the mortality salience induction fully emerge as previous studies have shown that mortality salience effects occur after people have been distracted from thoughts of their own death (Greenberg et al., 1994). The final questionnaire given on the computer was the FSA.

Following the FSA, participants will be given a fake debrief by the research assistant. The purpose of this was to gain the most honest response upon administration of the IHQ so that participants genuinely believed it was not a part of the study. Research assistants abided by a specific script:

"Before you leave, can I ask you about another project that our lab is working on? One of the graduate students is organizing volunteers to help with a local outreach program. One activity we are helping with is making short holiday cards for two local centers. I was wondering if you'd fill out this short questionnaire about volunteering? You don't have to commit to anything today, but it helps us with our outreach to know what students are willing to do."

Each participant agreed to complete the volunteer interest survey which was actually a disguised version of the IHQ. After they returned the IHQ, participants were given the real debrief form and told that the IHQ was not real and that was no volunteer activity to participate in.

CHAPTER 3

RESULTS

Demographic information is provided in Table 1. One-way ANOVA and Chi-square tests were used to assess for group differences on demographic variables. Groups did not differ significantly on age, $F(1,103) = .006, p = .936$, sex, $\chi^2(1, N = 107) = 2.507, p = .113$, or racial/ethnic composition $F(1,105) = .509, p = .477$.

		Total (N=107)	MS (N=55)	DP (N=52)
Age	Mean (<i>SD</i>)	20.4 (1.3)	20.4 (1.2)	20.4 (1.3)
Race	White	75 (70.1%)	38 (69.1%)	37 (71.2%)
	Black/African American	7 (6.5%)	3 (5.5%)	4 (7.7%)
	American Indian/Alaska Native	2 (1.9%)	1 (1.8%)	1 (1.9%)
	Asian	21 (19.6%)	11 (20.0%)	10 (19.2%)
	Native Hawaiian/Pacific Islander	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Other	5 (4.7%)	2 (3.6%)	3 (5.8%)
Ethnicity	Spanish	1 (.9%)	0 (0.0%)	1 (1.9%)
	Hispanic	7 (6.5%)	4 (7.3%)	3 (5.8%)
	Latino	7 (6.5%)	5 (9.1%)	2 (3.8%)
	None of these	92 (86.0%)	46 (83.6%)	46 (88.5%)
Sex	Male	22 (20.6%)	8 (14.5%)	14 (26.9%)
	Female	85 (79.4%)	47 (85.5%)	38 (73.1%)

Table 1. Descriptive statistics for demographic variables including means (*SD*) and frequencies by group (and within-group percentages)

Since the IHQ was created by myself it seemed pertinent to examine its validity. I evaluated the relation between the items of the IHQ and ageism measures to determine whether the items were correlated with ageism as was expected. This information is provided in Table 2. Results of the Pearson correlation indicated that there was a significant negative association between FSA total score and interest in senior center $r(105) = -.192, p = .048$, a significant negative association between FSA total score and contact willingness with older adults $r(105) = -$

.237, $p = .014$, a significant positive association between ROPE total score and time willingness with older adults $r(104) = .227$, $p = .019$, a significant positive association between ROPE total score and interest in senior center $r(104) = .278$, $p = .004$, and a significant positive association between ROPE total score and contact willingness with older adults $r(104) = .195$, $p = .0046$.

Table 2. Correlation table for IHQ items, FSA total scores, and ROPE total scores.

		Preference Kids vs Older Adults	Time for Kids	Time for Older Adults	Interest in Senior Center	Contact Willingness Older Adults	Contact Willingness Kids	FSA Total Score	ROPE Total Score
Preference Kids vs Older Adults	Pearson Correlation	1	0.008	0.071	0.03	0.058	-0.147	-0.01	0.055
	Sig. (2-tailed)		0.931	0.469	0.763	0.553	0.131	0.918	0.575
	N	107	107	107	107	107	107	107	106
Time for Kids	Pearson Correlation	0.008	1	.943**	.339**	.257**	.373**	-0.132	0.188
	Sig. (2-tailed)	0.931		0	0	0.007	0	0.174	0.053
	N	107	107	107	107	107	107	107	106
Time for Older Adults	Pearson Correlation	0.071	.943**	1	.345**	.231*	.322**	-0.165	.227*
	Sig. (2-tailed)	0.469	0		0	0.017	0.001	0.089	0.019
	N	107	107	107	107	107	107	107	106
Interest in Senior Center	Pearson Correlation	0.03	.339**	.345**	1	.756**	.594**	-.192*	.278**
	Sig. (2-tailed)	0.763	0	0		0	0	0.048	0.004
	N	107	107	107	107	107	107	107	106
Contact Willingness OA	Pearson Correlation	0.058	.257**	.231*	.756**	1	.727**	-.237*	.195*
	Sig. (2-tailed)	0.553	0.007	0.017	0		0	0.014	0.046
	N	107	107	107	107	107	107	107	106
Contact Willingness Kids	Pearson Correlation	-0.147	.373**	.322**	.594**	.727**	1	-0.158	0.189
	Sig. (2-tailed)	0.131	0	0.001	0	0		0.103	0.052
	N	107	107	107	107	107	107	107	106
FSA Total Score	Pearson Correlation	-0.01	-0.132	-0.165	-.192*	-.237*	-0.158	1	-0.157
	Sig. (2-tailed)	0.918	0.174	0.089	0.048	0.014	0.103		0.109
	N	107	107	107	107	107	107	107	106
ROPE Total Score	Pearson Correlation	0.055	0.188	.227*	.278**	.195*	0.189	-0.157	1
	Sig. (2-tailed)	0.575	0.053	0.019	0.004	0.046	0.052	0.109	
	N	106	106	106	106	106	106	106	106

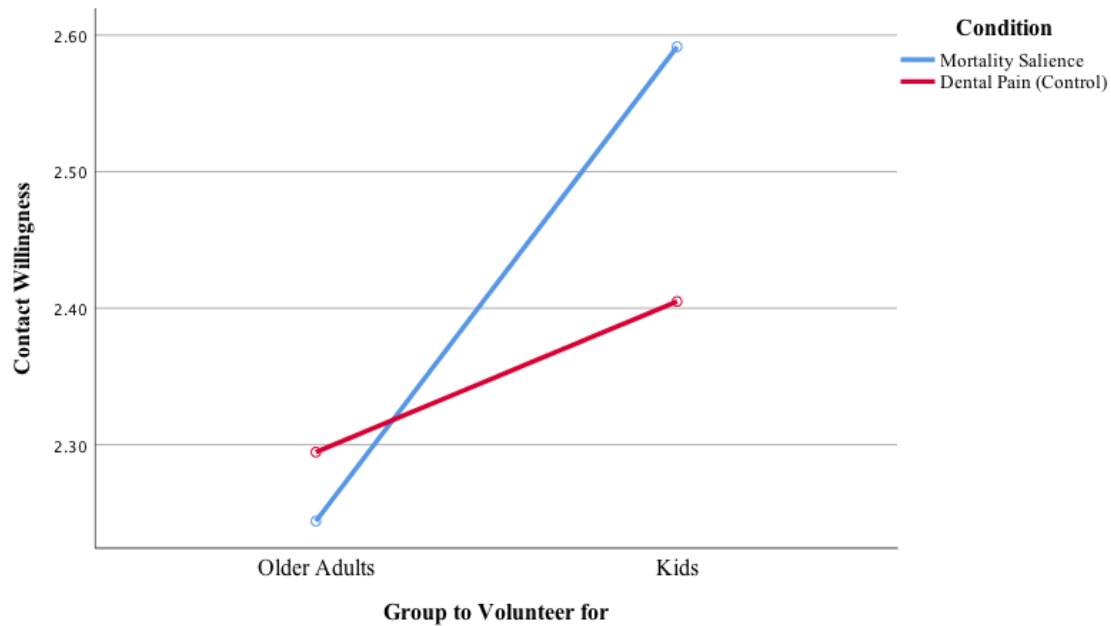
** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

To evaluate Hypothesis 1, I conducted a one-way ANOVA with condition (MS or control) as a between-subjects factor to determine whether the relationship between condition and IHQ 5 & 6 (contact willingness) and IHQ 2 & 3 (time willingness) was significant.

Condition did not significantly impact contact willingness $F(1, 105) = .059, p = .809$ or time willingness $F(1, 105) = .214, p = .645$.

To evaluate Hypothesis 2, I conducted a one-way ANOVA with condition as a between-subjects factor to determine whether the relationship between condition and preference for helping kids or older adults was significant. Condition did not significantly impact preference $F(1, 105) = 1.960, p = .164$. I also conducted a one-way ANOVA to determine whether the relationship between condition and intent to help older adults or intent to help kids was significant. Condition did not significantly impact intent to help either older adults or kids, respectively $F(1, 105) = .090, p = .765$; $F(1, 105) = .378, p = .540$. Finally I conducted a repeated-measures ANOVA to examine if contact (IHQ #5 and #6, willingness to be contacted to volunteer with kids and older adults) significantly interacted with condition while controlling for ROPE total scores. I controlled for the ROPE because it was the baseline measure of ageism. I found a marginally significant interaction between contact and condition such that those in the MS condition were significantly more likely to be willing to be contacted to volunteer with kids than those in the DP control condition $F(1, 103) = 3.343, p = .070, \eta_p^2 = .031$.



Covariates appearing in the model are evaluated at the following values: ROPE_total = 3.44

Figure 1. Those in the mortality salience condition were significantly more likely to be willing to be contacted to volunteer with kids than older adults when compared to their control condition counterparts when controlling for ageism (ROPE).

To evaluate Hypothesis 3, I conducted a one-way ANOVA with condition (mortality salience or control) as a between-subjects factor to determine whether the relationship between condition and FSA total score, or broadly ageism, was significant. Condition did not significantly impact total ageism $F(1, 105) = .002, p = .965$. I also conducted a univariate ANCOVA, controlling for the ROPE, and continued to use condition as a predictor and FSA total score as the outcome. I found that condition did not significantly predict FSA total scores $F(1, 103) = .065, p = .799$.

CHAPTER 4

DISCUSSION

This study intended to examine the relationship between mortality salience and prosocial intent toward older adults. The results indicated that those in the MS condition were more willing to be contacted to volunteer with kids than being contacted to volunteer with older adults. It was also found that those in the MS condition were more likely to be contacted to volunteer with kids than those in the control condition. The findings are consistent with previous work showing that individuals favor their ingroup when primed with their death (Castano et al., (2002); Greenberg & Arndt (2011)).

Hypothesis 1 did not yield significant results, such that a relationship between condition (MS or DP control) and overall helping intent, both contact willingness and time, was not substantiated. There is the possibility that I found no relationship between condition and helping intent because one does not exist. According to the literature, people lean on the psychological resources of self-esteem and their cultural worldview when MS is primed in order to quell the subsequent death anxiety (Mikulincer & Florian (2002); Greenberg & Arndt (2011); McGregor et al. (1998)). Perhaps our sample did not, subconsciously, feel threatened or the need to employ their psychological resources. Further, participants in our sample may not view helping as a value they hold in high regard which would eliminate it from use as a coping strategy for the death anxiety.

While only marginally significant, Hypothesis 2 showed the trend that those in the MS condition were more willing to be contacted to volunteer with kids than the DP control condition falls in line with other TMT research. Martens et al. (2004) found that those who viewed photos of elderly people completed word fragments with more death-related words than those who viewed photos of younger people. This could mean that older adults serve as a death prime in

and of themselves. If that is the case, the MS condition participants in this study would have received a “double” death prime by way of the explicit MS prime and the administration of the ageism questionnaires. As mentioned earlier Wisman and Goldenberg (2005) found that death primes caused males to have a greater desire to have babies. Babies could be considered the antithesis of older adults, thus when asked to volunteer with kids or older adults the MS condition participants may have chosen kids more as a protective measure against the older adult death prime. It is important to note that overall our sample showed relatively low willingness to be contacted to volunteer in the future.

Hypothesis 3 did not yield significant results, such that a relationship between condition (MS or DP control) and FSA total score was not substantiated. I hypothesized that those in the MS condition would have less favorable attitudes than those in the DP control group. Overall our participants scored low on ageism ($X = 38.37$, $SD = 6.31$) and while not representative of our hypothesis, it is encouraging that these college students did not score high on ageism across both conditions. An environmental factor to be mindful of is that the sample attends a private university in Washington, DC where students are known to be politically active. It could be that our sample is simply more socially conscious about the various “isms” that can be problematic today. It is purely conjecture but again this points to one of the core tenants of TMT which is sustaining faith in a cultural worldview. In today’s climate at a rather liberal university, it is sensical that young students would be sensitive and unbiased toward an outgroup like older people.

There are a number of limitations to address with regard to this study. Firstly, the author created the dependent measure for this study. Because this was the first time the IHQ was used, there is more to be done to validate it. While IHQ was not significantly related to the experimental

group, it did have some expected associations with the ageism measures. FSA total scores were negatively associated with interest in senior center and contact willingness with older adults which was expected. ROPE total scores were positively associated with time willingness with older adults, interest in senior center, and contact willingness with older adults which is relatively unexpected. Although, it is important to note that the ROPE has 20 items total, with 14 measuring negative ageism and 6 measuring positive ageism. Participants did not score high overall on the ROPE, but perhaps the items they did endorse were the positive statements (e.g., enjoy conversations with old people because of their age, ask an old person for advice because of their age).

The IHQ may need to be modified to accurately assess helping. For instance, IHQ #2 and #3 required participants to provide an amount of time (i.e., 2 hours and thirty minutes) for which they would be willing to spend making holiday cards for kids and elderly people respectively. I found that many participants indicated identical amounts of time for both groups. These questions were intended to quantify helping intent, but I could probably devise a better item to do that. It was a disguised measure so our intent was that participants would believe that they were completing a real volunteer interest survey. Despite the use of a script, there could have been variability across research assistants in the way the IHQ was administered. The believability of our design may have been compromised, especially if minute details between researchers' actions differed such as the tone of voice used or if one researcher made it obvious that the IHQ was in the measures packet, for example.

The sample gathered was predominantly white and female, mostly recruited from psychology classes. A more diverse sample is needed. As noted earlier, the participants in this sample may have been more tuned in to social justice than the average twenty-year old person. It

would be more representative to obtain a sample of participants from varying levels of education and gender identity. Further if I did not obtain a more diverse sample, I could address this by adding a measure of social values to determine if helping others is important to this population. Additionally, there may have been greater insight into mortality salience and prosocial intent had I used a sample of older adult participants instead.

In the planning stages of this study there were many ideas to measure helping behavior (e.g., time spent physically making cards for a senior center, willingness to return to the lab in the future to volunteer with older adults, etc.). While the choice of a self-report measure of helping intent made for a speedier and somewhat easier project for the researchers, perhaps future studies could use a behavioral measure. Gailliot et al. (2008) used a number of hypothetical scenarios to measure participants' willingness to help. If this tactic was implemented in the future, I could remove the delicate deception aspect of the study which would eliminate the human error noted earlier. In creating hypothetical scenarios, I could examine a number of unique situations, expanding our scope beyond simply older adults in a senior center. In addition, the use of implicit measures of ageism could be more helpful than the self-report ones used in the current study. I relied heavily on the participants own reporting which may not have accurately captured their deepest attitudes.

It is crucial that research in ageism and helping behavior is continued. Studies like this one further our knowledge about not only our psychological toolbox to avoid death anxiety, but also expand our understanding about the perceptions people hold toward older adults. As we deepen our understanding about the underpinnings of prosocial behavior and TMT, we can apply this practically to encourage people to engage in more charitable giving, for example. Although marginal and in need of replication, our findings indicate that college students', when given a

death reminder, had an affinity for kids. This provides evidence that perhaps there is a need for institutions of higher education to encourage work and study surrounding aging and older adults. Clinically, a modality like existential psychotherapy could be helpful in teaching young adults to cope with death anxiety and in return may promote more engagement with helping older adults.

Our study offers support for TMT in that people turn away from their outgroup when reminded of their own mortality. In the future, a behavioral measure of helping could be used to better assess prosocial behavior. Further, examining participants' values could provide a more accurate picture of the social orientation of the sample. Our study reflects the importance of focused efforts on encouraging young people to identify with older adults and on promoting prosocial behavior.

APPENDIX A
RELATING TO OLDER PEOPLE EVALUATION

How often do you...(Never, Sometimes, Often)

1. Compliment old people on how well they look, despite their age.
2. Send birthday cards to old people that joke about their age.
3. Enjoy conversations with old people because of their age.
4. Tell old people jokes about old age.
5. Hold doors open for old people because of their age.
6. Tell an old person, "You're too old for that."
7. Offer to help an old person across the street because of their age.
8. When I find out an old person's age, I may say, "You don't look that old."
9. Ask an old person for advice because of their age.
10. When an old person has an ailment, I may say, "That's normal at your age."
11. When an old person can't remember something, I may say, "That's what they call a 'Senior Moment'."
12. Talk louder or slower to old people because of their age.
13. Use simple words when talking to old people.
14. Ignore old people because of their age.
15. Vote for an old person because of their age.
16. Vote against an old person because of their age.
17. Avoid old people because of their age.
18. Avoid old people because they are cranky.
19. When a slow driver is in front of me, I may think, "It must be an old person."
20. Call an old woman, "young lady," or call an old man, "young man."

APPENDIX B

PRIMES

For the ***Mortality Salience (MS) condition***, ask participant 2 open-ended questions:

1. *“Please briefly describe the emotions that the thought of your own death arouses in you”*
2. *“Jot down, as specifically as you can, what you think will happen to you as you physically die and once you are physically dead”*

For the ***dental pain control condition***, ask the same 2 questions, replacing the words “your own death” with “experiencing dental pain”:

1. *“Please briefly describe the emotions that the thought of experiencing dental pain arouses in you”*
2. *“Jot down, as specifically as you can, what you think will happen to you as you physically experience dental pain and once you have physically experienced dental pain”*

APPENDIX C

DELAY ACTIVITY

Below is “The Growing Stone” taken from *Exile and the Kingdom* (Camus, 1957).

Several studies have utilized this passage as a distraction to remove thoughts of death from focal attention.

“The personality portion of the survey is over. Now, we would like you to complete a few different attitude tasks. As was stated earlier, research suggests that attitudes and perceptions about even very common everyday items may be related to basic personality characteristics. To further examine this idea, we would like you to complete the opinion questionnaires on the following pages with your most natural response. Please follow the instructions provided and complete the questionnaires in the order they are presented. That is, do not skip around.”

Opinion Questionnaire 1: Literature

Please read the following short passage from a novel and answer the questions below it.

The automobile swung clumsily around the curve in the red sandstone trail, now a mass of mud. The headlights suddenly picked out in the night—first on one side of the road, then on the other—two wooden huts with sheet metal roofs. On the right near the second one, a tower of course beams could be made out in the light fog. From the top of the tower a metal cable, invisible at its starting-point, shone as it sloped down into the light from the car before disappearing behind the embankment that blocked the road. The car slowed down and stopped a few yards from the huts.

The man who emerged from the seat to the right of the driver labored to extricate himself from the car. As he stood up, his huge, broad frame lurched a little. In the shadow beside the car, solidly planted on the ground and weighed down by fatigue, he seemed to be listening to the idling motor. Then he walked in the direction of the embankment and entered the cone of light from the headlights. He stopped at the top of the slope, his broad back outlined against the darkness. After a moment he turned around. In the light from the dashboard he could see the chauffeur’s black face, smiling. The man signaled and the chauffeur turned off the motor. At once a vast cool silence fell over the trail and the forest. Then the sound of the water could be heard.

The man looked at the river below him, visible solely as a broad dark motion flecked with occasional shimmers. A denser motionless darkness, far beyond, must be the other bank. By looking fixedly, however, one could see on that still bank a yellowish light like an oil lamp in the distance. The big man turned back toward the car and nodded. The chauffeur switched off the lights, turned them on again, then blinked them regularly. On the embankment the man appeared and disappeared, taller and more massive each time he came back to life. Suddenly, on the other bank of the river, a lantern held up by an invisible arm back and forth several times. At a final signal from the lookout, the man disappeared into the night. With the lights out, the river was shining intermittently. On each side of the road, the dark masses of forest foliage stood out against the sky and seemed very near. The fine rain that had soaked the trail an hour earlier was still hovering in the warm air, intensifying the silence and immobility of this broad clearing in the virgin forest. In the black sky misty stars flickered.

How do you feel about the overall descriptive qualities of the story?

1	2	3	4	5	6	7	8	9
not at all			somewhat			very		
descriptive			descriptive			descriptive		

Do you think the author of this story is male or female?

_____ male _____ female

APPENDIX D

FABRONI SCALE OF AGEISM

Next to each item, place the number that best describes your answer based on the following scale:

1= strongly disagree

2= disagree

3= agree

4= strongly agree

* Items are reverse-scored.

1. Teenage suicide is more tragic than suicide among the old.
2. There should be special clubs set aside within sports facilities so that old people can compete at their own level.
3. Many old people are stingy and hoard their money and possessions.
4. Many old people are not interested in making new friends preferring instead the circle of friends they have had for years.
5. Many old people just live in the past.
6. I sometimes avoid eye contact with old people when I see them.
7. I don't like it when old people try to make conversation with me.
- *8. Old people deserve the same rights and freedoms as do other members of our society.
9. Complex and interesting conversation cannot be expected from most old people.
10. Feeling depressed when around old people is probably a common feeling.
11. Old people should find friends their own age.
- *12. Old people should feel welcome at the social gatherings of young people.
13. I would prefer not to go to an open house at a senior's club, if invited.
- *14. Old people can be very creative.
15. I personally would not want to spend much time with an old person.

16. Most old people should not be allowed to renew their driver's licenses.
17. Old people don't really need to use our community sports facilities.
18. Most old people should not be trusted to take care of infants.
19. Many old people are happiest when they are with people their own age.
20. It is best that old people live where they won't bother anyone.
- *21. The company of most old people is quite enjoyable.
- *22. It is sad to hear about the plight of the old in our society these days.
- *23. Old people should be encouraged to speak out politically.
- *24. Most old people are interesting, individualistic people.
25. Most old people would be considered to have poor personal hygiene.
26. I would prefer not to live with an old person.
27. Most old people can be intimidating because they tell the same stories over and over
28. Old people complain more than other people do.
29. Old people do not need much money to meet their needs.

APPENDIX E INTENT TO HELP QUESTIONNAIRE

Which group would you prefer to make holiday cards for?

Strongly Prefer	Slightly Prefer	No Preference	Slightly Prefer	Strongly Prefer
Kids	Kids		Elderly People	Elderly People

How much time are you willing to spend making cards or doing other tasks for kids?

_____ hours and/or _____ minutes

How much time are you willing to spend making cards or doing other tasks for elderly people?

_____ hours and/or _____ minutes

We have an event later in the semester where we are going to read to people at a senior center (ages 65 and higher). How interested are you in joining us to volunteer?

Not at all interested		Somewhat interested		Extremely Interested
1	2	3	4	5

How willing are you to have us contact you if there are future events at the senior center?

Not at all interested		Somewhat interested		Extremely Interested
1	2	3	4	5

How willing are you to have us contact you if there are future events at the youth center?

Not at all interested		Somewhat interested		Extremely Interested
1	2	3	4	5

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