

TERROR MANAGEMENT THEORY AND POLITENESS: THE EFFECTS OF MORTALITY

SALIENCE ON PREFERENCES FOR PROPER LINGUISTIC ETIQUETTE

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Terror Management Theory and Politeness:

The Effects of Mortality Salience on Preferences for Proper Linguistic Etiquette

Life presents people with an inevitable dilemma: each day people are expected to live in the face of death. The thought of death can become all-consuming; however, most people are able to acknowledge their own mortality yet still forge ahead with daily routine. In *On the Origin of Species*, Charles Darwin (1859/2009) wrote of the struggle for existence in living creatures, emphasizing that surviving and reproducing, despite setbacks, is an instinctual, ultimate goal. However, humans differ from other animals not only because of the ability to be conscious, but also because of the ability to be self-conscious. Thus, because people are aware of their existence and of their eventual demise, this puts them in a conflicted position when death is made salient (Pyszczynski, Solomon, & Greenberg, 2003).

When anthropologist Ernest Becker studied existential concerns, he noted how difficult it can be to come to terms with the idea of death. Becker explicitly referred to a universal, underlying fear of death by using the term “terror” (1973/1997, p. 15). The knowledge of death allows people to strive for self-preservation; however, to be constantly in anticipation of death would be detrimental to living well (Becker, 1971). How is it that people can even manage to stand upright, let alone maintain motivation and prosper, while carrying the knowledge that death could come at any moment? Try not to despair—people may be bound by mortality, but people are also adaptable and have found ways to deal with the vulnerability of death anxiety.

Terror Management Theory

According to Terror Management Theory (TMT; Greenberg, Pyszczynski, & Solomon, 1986), when people face thoughts of their mortality, they engage in psychological defenses which buffer them from death-related anxiety. Essentially, TMT seeks to explain how people

cope with their anxieties about death. While doing so, people will acknowledge that death is inherent to the human condition but remind themselves that death is an unknowable event in the future. To live well, people must avoid letting thoughts of death impede on daily survival.

Culture and self-esteem. Aside from human self-consciousness, another ability which other animals do not possess is the ability to create, maintain, and participate in culture. Culture is not an easy concept to define, nor is it static or simple. Markus and Kitayama (2010) defined culture as a combination of concepts and systems which exist not within people but within the world. The act of trying to imagine or explain life without any aspect of culture will likely leave people at a loss for words because culture is so engrained in how people live. Furthermore, culture can provide people with a sense of connectedness to the world as they contribute to culture. Culture allows people to imbue meaning into their existence, giving them a way to identify with others and, subsequently, provide a way to find a sense of significance to life (Pyszczynski et al., 2003).

Furthermore, it is through the maintenance of culture that people can be assured that, even when they cease to exist, life will continue in a similar fashion. That is, culture provides people with the ability to find both meaning and consistency in life. Because of culture's psychological and social significance, culture is emphasized in TMT. Pyszczynski et al. (2003) succinctly summarized the relevance of culture in TMT:

What saves us is culture. Cultures provide ways to view the world—worldviews—that 'solve' the existential crisis engendered by the awareness of death. Cultural worldviews consist of humanly constructed beliefs about the nature of reality that are shared by individuals in a group that function to mitigate the horror and blunt the dread caused by the reality of the human condition, that we all die. (p. 16)

Therefore, TMT asserts that people's confidence in and identification with culture are paramount to understanding psychological defenses against thoughts of death (Pyszczynski et al., 2003). There are two essential hypotheses of TMT which stem from culture. First, the mortality salience hypothesis asserts that when people are reminded of their deaths, they will cling to cultural worldviews more closely, accepting that which fits into their worldview and derogating that which does not fit into their worldview (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997). In other words, when people reflect on their mortality, they will be more inclined to identify with their worldview, thereby finding meaning in life to help them cope with death anxiety.

The first empirical test of TMT by Rosenblatt, Greenberg, Solomon, Pyszczynski, and Lyon (1989) involved a series of six experiments to identify the effects of mortality salience on adhering to a cultural worldview. In the first experiment, court judges were asked to assess a course case vignette depicting an individual facing prostitution charges. When asked to assign bail amounts to the individual, judges who had their mortality made salient assigned a substantially larger average bond amount (i.e., \$455) than did judges who did not have their mortality made salient (i.e., \$50). Because the charge of prostitution was considered a crime which presumably violated cultural norms, it was suggested that being made aware of mortality evoked a reliance on cultural worldview through the denigration of people who threatened the cultural worldview.

Additionally, the third experiment in Rosenblatt et al.'s (1989) initial investigation examined the other aspect of identification with cultural worldview. Since it was clear that participants chose a harsher punishment for a cultural transgressor in the first experiment, the researchers examined how participants would react to a cultural "hero" under mortality salience.

Participants were asked to evaluate a woman who had helped police catch a criminal who had victimized several people by viciously beating and robbing them. When asked to assign a reward for the woman who helped the police, participants who had their mortality made salient assigned substantially larger rewards, on average, for the woman (i.e., \$438) in comparison to people who did not have their mortality made salient (i.e., \$134). As can be seen, mortality salience effects also influenced how people evaluated individuals who upheld the cultural worldview.

Rosenblatt et al.'s (1989) initial study set the stage for TMT's reliance on a cultural framework for its mortality salience hypothesis. Numerous studies have replicated this basic effect. For example, an early follow-up study by Greenberg, Pyszczynski, Solomon, Rosenblatt, Veeder, Kirkland, and Lyon (1990) tested the mortality salience hypothesis again and found similar results for the effects of mortality salience on evaluations of people who were similar or dissimilar to participants based on religious affiliation, attitudes, and direct praise or disparagement of participant cultural worldviews. That is, people who expressed or held cultural views contrary to participant views were evaluated more negatively while those who expressed or held comparable cultural views were evaluated more positively. Other studies have supported mortality salience effects in evaluations of cultural transgressors through the defamation of important cultural icons (Greenberg, Porteus, Simon, Pyszczynski, & Solomon, 1995), the allocation of hot sauce as a means of aggressive behavior toward threats (McGregor, Lieberman, Greenberg, Solomon, Arndt, Simon, & Pyszczynski, 1998), and the favoritism of ingroup members and stereotyping of outgroup members (Castano, 2004).

Along with people assigning meaning to cultural worldviews comes their personal identification with cultural worldviews. That is, for people to rely on culture to shield them from death anxiety, they must also be invested in culture. If people feel they personally live up to the

standards of their cultural worldview, then their self-esteem is bolstered through the endorsement of culture. Pyszczynski et al. (2003) defined self-esteem in the context of TMT as “the belief that one is a person of value in a world of meaning” in explaining that cultural worldviews do not have meaning on their own—people must identify with and contribute to culture (p. 22). Thus, TMT’s second hypothesis is the anxiety-buffer hypothesis, asserting that self-esteem provides people with a way to secure meaning for themselves within culture (Pyszczynski et al., 2003). The anxiety-buffer hypothesis is complementary to the mortality salience hypothesis in that people rely on cultural worldviews to deal with death anxiety, but these worldviews are only effective at buffering fears of death if people bolster their self-esteem through the worldviews.

Greenberg et al. (1992) provided one of the first investigations of self-esteem’s relevance to TMT, conducting three studies regarding self-esteem’s connection to death anxiety and threats to validate the anxiety-buffer hypothesis. One experiment found that participants who had their self-esteem bolstered reported less anxiety about death after their mortality was made salient. Two additional experiments found that participants showed less anxiety when made to feel threatened while anticipating an electric shock (i.e., anxiety provocation) than participants who did not have their self-esteem bolstered. Thus, self-esteem seemed to mitigate concerns about death and threats to individuals. Likewise, Greenberg, Pyszczynski, Solomon, Pinel, Simon, and Jordan (1993) conducted two studies which considered how both manipulated and trait anxiety would affect the denial of human fragility (i.e., dying an early death) through reports of emotion. Again, the findings of the study suggested that self-esteem served as a buffer toward the death anxiety because those with heightened self-esteem showed less defense against threats. In sum, self-esteem has been shown to provide a shield against death anxiety.

Defenses. Pyszczynski, Greenberg, and Solomon (1999) explained that, much like

biological functions allow people to persevere in pursuit of survival, the psychological functions which cultural worldview and self-esteem provide humans can also support the idea of belonging and survival. According to TMT, self-esteem and a cultural worldview are considered the crux of safeguarding against death anxiety for humans. However, these defenses are the end result of the psychological process in which people engage once they are reminded of their death. TMT proposes that humans manage anxiety aroused by thoughts of death in the form of a “dual-process model” consisting of two types of defenses (Pyszczynski et al., 1999).

The first component of the dual-process defense system against death anxiety consists of proximal defenses. The use of proximal defenses occurs immediately after people are made aware of their death. This type of defense is a conscious attempt to forget about death and regard death as an event which will not happen in the near future. Thus, proximal defenses are rational responses to the thought of personal death and can only occur when people are explicitly made aware of their death (Pyszczynski et al., 1999). Research has shown that this type of defense results in a lowered accessibility of death-related thoughts (e.g., Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). However, proximal defense effects are fleeting in their protection against death anxiety. Proximal defenses are only successful in defending against death thoughts inasmuch as the defense can rid the thoughts from the conscious mind.

Once proximal defenses have been used, a delay period during which people are distracted from thoughts of death must occur before more effective psychological defenses against death are engaged. Wegner (1994) distinguished conscious cognitive operating processes from unconscious monitoring processes during thought suppression. When people are engaged with a cognitive distractor, cognitive monitoring processes seek out the opposite of what operating processes sought to suppress. Thus, people fall prey to the thoughts they were

attempting to rid from their minds. Wegner (1994) referred to this recoil as “ironic effects,” as people end up thinking about that which they were trying to ignore. Of particular interest to TMT are the “ironic effects” of the suppression of death-related thoughts.

Thus, a delay period with a cognitive distractor should be necessary before measuring the second type of defense against mortality salience. While the exact timing of the delay has not been clearly established, a recent meta-analysis showed that the majority of studies in the analysis used a delay period. The same analysis found that a longer delay period involving more delay tasks tends to lead to more robust mortality salience effects (Burke, Martens, & Faucher, 2010). Because the distal defenses which follow the delay are what allow researchers to assess effects of mortality salience, these defenses are the primary focus of TMT research. These distal defenses are, of course, people’s engagement with cultural worldview and self-esteem.

Two common ways TMT researchers measure the effects of mortality salience are by looking at death-thought accessibility and worldview defense in experimental studies. Death-thought accessibility is typically measured by using scales which measure death-related constructs or through the use of a word-stem completion task (Greenberg et al., 1994) for death-related words. Cultural worldview defense is measured after mortality salience by calculating the mean ratings individuals give to an essay which either challenges or is consistent with their own worldviews. Greenberg et al. (1994) used both of these techniques in a study which strived to understand how death thoughts are made accessible after mortality salience. With these measures of mortality salience, the researchers found that death thoughts are most accessible when not being consciously thought about. Thus, the study laid a foundation on which future TMT researchers could better understand how and when death-related thoughts become most accessible.

In summary, cultural worldview and self-esteem serve as defenses in dealing with death anxiety. The worldview answers existential questions, gives individuals a way to organize their understanding of the world and their place within it, and gives individuals specific ideals by which to live (Arndt et al., 1997). Overall, the worldview allows individuals to situate themselves in the context of existence by providing them with a place in which they feel comfortable to reside. Moreover, self-esteem, or one's positive identification with an important cultural worldview, bolsters the meaning necessary for the defense to be effective. When people must face mortality, culture presents them with a way to be connected to the world immortally (Greenberg et al., 1999).

TMT research paradigm. To measure the effects of mortality salience via distal defenses, TMT uses a sequential model with several basic experimental techniques drawing on the ideas discussed regarding TMT's hypotheses and understanding of defenses and a delay period. The first event which needs to occur in a TMT study is the induction of mortality salience. A common way to induce mortality salience is by using the Mortality Attitudes Personality Survey (MAPS; Rosenblatt et al., 1989). Of the 277 experiments reviewed in Burke et al.'s (2010) meta-analysis, about 80% of studies used the traditional MAPS mortality salience manipulation. MAPS involves having participants write down answers to the following open-ended death reminders: "Please briefly describe the emotions that thoughts of your own death arouse in you" and "Jot down, as specifically as you can, what you think will happen to you as you physically die and once you are physically dead." These prompts have been used in numerous TMT studies (e.g., Arndt, Greenberg, & Cook, 2002; Friedman & Rholes, 2008; DeWall & Baumeister, 2007). However, some experiments use other means of manipulating mortality salience, such as through the use of subliminal death primes, death-related surveys, and

written or audiovisual inductions (Burke et al., 2010).

As mentioned previously, after people are made aware of their death, they should engage in using proximal defenses to rid the thought of death from their minds. After that, a period of time must elapse before the distal defenses are activated. The psychological concepts being considered are encompassed within cultural worldview and self-esteem (Pyszczynski et al., 1999). There are numerous topics which researchers have explored within the TMT research paradigm. For example, research has been conducted on subliminal exposure to death (Arndt, Greenberg, Pyszczynski, & Solomon, 1997), preferences for consistency in stereotypes regarding gender, race, and sexual orientation (Schimel, Simon, Greenberg, Pyszczynski, Solomon, Waxmonsky, & Arndt, 1999), and moderation of mortality salience effects by adult attachment styles (Mikulincer & Florian, 2000) or religiosity (Jonas & Fischer, 2006; Friedman & Rholes, 2008).

Interestingly, Friedman's (2008) study on religiosity and TMT also examined the language participants used when responding to the traditional MAPS mortality salience induction. The findings of the study revealed that participants who were high in religious fundamentalism tended to write shorter responses, use happier words, and write about the future more often. In the control condition, there were no significant differences in language use. Although this study focused on fundamentalism as a moderator of mortality salience effects, it is especially interesting that participants whose mortality was made salient expressed themselves using words which were more emotionally positive than did control participants. Language may provide an important area for investigation which TMT researchers have not yet addressed in detail.

Terror Management Theory and Language

A part of the human experience which Becker (1971) also made note of was language. Becker argued that language allows humans to set themselves apart from nature and other animals with the unique ability to communicate. Language not only permits basic conversation, but also the transmission of culture. To date, only one TMT study has looked at mortality salience specifically in regard to language. McCallum and McGlone (2011) examined the effects of mortality salience on the use of euphemistic language to describe crude photos of animals engaging in excretion, copulation, or urination. The study sought to examine how humans tend to separate themselves from their own “creatureliness” when faced with mortality as evidenced by their linguistic responses. Overall, the researchers found that mortality salience participants used more euphemistic language to describe crude photos than participants in a control group. Additionally, mortality salience participants used more euphemistic language in describing photos involving excretion and urination in comparison to copulation, suggesting that these bodily functions were regarded as more “creaturely” than copulation images.

While the study focused on psychological distancing from humans’ animalistic foundations, it provided important insights in regard to how language can aid in expressing cultural and self-esteem defenses against death anxiety. Additionally, the study showed that embracing culture, according to TMT, led to differential uses of language. Related to euphemisms is linguistic politeness. Because enhancing cultural ties is a major means of dealing with mortality salience, it seems likely that perceptions of politeness would also be influenced by death awareness. The purpose of this thesis is to examine that connection.

Politeness theory. Penelope Brown and Stephen Levinson’s (1987) Politeness Theory is an attempt to explain the social underpinnings of linguistic variability. Because TMT relies on a

cultural framework of worldview defense, politeness may be an aspect of linguistic behavior that is influenced by mortality salience. Politeness Theory is based in part on Goffman's (1967/1982) conception of face. Initially explained as an element implicated in all social interactions in any culture, face represents how people are seen by others. People are inclined to maintain a favorable social identity. Goffman explained that people involved in interactions will take up a specific line (i.e., pattern of behavior) during interaction. Whatever the line may be, face is at the forefront of the interaction. Likewise, linguistic interactions should follow a similar pattern.

Additionally, on the basis of Emile Durkheim's (1915/2012) positive and negative rites in regard to the sacred and profane in religious rituals, Brown and Levinson (1987) identified two types of face: negative and positive. This idea is also akin to Goffman's (1967/1982) notion that social interaction, in itself, is undertaken with great emphasis on its components as being ritualistic. Negative face involves people not being restricted by others; positive face involves identifying closely with others. Brown and Levinson (1987) acknowledged that the composition of face will vary depending on the cultural context of those involved in conversation but presumed that face, itself, is universal.

Both social and linguistic interaction put face in a vulnerable position. Because face is related to how people are being perceived by others, face is inherently dependent on others. For example, if two people are conversing in a given situation, the face of each individual will depend upon the other person. It is through this reciprocal connection between the people who are interacting that face can be lost, be held constant, or be improved depending on how people in the situation acknowledge the each other's face (Brown & Levinson, 1987).

To deal with the possibility of face being threatened through interaction, people engage in the process of face-work to maintain favorable perceptions of the self by others. Face-work is

used to keep both interactions with others and face in harmony (Goffman, 1967/1982). Essentially, face-work is practiced to support each person's face. In regard to social interaction, Goffman (1967/1982) also noted that both avoidance and corrective processes can be used to prevent or remedy threats to face. The avoidance processes entail people preventing themselves from becoming involved in situations which could threaten face altogether; the corrective processes entail people fixing or reinstating "equilibrium" in the situation to mend any face damage.

For linguistic interaction, specifically, threats to face may be dealt with through politeness in a more subtle way. Holtgraves (2005) summarized the culmination of face-work and politeness by explaining that face is at risk during linguistic interaction, as it is during any other social interaction, and the linguistic mechanism through which people can engage in face-work is by exercising politeness. While linguistic politeness may solve the problem of dealing with face threats during communication, it can only be done by acting against what might be considered the most efficient means of communication.

An area of politeness research which has received considerable attention is requests. The act of making a request is highly applicable to politeness, as it inherently poses a threat to the listener's negative face because a request puts the listener in a position which may pose a burden on her or him. A speaker can use politeness when making a request to prevent threats to the listener's face (Holtgraves, 2010). Research on requests has been conducted in a variety of domains. For example, Meyer (2001) examined the types of requests used and found that more negative politeness was utilized in requests when face threats were greater in some types of requests (i.e., requests to borrow). Clark and Schunk (1980) analyzed people's interpretations of indirect requests. Additionally, Johnson, Roloff, and Riffée (2004) looked at how people's

refusals of requests can affect the face threat which was imposed upon the listener of the request. Finally, Holtgraves and Yang (1990) examined requests and politeness and found some support for the idea that politeness is a linguistic strategy to protect face cross-culturally. These studies, along with numerous others, have validated the importance of considering requests in the domain of politeness.

Politeness continuum. According to Brown and Levinson's (1987) politeness continuum, a speaker has five options when choosing to engage in linguistic face-work, ranging from most polite to least polite. First, the speaker can simply choose not to communicate the information to the listener at all. This strategy is the most polite, as it avoids threats to face altogether. The second option would be for the speaker to communicate information in an off-record manner by being ambiguous or indirect to the listener to convey the face-threatening information. Next, the speaker could communicate the information with redress by avoiding threats to the listener's face. When communicating in a redressive way, there are two types of politeness which can be exercised depending on the type of face-threat which is present. Negative politeness decreases the burden which could be imposed on the listener by emphasizing respect toward the listener's face. Positive politeness emphasizes that the listener and the speaker are similar in face or decreases the difference between the speaker and listener. In other words, negative politeness satisfies the listener's personal autonomy while positive politeness satisfies the listener's identification with others. Finally, the least polite strategy would be to communicate the information in a bald way, meaning that the speaker is not concerned with the listener's face being threatened at all and communicates the information as directly as possible.

Finally, based on which politeness strategy on the continuum is exercised, the degree to which the speaker utilizes politeness can be determined by three variables. The three variables

are essential to understanding how politeness is a fluid concept which varies amongst different contexts, cultures, and people. To determine the amount of politeness to exercise, a formula was created with three variables which equate to the “weightiness” of a specific face-threatening act. The first two variables are the social distance and power differential between the speaker and listener. While the social distance between the speaker and listener is a relatively reciprocal concept, the power variable more closely considers the speaker’s socially-perceived power above that of the listener. Lastly, the third variable is the degree of imposition of the face-threatening act in question (Brown & Levinson, 1987). The combination of these three variables, then, allows the speaker to determine the degree of politeness which would be required to protect the listener’s face.

The Present Study

The present study seeks to extend TMT by examining the effects of mortality salience in regard to politeness. The effects of mortality salience, according to TMT, are best understood through the use of the psychological defenses of self-esteem and cultural worldview. Worldview defense is crucial for the theory, relying on people’s investment in culture. For people who have their mortality made salient, cultural norms should be embraced and deviation from cultural norms should be disparaged. Likewise, linguistic politeness is a normative concept which relies on culture. People cannot evaluate politeness without interacting with others, and a lack of politeness from others is inherently threatening in social situations. The connection between TMT and politeness rests upon the framework of culture and the evaluations of others. Whereas polite people should be perceived as adhering to cultural norms, impolite people should be perceived as violating cultural norms. Under mortality salience, these evaluations should be magnified.

McCallum and McGlone's (2011) study about the effects of mortality salience on euphemism use provided a starting point for the investigation of language in TMT. Although not concerned with mortality salience, research conducted by Forgas (1999) demonstrated that perceptions of politeness can vary as a function of mood. The first experiment looked at how mood affected request strategy and the second experiment elaborated on these ideas through a naturalistic elicitation of requests. The politeness scenarios in the study were either "conventional" or "risky," meaning that some requests were more likely to violate cultural norms of politeness. The first experiment showed that polite requests were more preferred by participants who were in a sad mood in comparison to participants who were in a happy mood. In other words, participants preferred polite scenarios which were less likely to violate politeness norms. Additionally, the second experiment examined several aspects of mood effects on requests, the most important for the present study being request politeness. In this experiment, participants who were in a sad mood, again, avoided the use of impolite requests more so than participants who were in a happy mood. Taken together, both McCallum and McGlone (2011) and Forgas (1999) showed that when people were enduring mortality salience or a negative affective state, culturally appropriate language was preferred.

Accordingly, I propose that TMT can be further extended into the domain of politeness. Specifically, I hypothesize that mortality salience participants will evaluate less polite requests (bald and positively polite) and the speakers who use them more negatively than will participants in the control group. Likewise, mortality salience participants should be less likely to comply with these requests than control participants. Additionally, I hypothesize that mortality salience participants will evaluate more polite requests (negatively polite and off-record) and the speakers who use them more positively than will participants in the control group. Similarly, mortality

saliency participants should be more likely to comply with these requests than control participants.

Method

Overview

The design of the study was a 2 (mortality salience: yes, no) x 2 (politeness type: impolite [bald, positive], polite [negative, off-record]) x 4 (politeness evaluation: request politeness, person politeness, person liking, likelihood of compliance) mixed between and within subjects MANOVA. Mortality salience was a between-subjects variable and politeness type and politeness evaluation were within-subjects variables.

Participants

Participants were recruited through the Ball State introductory psychology participant pool. There were 57 participants altogether. Females made up 78.9% ($N = 45$) of the sample, with males comprising the remaining 21.1% ($N = 12$). The race of 75.4% of participants was White/Caucasian ($N = 43$). The remaining participants were 12.3% Black/African American ($N = 7$), 5.3% Asian ($N = 3$), 5.3% bi-racial ($N = 3$), and 1.8% other ($N = 1$). Participant ages ranged from 18 to 23 ($M = 19.21$, $SD = 1.26$). No participants identified the true purpose of the study when asked to explain what they thought the purpose of the study was. Three participants were removed from the analysis due to failure to follow directions during the experimental session. Participants were compensated for their participation by receiving one hour of participation credit for their introductory psychology course.

Materials and Procedure

Participants arrived at the laboratory in groups of five or fewer people and were asked to sit at any desk in the laboratory. Each desk was be separated by dividers to ensure privacy during

participation. The purpose of the study was described as an examination of attitudes and evaluations. Before collecting any data, the participants were given information about confidentiality, voluntary participation, and potential risks and benefits of participating in the study. All participants chose to give informed consent. Participants were given packets containing all of the study materials and were asked to wait for further instruction. The order of the packets were randomized prior to the experimental sessions.

Mortality salience induction. Participants were randomly assigned either to the mortality salience or control condition. All participants received the MAPS prompt (see Appendix A) which required them to think about death and respond to two open-ended questions about death (mortality salience) or dental pain (control) by writing a response to the questions. This prompt, first used by Rosenblatt et al. (1989), is the standard mortality salience induction prompt. Though first five participants in the study were given three minutes to respond to the prompt, the remaining participants were given two and a half minutes to respond to each question for a total of five minutes for both questions. The reason for this change was that when participants were given three minutes, most finished the task ahead of time. They were asked to start and, if not finished, to stop writing as a group to ensure that everyone was working at the same overall pace.

The mortality salience prompt asked two questions: “Please briefly describe the emotions that thoughts of your own death arouse in you” and “Jot down, as specifically as you can, what you think will happen to you as you physically die and once you are physically dead.” The dental pain questions followed the same general format but instead inquired about feelings and thoughts associated with dental pain. Dental pain is commonly utilized as a control topic in TMT studies (Burke et al., 2010). Participants were asked to respond to the questions, turn to a blank page in

the packet, and wait until it was time to proceed to the next task. It is important to note that the responses to the mortality salience prompts were examined to ensure that participants actually wrote about thoughts of their own deaths. All participants did write about their own mortality, though some participants focused on different issues or wrote differently from others (see Discussion).

Filler tasks. Immediately after the mortality salience manipulation, participants were given instructions and completed filler tasks. The first two filler tasks had time limits. The first purpose of the time limit was to ensure that all participants were distracted and engaged with the tasks for the entire time frame allowed. Participants were told that not completing the tasks during the time provided would not reflect poorly on their participation in any way. By assuring participants that it was not necessary that anyone finish the tasks, this should have helped to alleviate any concerns participants might have had about being under time pressure.

The second purpose of instituting time limits on some of the filler tasks is to ensure that the delay period between mortality salience induction and the measurement of mortality salience effects was adequate and held as constant as possible for all participants. Burke et al.'s (2010) meta-analysis on mortality salience research revealed not only that having more filler tasks (i.e., 3 tasks) resulted in more robust effects, but also that a longer delay period produced greater effects. The researchers also noted that longer delay periods (i.e., 7 to 20 minutes) resulted in more robust effects than shorter delay periods (i.e., 2 to 7 minutes) but did not expand on how the data on these time frames were computed. Additionally, the researchers noted that the time period for delays has not yet been clearly investigated. Thus, the time specifications in the present study were meant to exercise control over the duration of the delay period while also ensuring that all participants remain distracted throughout the duration of the delay.

Word search puzzle. The first filler task was a word search puzzle (see Appendix B). The word search puzzle has been used as a distractor in numerous TMT studies (Burke et al., 2010). The purpose of the task was to distract participants from thinking about their own mortality. The words on the puzzle were all neutral (e.g., paper, grass, sky, container) so as not to prime for death or emotionally-laden thoughts. The word search puzzle was described to participants as part of the attitudes portion of the experiment. Participants were told they would have five minutes to work on the puzzle. Once five minutes passed, participants were asked to stop working and to listen to instructions about the next task.

Reading passage. The second filler task was a reading passage of a recent article from *Scientific American* which was completely unrelated to concepts of death (see Appendix C). To keep participants engaged in the task, participants were instructed to read the passage carefully because they would be asked to respond to questions at the end if time permitted. The reading passage was described to participants as part of the evaluation portion of the experiment. Participants were told that the purpose of the task was to examine their evaluations of the article. The task of having participants read a passage and answer questions has been commonly used in TMT research as a distraction (Burke et al., 2010). The questions following the article consisted of a summarized statement about the main point of the article and questions asking for opinions on the article. Participants were told they would have four minutes to work on the task. After participants were asked to stop working on the task, they were asked to listen to instructions about the remaining tasks.

PANAS-X. The final filler task was the PANAS-X (Watson & Clark, 1992) (see Appendix D). This measure is used frequently in TMT research as a filler task after a mortality salience manipulation and has not been found to have a subsequent effect on participant mood

which could potentially influence worldview defense measurements (Burke et al., 2010). Participants were told that this task, along with the remaining procedural tasks, would involve another examination of attitudes. Participants were told that the task would not be timed to prevent participants from rushing through the task. The responses on the General Negative Affect scale of the measure were later used to examine potential mood effects from the mortality salience manipulation. Once participants completed the measure, they were allowed to continue on to the scenarios and dependent measures at their own pace.

Request scenarios. Each participant was given four scenarios to read with a single request following each scenario (see Appendix E). The distribution of the requests associated with the scenarios was done in a partial-block design. That is, all of the participants read all of the scenarios, but the politeness type of the request following each scenario represented a different level from the politeness continuum for each participant. In other words, across participants each scenario had each of the politeness request types, but each participant only saw one type of request per scenario. Each scenario consisted of a situation in which the participant is to imagine himself or herself interacting with a speaker. At the end of each scenario, the speaker made a request to the participant. The scenarios depicted typical college student settings and interactions to make the scenarios relevant to the participants. The scenarios consisted of either a friend or a roommate making a request. The gender of the speaker in the scenarios was not revealed.

Dependent measures. Participants evaluated the politeness of the request, the individual (politeness of person and liking of person), and likelihood of compliance with the request (see Appendices F, G, H, I). The dependent measure of politeness of the request were operationalized as participants' ratings of politeness on a Likert-type scale from 1 to 7 (1 = not at all, 7 =

completely). The evaluations of the politeness of requests served as a manipulation check to ensure participants were perceiving the level of the politeness of requests. The dependent measure of the evaluation of the person was operationalized as participants' ratings on a Likert-type scale from 1 to 7 (1 = not at all, 7 = completely). There was a single item asking participants to rate the politeness of the person. There were two items asking participants to rate their liking of the person. I computed correlations on the items for each level of the politeness continuum. The two off-record items ($r = .852, p < .05$), negative items ($r = .706, p < .05$), positive ($r = .807, p < .05$), and bald ($r = .874, p < .05$) correlated highly with each other. Finally, the dependent measure of likelihood of compliance with the request was operationalized as participants' ratings on a Likert-type scale from 1 to 7 (1 = not at all, 7 = completely). There was one item asking participants about their likelihood of complying with the person's request.

Demographics and debriefing. After the dependent measures, participants responded to a prompt asking them what they thought the purpose of the study was. This provided an anonymous, private way to ask participants whether they knew anything about TMT and the expected effects of the mortality salience paradigm. No participants indicated a clear understanding of the experimental paradigm. The procedure concluded with participants providing demographic information about themselves regarding age, sex, race, and their degree of religiousness. Finally, participants were fully debriefed about the purpose of the study. Participants were given contact information of the principal investigator and faculty adviser in case they had any concerns or questions. Lastly, participants were given contact information for the Ball State Student Counseling Center as a precautionary measure due to the potential sensitivity of the mortality salience induction.

Results

Preliminary Analyses

All participants reported their level of religiousness on a scale from 1 to 7. Higher scores indicated greater religiousness. Overall, the mean score of participant religiousness was 4.593 ($SD = 1.995$), with scores ranging from 1 to 7. There was not a significant difference in religiousness between mortality salience ($M = 4.464$, $SD = 2.134$) and control ($M = 4.731$, $SD = 1.867$) participants, $t(52) = -.487$, $p > .05$.

The General Negative Affect (GNA) score on the PANAS-X (Watson & Clark, 1992) was examined for potential negative affect related to the mortality salience manipulation. The mean GNA score for all participants was 14.370 ($SD = 4.724$), with scores ranging from 10 to 27. There was not a significant difference in GNA between the mortality salience ($M = 13.429$, $SD = 4.264$) and control ($M = 15.387$, $SD = 5.060$) participants, $t(52) = -1.540$, $p > .05$.

Main Analysis

The data were analyzed with a 2 (mortality salience: yes, no) x 2 (politeness type: impolite [positive, bald], polite [off-record, negative]) x 4 (politeness evaluation: request politeness, person politeness, person liking, likelihood of compliance) mixed between and within subjects MANOVA. The means are presented in Table 1. Contrary to what was predicted, the MANOVA did not reveal a significant interaction between politeness and mortality salience, $F(4, 48) = 1.241$, $p > .05$, Wilks' $\lambda = .906$. As expected, there was no main effect for mortality salience, $F(4, 48) = 1.601$, $p > .05$, Wilks' $\lambda = .882$. Also as predicted, there was a main effect for politeness type, $F(4, 48) = 51.110$, $p < .05$, Wilks' $\lambda = .190$, $\eta_p^2 = .810$.

Politeness manipulation. Because the main effect of politeness type was significant, univariate tests were conducted on each of the four dependent variables. As can be seen in Table

2, the politeness manipulation was successful for each of the politeness evaluations. Specifically, impolite requests were rated as significantly less polite than polite requests, $F(1, 51) = 164.794$, $p < .05$, $\eta_p^2 = .764$; a person making an impolite request was rated as significantly less polite than a person making a polite request, $F(1, 51) = 197.706$, $p < .05$, $\eta_p^2 = .795$; a person making an impolite request was less well liked than a person making a polite request, $F(1, 51) = 102.697$, $p < .05$, $\eta_p^2 = .668$; and the likelihood of compliance was lower for impolite requests than for polite requests, $F(1, 51) = 78.529$, $p < .05$, $\eta_p^2 = .606$. Thus, the politeness manipulation was successful.

Mortality salience main effects. Though not statistically significant in the overall MANOVA, it is noteworthy that mortality salience participants tended to evaluate both polite and impolite requests and persons more favorably than did control participants (see Table 1). Interestingly, for impolite requests (i.e., a cultural transgression), this is the exact *opposite* of what might be expected. For polite requests (i.e., upholding cultural norms), this is what might be expected. Mortality salience participants evaluated all requests and persons more favorably, whether polite or impolite, in comparison to control participants. Univariate tests of each dependent variable separately yielded significant mortality salience main effects for request politeness, $F(1,51) = 4.952$, $p < .05$, $\eta_p^2 = .089$, and person politeness, $F(1,51) = 5.628$, $p < .05$, $\eta_p^2 = .099$. The mortality salience main effect was not significant for person liking, $F(1,51) = 2.510$, $p > .05$, or likelihood of compliance, $F(1,51) = .054$, $p > .05$. Thus, with the exception of mean ratings of person liking and likelihood of compliance, mortality salience participants tended to make more favorable evaluations for every request and person, polite and impolite alike, in comparison to control participants.

Exploratory Analyses

Religiousness

Religiosity has received considerable attention in TMT research given its relation to existential concerns; numerous studies have shown that religiosity moderates the effects of mortality salience. Typically, people who report a higher degree of religiosity are seemingly buffered from the effects of mortality salience due to their belief in an afterlife, whereas people who report a lower degree of religiosity or a lack of religiosity are more vulnerable to the effects of mortality salience (e.g., Friedman, 2008; Jonas & Fischer, 2006; Heflick & Goldenberg, 2011). To examine the possibility that religiousness could influence mortality salience effects, univariate tests were conducted on the four dependent measures and included as independent variables religiousness (low, medium, high) and mortality salience condition. A categorical religious variable was created based on the distribution of participants across the original religiousness scale. Participants who reported themselves as being non-religious to neither non-religious nor religious (1-4) were classified as “low” in religiousness ($N = 19$). Participants who reported themselves as being somewhat religious (5) were classified as “medium” in religiousness ($N = 15$). Participants who reported being mostly to completely religious (6-7) were classified as “high” in religiousness ($N = 20$). There were no religiosity by mortality salience interactions for request politeness, $F(2,48) = .948$, Wilks' $\lambda = .962$, $p > .05$; person politeness, $F(2,48) = .051$, Wilks' $\lambda = .998$, $p > .05$; person liking, $F(2,48) = .078$, Wilks' $\lambda = .997$, $p > .05$; or likelihood of compliance, $F(2,47) = .747$, Wilks' $\lambda = .969$, $p > .05$.

Discussion

TMT posits that people engage in psychological defenses to guard against death-associated fears. Because people must live in the face of an anticipated death, rarely knowing

when death might come, it is useful to be able to defend the self against these thoughts to carry on with life. These defenses are embedded in our identification with culture and the resultant self-esteem bolstering which comes from connecting with culture. According to TMT, these defenses are engaged through a process involving the salience of death thoughts, active suppression of death thoughts, resurfacing of death thoughts, and symbolic defense against death through asserting the self as an individual linked to culture. Moreover, language is a foundational component of the human experience and connects people to their culture as well as one another.

The present study sought to examine mortality salience effects on people's evaluations of language in regard to linguistic politeness. Based on TMT's ideas, I hypothesized that following a mortality salience induction polite requests ought to be evaluated favorably as upholding social or cultural norms, whereas impolite requests ought to be evaluated as derogating social or cultural norms. The findings of the current study did not support these hypotheses. Participants who had their mortality made salient did not endorse following cultural language norms or derogate deviations from cultural language norms in comparison to participants who did not have their mortality made salient. There are several possible reasons as to why mortality salience effects were not found.

First, it is possible that the mortality salience manipulation may not have been successful. The manipulation required participants in the mortality salience condition to think and to write about their own death and what would happen to them physically as they died and after they were dead. As mentioned previously, the vast majority of TMT studies use this prompt with the exact wording and question order (Burke et al., 2010). Thus, there is much accumulated evidence that this prompt ought to be successful in inducing mortality salience and finding mortality salience effects.

In spite of this, there is still a possibility that the manipulation was not effective. This may be due to the ways in which people thought about their death while they were writing or to the extent to which people thought about their own death while they were writing. Few TMT studies have looked at the actual content of what is written for the mortality salience prompts, with the exception of the limited number of studies which qualitatively analyze the prompt responses for themes based on other participant groupings, such as religiosity (e.g., Friedman & Rholes, 2008). It is possible that the prompts are checked to ensure that participants were correctly performing the task, but this is not discussed in detail. It is unclear if issues like these make a difference in finding mortality salience effects.

When checking the prompt responses in the present study to ensure that participants were engaging in the task appropriately, there were some stark differences in how some participants responded. For example, a few participants did not write strictly about *their own* death. One participant wrote about how the recent death of a loved one had impacted how she thought of her death. Another participant wrote about how his loved ones would be affected by his death. In other words, although participants' mortality was made salient to them and they were considering their own deaths, their focus may not have been only on themselves. Another potential issue with the prompts may be that some participants wrote far more than other participants did. As an example, one participant made a bulleted list of feelings she associated with her death, whereas other participants filled out more than half of a page, using full ideas and sentences, about their death. In other words, some participants may have processed thoughts of their own death to a greater extent than other participants.

It may have been useful to have used a specific mortality salience manipulation check. For example, one frequently used mortality salience manipulation check is a death-thought

accessibility measure which consists of a word-stem completion task (Greenberg et al., 1994). However, terror management studies typically do not use this measure unless it is a specific point of interest in the study. For example, Greenberg et al. (1994) used this task to examine the immediacy of mortality salience effects. The task is not used to address explicit inductions of mortality salience. In other words, it is perhaps assumed that significant results for the main analysis indicated a successful mortality salience manipulation. Thus, if the mortality salience induction was not successful in the present study, a death-thought accessibility measure may have helped to address this concern.

Another reason the expected interaction between mortality salience and politeness was not found could be due to the inherent subtlety of using linguistic politeness as a reference for cultural normality. Many TMT studies that examine cultural norm violations use much more obvious norms. For example, Rosenblatt et al. (1989) measured cultural norm evaluations by having judges assign bails to people charged with prostitution crimes and rewards to people who had saved someone from being publicly attacked. Greenberg et al. (1995) examined violation of cultural norms in regard to symbols, wherein people evaluated unsuitable use of cultural icons such as improper use of a Christian cross or an American flag. In other words, these degradations of cultural normative ideas were blunt.

In contrast, politeness norm violations may not be as easy to detect and evaluate. Although politeness and impoliteness were evaluated as significantly different overall, the requests might not have been effective at conveying the idea of breaking a cultural norm. For instance, the polite version of one of the requests in the present study was “Do you think you could drive me to work?” while the impolite version was simply “Drive me to work.” Perhaps a stronger violation of the linguistic cultural norm would have been more effective. Culpeper

(2011) explained that one of the functions of impoliteness is related to affect in that it can be aggressive in tone, sometimes incorporating curse words. For example, if the bald version of the scenario's request was shown to participants as "Fucking drive me to work," mortality salience participants may have reacted to this cultural transgression differently than would control participants. In other words, using a curse word, or another method of making the impolite versions of the request more noticeable, the cultural transgression of the manipulation may have been strengthened and mortality salience effects may have been found. Likewise, it may have been useful to ensure that polite request forms were highly polite and thus perceived more strongly as upholding cultural norms.

Another linguistic reason why the expected mortality salience effects may not have been found may be the off-record form of requests on the politeness continuum. The off-record form is supposed to be the most polite request form, as it is rather indirect and leaves the listener to come to the conclusion that the speaker is requesting something from him or her. However, this indirectness may actually be misconstrued as impoliteness. Researchers have found that indirect requests are perceived as less polite than other forms of politeness on the continuum (e.g., Holtgraves, 2002). Indeed, off-record requests were not perceived as the most polite form of request by participants in the present study. In each politeness evaluation, off-record requests were evaluated more favorably than the impolite forms, positive and bald, but the off-record requests were evaluated less favorably than negative polite forms.

Thus, by combining both off-record and negative requests and calling this "politeness," the politeness manipulation on the polite side may have been weakened. While the manipulation was successful overall, when looking for an interaction with mortality salience effects, this may have played a role as to why the effects were not found if the polite versions of the requests were

not strongly perceived as polite. Perhaps a traditionally polite version, rather than indirect, may have been more efficient at conveying normative politeness.

A final reason mortality salience effects were not found in the present study may be related to the delay period in which participants were distracted from thoughts of death. In TMT studies, participants are asked to think about death and then complete tasks to distract them from thinking about their own death. During the delay period which follows, participants are able to focus their conscious thoughts on the task at hand, yet thoughts of death are said to be unconsciously resurfacing, much like the “rebound effect” denoted in Wegner’s (1994) ironic process theory. When the suppressed thoughts resurface, death-thought accessibility should be heightened before engaging in worldview defense, allowing researchers to measure mortality salience effects (Arndt et al., 1997).

The delay period used in the present study deviated somewhat from what it is generally employed in TMT studies; however, the same types of distractor tasks were used. The difference between this study and other TMT studies may have been the element of time constraint. By adding a time constraint, it is possible that participants may have been affected by the knowledge that they only had a certain amount of time to complete the tasks. They may have felt a need to finish the task entirely, or they may have felt that it was not worth focusing on the task because they could not finish the task in the allotted time. Though the experimenter explained to participants that it was not necessary to finish the tasks and not completing them would not negatively affect their participation or credit in any way, it is possible that the pressure of completing the tasks may have played a role in negating mortality salience effects.

In addition, the length or number of tasks might not have been effective; however, it is difficult to know what the preference for distractors during the delay period is—if there are

any—given that this has not been thoroughly investigated in TMT literature. In Burke et al.'s (2010) meta-analysis, the researchers reported that studies ranged from having zero to three delay tasks and that both short (2 to 7 minutes) and long (7 to 20 minutes) were used. They reported that tasks with three delays and longer delay periods showed larger mortality salience effects overall. Thus, the present study sought to incorporate more delay tasks and a controlled, longer delay period in an attempt to ensure that mortality salience and thought suppression processes would be able to be successfully measured. However, the data did not support these delay period claims in the present study. Although the literatures about TMT and ironic process theory were emerging around the same time frame (circa 1987-1989), the initial empirical studies of TMT made no mention of ironic mental control processes, thought suppression, distractions, or delays. Some of the first empirical investigations in TMT, such as those conducted by Rosenblatt et al. (1989) and Greenberg et al. (1990), did, indeed, use filler tasks, but the tasks were not used as part of a chronological delay period that is now claimed to be necessary to find effects in explicit inductions of mortality salience.

The delay period for thought suppression is now a quintessential component of the TMT research paradigm. Arndt et al.'s (1997) examination of thought suppression is useful, but it is somewhat indirect since cognitive load influence on thought death thought suppression was the focus of the research. In the beginnings of TMT, only one study has tested death-thought accessibility directly in regard to the rebound effect. Greenberg et al. (1994) found heightened death-thought accessibility from mortality salience only after a delay period. From this study, the idea that a distraction or delay period was needed to produce heightened death-thought accessibility in TMT came to be.

However, a more recent examination of death thought suppression and the rebound effect

was conducted specifically for the purpose of directly investigating the implicated cognitive processes in TMT research. Trafimow and Hughes (2012) conducted a series of five experiments looking at death-thought accessibility using both explicit and implicit mortality salience inductions and measures of death-thought accessibility. In addition, the researchers varied the amount of time allotted for the delay periods—a practice which is not typically discussed in TMT literature. The distractors the researchers used in the experiments were no different than typical TMT distractors, nor were they anymore cognitively taxing than usual distractors. Ultimately, the study ended with significant findings for the link between mortality salience and death-thought accessibility; however, the significant findings were in the *opposite* direction of what TMT literature often reports. That is, death-thought accessibility, and subsequent mortality salience effects, were highest immediately following mortality salience inductions, not after a delay. Thus, the present study sought to utilize more control during the delay period than is traditionally described in TMT studies, but it is clear that more research is needed to identify the necessary constraints of a delay period and what the online cognitive processes during a delay period are.

Conclusions and Future Directions

The data from the present study did not support the prediction that mortality salience should influence people's evaluations of politeness. However, it is interesting that mortality salience participants did evaluate request and person politeness more favorably for both impolite and polite requests. Although the difference was not statistically significant, mortality salience participants also assigned more favorable ratings for their liking of both impolite and polite persons. In other words, mortality salience participants evaluated everything more favorably in these instances. It is not clear why this occurred. It is worth noting that mortality salience

participants' mean GNA scores on the PANAS-X were actually lower than control participants, indicating less negative affect, though this difference was not statistically significant. Perhaps, as a whole, the mortality salience participants were simply in a better mood or they were somehow still suppressing thoughts of death.

Though support was not found for the hypotheses, future research might address the previously discussed issues such as adding a mortality salience manipulation check, increasing the impoliteness of impolite requests (or perhaps the politeness of polite requests), or examining more closely the mechanics of the delay period. If mortality salience and the perceptions of linguistic politeness do not interact with each other, it may be possible to examine politeness endorsement in other ways. Like McCallum and McGlone (2011) found, mortality salience participants used more euphemistic language to describe bodily processes, presumably as a means of distancing themselves from "creaturely" associations. Thus, future research might also address not only people's perceptions of politeness but also their actual use of requests or responses to polite or impolite persons.

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Appendix A

Mortality Salience/Control Induction

Attitudes and Evaluations Assessment

This is a recently developed, innovative attitude assessment. Recent research suggests that evaluations about significant aspects of life tell us a considerable amount about an individual's attitudes. Your responses to this survey will be analyzed to assess certain dimensions of your attitudes. Please respond as honestly as possible. All responses will remain anonymous and confidential.

On the following pages are two open-ended questions. You will be given two and a half minutes to respond to each question. Please respond to them with your first, natural response. We are looking for people's immediate reactions to these questions. You may use as much or as little of the space provided.

Appendix B

Filler Task: Word Search Puzzle

Do your best to find as many of the words from the word search puzzle during the time allowed. Please circle the words you find within the puzzle.

APPLE	DOCUMENT	PENCIL	SOAP
BOOK	FLOWER	MUSIC	TELEVISION
CHAIR	GRASS	PIZZA	TREE
CLOUDS	HOMEWORK	REFRIGERATOR	WATER
COMPUTER	LAMP	SINK	WINDOW
DESK	MUSIC	SKY	

O	M	U	B	M	S	S	G	R	K	P	H	Y	Q	R	T	P	S	S	R	T	H	K	M	Z
V	Z	O	O	W	B	S	V	N	R	V	A	O	U	Y	S	O	V	E	E	N	F	X	C	L
M	C	F	O	Z	P	A	R	U	Q	V	T	N	T	X	O	B	F	J	L	E	Y	I	G	E
I	U	Q	K	L	M	R	P	M	A	L	U	N	K	Y	J	R	Z	X	F	M	S	U	H	B
M	W	Q	O	R	K	G	W	U	K	E	U	N	E	J	I	J	S	V	R	U	P	Q	O	J
F	C	R	Y	X	B	A	N	R	F	N	K	E	N	G	P	K	T	P	M	C	J	T	J	S
P	I	Z	Z	A	Z	M	S	L	R	L	A	L	E	P	E	T	O	E	T	O	W	K	N	J
X	Y	B	M	P	C	A	K	W	L	L	O	R	T	E	Y	M	F	N	S	D	I	U	C	Y
J	R	Q	Y	R	W	R	D	R	A	L	A	W	R	I	J	P	R	C	W	J	B	E	K	D
B	N	K	G	I	O	O	R	P	I	T	O	T	E	S	M	G	P	I	S	D	S	F	Y	J
O	J	Y	N	W	J	Z	D	E	O	A	E	R	E	R	Q	F	A	L	K	H	T	P	N	J
I	P	D	E	H	V	W	N	R	T	G	H	R	C	X	E	F	O	W	E	Y	H	R	W	Z
L	O	M	E	L	P	P	A	T	Z	U	O	C	B	E	J	X	S	T	Z	M	D	Q	Z	V
W	O	I	Q	L	J	E	D	G	I	L	P	X	D	F	G	F	J	D	X	G	M	F	P	S
H	M	I	D	D	T	A	K	H	R	Z	B	M	B	B	D	T	B	K	K	H	F	M	P	Q
W	Z	B	E	Q	Y	O	E	N	G	Q	C	L	O	U	D	S	G	Z	I	B	I	D	D	G
C	W	S	V	O	G	P	J	Z	I	D	L	L	D	C	R	C	Z	D	C	B	R	U	I	Y
Q	K	J	I	C	U	B	V	R	Y	S	I	J	O	K	W	G	V	Z	F	H	M	U	Q	K
E	X	B	M	N	O	F	Q	I	J	J	U	J	C	Y	D	F	C	P	I	J	Y	N	M	P
F	T	U	V	O	G	C	Q	Z	R	A	S	O	S	K	Y	S	X	E	C	R	N	B	I	D
P	M	G	C	X	N	Q	A	J	S	U	Q	M	S	V	M	E	E	X	Z	Q	X	S	W	N
F	K	J	K	M	S	G	Q	H	C	U	A	I	O	Y	H	W	H	W	I	L	V	V	A	R
I	C	G	K	G	E	W	F	A	L	K	W	J	U	R	K	H	U	P	C	Z	U	R	Y	L
N	O	I	S	I	V	E	L	E	T	N	F	I	R	X	B	W	X	Z	T	M	H	E	K	A
P	X	K	O	K	H	B	P	L	B	N	B	Y	C	Y	R	V	P	A	P	N	F	S	N	H

Appendix C

Filler Task: Reading Passage and Responses

For this task, you are being asked to read a recent article from a science journal. Once you have read the entire article, you will be asked to answer a few questions about it.

Could a Life-Sized TV Control Your Dog's Brain?

This question was not proposed by a mad scientist bent on world doggie domination. The idea to see whether dogs follow life-sized videos is actually entirely sensible.

Researchers studying non-human animals want to know whether their species of interest will attend to artificial stimuli—like photographs, slides or films—because if a species realistically attends to artificial stimuli, you can have more control over stimulus presentation, and you can even manipulate and ask questions about the stimulus itself.

For example, a few years back, Lever and Reimchen from the University of Victoria investigated the effect of tail-docking on dog-dog interactions. Their artificial model of choice: a robot dog who looked somewhat like a Labrador Retriever. Over the course of the study, the only part of the robot dog to change was its tail, which was presented as either long or short, wagging or straight. The researchers explored whether real dogs would approach the robot dog and under which conditions. Their main finding: when it comes to social communication, dogs prefer that other dogs have tails.

What's notable about the robot dog study is that it plays entirely on visual cues, not olfactory cues. This can throw people for a loop because aren't dogs driven by their noses? Sure, dogs are big into their noses, but dogs, and other species, don't always need all sensory channels to get a sense of something. For example, you can hear a person's voice over the phone and know it's a person. You could even know that it's a specific person, like your mother. You don't need to also see a picture of a person, or more specifically your mom, to know what's going on. The same applies to other species. When a dog sees the outline of a dog, although no olfactory cues are available, the outline could still contain something meaningful and 'dog-like.'

Which brings us back to dogs watching television. In 2003, Pongrácz and colleagues from the Family Dog Project in Budapest set out to investigate whether dogs attend to a two-dimensional image (a person on a screen) the same way they would a three-dimensional image (a real person in front of them). No olfactory cues; just visual cues. The specific test was whether dogs would follow a person's 'pointing gesture' in both the 2D and 3D conditions.

The 'pointing gesture' has to be one of the most investigated areas in canine science because it's intimately tied to sociality and interspecific communication (communication between members of different species). I tease that every day, somewhere in the world, a canine researcher is pointing for a dog. Many studies report that dogs, particularly companion dogs, are champions at following human pointing gestures to food, even when controlling for odor cues. In the typical

pointing gesture set-up, an experimenter gets a dog's attention and then points to one of two bowls (or pots) to their right or left. The dog is then released by the owner to see if the dog goes to the bowl that was just pointed at, or does any number of other things from not moving to approaching the other bowl to taking a jaunt around the room to scratching (let's just say that companion dogs in studies have a sense of humor). Companion dogs overwhelmingly approach the pot that was pointed at.

What do dogs do when they see a 2D image of a person on a screen pointing to a pot? “[Dogs] responded similarly to the projected image of the experimenter pointing to the pots as if he were present in the room,” write the researchers. Yes. Your dog could listen to a life-sized TV.

But there's more. In that initial study, dogs saw a live-feed video, which allowed for feedback between the dog and the human projection. Would dogs respond the same way to a pre-recorded, non-interactive, life-sized video? In a subsequent study from the same group, Péter and colleagues changed the set-up to a visible displacement task where dogs watched a recording of a person hiding an object behind one of three locations. The dog could then choose to approach one of three hiding locations positioned directly in front of the screen (see above image).

As in the earlier study, dogs played along with the life-sized image on the screen, following the pre-recorded video to find the hidden object. Dogs in this study could locate the hidden object only if the location referenced in the video was close to the screen. If the dogs had to walk into another room to find the hidden object, their performance was worse.

The researchers suggest that when it comes to picture processing, dogs generally fall in the category of ‘confusion mode’—meaning that dogs “react the same way to the picture as to the real object.” On the other hand, if dogs' picture processing falls in the category of ‘equivalence mode,’ as in humans and chimpanzees, they would “understand that the picture is a representation of the depicted object... as standing for another entity in the world.” If a 2D image refers to something that is not immediately recognizable, then in confusion mode, the dog will not get what's going on, but an animal in equivalence mode might recognize that the image refers to something else.

It's possible that with more training, dogs could respond to 2D images in an equivalence mode. The referential nature of picture processing remains a topic of continued interest for canine researchers. We need more mad scientists to investigate.

Reference

- Hecht, J. (29 Sep., 2014). Could a life-sized TV control your dog's brain? *Scientific American*. Retrieved from <http://blogs.scientificamerican.com/dogspies/2014/09/29/could-a-life-sized-tv-control-your-dogs-brain/>

Please answer the following questions about the article you just read, entitled “Could A Life-Sized TV Control Your Dog’s Brain?” For questions with scales, circle the number on the scale which best represents your opinion.

1. Summarize, in a sentence or two, what you thought the main point of the article was:

2. How interesting did you think the article was?

1	2	3	4	5	6	7
not at all			somewhat			completely

3. How likely would you be to recommend this article to a friend?

1	2	3	4	5	6	7
not at all			somewhat			completely

4. How useful do you think the information presented in the article was?

1	2	3	4	5	6	7
not at all			somewhat			completely

Appendix D

Filler Task: PANAS-X

This scale consists of a number of words and phrases that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate **to what extent you feel this way at the moment**. Using the following numbers of the scale below, record your response next to each word.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely
_____ cheerful	_____ sad	_____ active	_____ angry at self	
_____ disgusted	_____ calm	_____ guilty	_____ enthusiastic	
_____ attentive	_____ afraid	_____ joyful	_____ downhearted	
_____ bashful	_____ tired	_____ nervous	_____ sheepish	
_____ sluggish	_____ amazed	_____ lonely	_____ distressed	
_____ daring	_____ shaky	_____ sleepy	_____ blameworthy	
_____ surprised	_____ happy	_____ excited	_____ determined	
_____ strong	_____ timid	_____ hostile	_____ frightened	
_____ scornful	_____ alone	_____ proud	_____ astonished	
_____ relaxed	_____ alert	_____ jittery	_____ interested	
_____ irritable	_____ upset	_____ lively	_____ loathing	
_____ delighted	_____ angry	_____ ashamed	_____ confident	
_____ inspired	_____ bold	_____ at ease	_____ energetic	
_____ fearless	_____ blue	_____ scared	_____ concentrating	
_____ disgusted with self	_____ shy	_____ drowsy	_____ dissatisfied with self	

Appendix E

Scenarios and Requests

Scenario A

You and your friend had signed up for a class together. You have known your friend for a few years and consider the two of you to be good friends. For a class project, you chose each other as partners and are at the library working on it. You and your friend will need to provide handouts to your classmates on your assigned topic for the project. After you and your friend have finished creating the handout, you will need to print about 35 copies of it. The handout is double-sided, so it will require a total of 70 pages altogether to print. Your friend has already used up about 410 pages of his 500-page print balance for the semester. You have used about 200 pages of your print balance so far this semester. Your friend says to you...

1. I wish I didn't have to print the handouts. [off-record]
2. Do you think you could print the handouts? [negative polite]
3. How about printing the handouts? [positive polite]
4. Print the handouts. [bald]

Scenario B

You and your roommate have been living together for about three months, but you have known each other for a few years now. You enjoy living with your roommate and consider the two of you to be good friends. Your roommate has a job as a food service worker in the Student Center. Because your apartment is about two and a half miles away from campus, you both usually commute to campus. Your roommate has to work the dinner shift this evening; unfortunately, your roommate's car broke down yesterday. A co-worker is supposed to give your roommate a ride home after work, but your roommate does not have a ride to work. You do not live by any bus lines. Your roommate says to you...

1. I wish I didn't have to walk to work. [off-record]
2. Do you think you could drive me to work? [negative polite]
3. How about driving me to work? [positive polite]
4. Drive me to work. [bald]

Scenario C

You and your roommate have been living together for about three months, but you have known each other for a few years now. You enjoy living with your roommate and consider the two of you to be good friends. Today, your roommate went to campus at 8 a.m. for classes. Unfortunately, your roommate slept through alarms and was in a hurry to leave this morning. As a result, your roommate forgot to bring a laptop charging cord. Because of classes and meetings, your roommate will not get home until after 5 p.m. As you are getting ready for your first class at 11 a.m., your roommate texts you about forgetting the computer charging cord and tells you the laptop has only 20% of its battery left. Your roommate says to you...

1. I wish I hadn't forgot my charging cord. [off-record]
2. Do you think you could bring my charge cord? [negative polite]
3. How about bringing my charge cord? [positive polite]
4. Bring my charge cord. [bald]

Scenario D

You and your friend are getting lunch together at the Student Center. You have known each other for a few years and consider the two of you to be good friends. You are talking and waiting in line to pay for your meals. Your friend is ahead of you in line and moves up to the cash register. Your friend is fumbling around for a wallet, looking through clothing pockets and a bookbag. The cashier is staring at her and there is a long line behind you both. Your friend says to you...

1. I wish I hadn't forgot my wallet at home. [off-record]
2. Do you think you could pay for my lunch? [negative polite]
3. How about paying for my lunch? [positive polite]
4. Pay for my lunch. [bald]

Appendix F

Dependent Measure: Politeness of Request

1. For the following item, please rate **the politeness of the request** made to you by circling the number which best represents your opinion.

1	2	3	4	5	6	7
extremely impolite			neither polite nor impolite			extremely polite

Appendix G

Dependent Measure: Politeness of Person

For the following item, please circle the number which best describes your opinion about **the politeness of the person** who made the request of you.

1. How polite did you think this person was?

1	2	3	4	5	6	7
extremely impolite			neither polite nor impolite			extremely polite

Appendix H

Dependent Measure: Liking of Person

For the following items, please indicate how much you agree or disagree with the statement **about the person** who made the request of you.

1. I liked the person.

1	2	3	4	5	6	7
disagree			neither disagree nor agree			agree

2. I would like to spend time with the person.

1	2	3	4	5	6	7
disagree			neither disagree nor agree			agree

Appendix I

Dependent Measure: Likelihood of Compliance

For the following items, please circle the number which best describes your opinion about **doing what the person requested of you**.

1. How likely would it be for you to do what the person wanted you to do?

1

2

3

4

5

6

7

completely unlikely

neither unlikely
nor likely

completely likely

Appendix J

Participant Description of Study Purpose

Please explain, in few sentences, what you think the purpose of the study was. If you are unsure, you may simply say so.

Appendix K

Demographic Information

Please respond the following demographic questions by marking the appropriate answer or writing in the space provided.

1. What is your age (in years)? _____

2. What is your sex?

____ female

____ male

____ prefer not to answer

3. What is your race?

____ White/Caucasian

____ Black/African American

____ Asian

____ American Indian or Alaska Native

____ Native Hawaiian or Pacific Islander

____ Bi-racial or Multi-racial

____ Prefer not to answer

____ Other (If other, please describe in the space below):

4. Please indicate how religious you are.

1

2

3

4

5

6

7

non-religious

neither non-religious
nor religious

religious

Table 1

Means, Standard Deviations, and Mean Differences For Mortality Salience and Control Conditions For Total Politeness and Politeness Type

Total Politeness and Politeness Type	Mortality Salience <i>M (SD)</i>	Control <i>M (SD)</i>	Mean Difference
Request Politeness	3.759 (.933)	3.356 (.948)	.403*
Impolite	2.685 (.942)	2.289 (.961)	.396
Polite	4.833 (.797)	4.423 (.880)	.410
Person Politeness	4.009 (.977)	3.558 (.999)	.452*
Impolite	3.037 (.898)	2.577 (.868)	.460
Polite	4.982 (.841)	4.539 (.848)	.443
Person Liking	4.375 (1.220)	4.000 (1.242)	.375
Impolite	3.648 (1.024)	2.981 (1.306)	.667
Polite	5.102 (.946)	5.019 (.951)	.083
Likelihood of Compliance	4.800 (1.389)	4.942 (1.418)	-.063
Impolite	3.963 (1.506)	4.039 (1.421)	-.076
Polite	5.796 (1.049)	5.846 (.834)	-.050

Note. Positive mean difference scores indicate more favorable evaluations from mortality salience participants; * $p < .05$.

Table 2

Means, Standard Deviations, and Mean Differences for Politeness Main Effect

Politeness Evaluation and Type	<i>M (SD)</i>	Mean Difference
Request Politeness		-2.141*
Impolite	2.487 (.963)	
Polite	4.628 (.845)	
Person Politeness		-1.953*
Impolite	2.807 (.889)	
Polite	4.760 (.838)	
Person Liking		-1.747*
Impolite	3.314 (1.183)	
Polite	5.061 (.955)	
Likelihood of Compliance		-1.820*
Impolite	4.001 (1.477)	
Polite	5.821 (.955)	

Note. Higher numbers indicate more favorable ratings; * $p < .05$