

Bad News: Do Reminders of Mortality Influence Support for
Authoritarian Attitudes and Social Policies?

by

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Abstract

Terror management theory predicts that when people are reminded of their own mortality (mortality salience), they cling more strongly to cultural worldviews which provide them with a sense of security (Greenberg et al., 1986). For some people, this reaction to mortality salience also involves derogation of, and discrimination against, “other” people and cultures. An increasing tendency towards sensationalism in the news media has resulted in even more frequent reminders of vulnerability and death (e.g., terrorism, violent crime, health and safety concerns). In two experiments involving 868 introductory psychology students, the present research examined the extent to which their (a) support for authoritarian social policies relevant to Canada and (b) authoritarian attitudes in general are influenced by mortality salience. Specifically, right-wing authoritarianism, attachment security, and political orientation were measured in participants in both experiments. Participants were then prompted to think about either their own mortality or about another aversive experience having nothing to do with mortality. Next, participants were asked their opinions regarding authoritarian social policies (Experiment 1) and beliefs indicative of right-wing authoritarianism (Experiment 2). Multiple regression, analysis of variance, and t-tests revealed that individuals with (a) high pre-existing right-wing authoritarian attitudes and (b) conservative political beliefs increased their support for authoritarian social policies following mortality salience (Experiment 1). In contrast, individuals with (a) high attachment security and (b) moderate political beliefs decreased their support for right-wing authoritarian beliefs following mortality salience (Experiment 2), although the former relationship only approached statistical significance.

The findings are discussed in terms of their implications for the news media, for social policies and political opinions, and for social justice.

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Dedication

This thesis is dedicated to my mother, Donna. Her love and support throughout my life has always been a source of my strength. Her courage and selflessness are unwavering.

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Introduction

Much of the news that consumers encounter today is far from a straightforward recounting of current events. News corporations compete with each other for ratings, each vying for a larger share of advertising dollars. In an effort to retain media consumers and attract new consumers, news stories are often presented as some combination of entertainment, sensationalism, and partisan punditry, strategically woven around tidbits of carefully selected information (Glassner, 1999; Herman & Chomsky, 2002; McChesney, 2000). Although tabloid-style news stories may not pose a direct threat to society, the effects of sensationalism in the news may not be so benign. Much of the news that consumers encounter is presented to audiences as frightening problems that threaten their wellbeing and often require urgent action by government authorities to curtail (e.g., violent crime, terrorism, health risks; Altheide, 1997, 2002; Entman, 2004). It is well established that exposure to such media can increase anxiety and fear in media consumers (e.g., see Healy, Aylward, Bourne, & Beer, 2009; King & Hayslip, 2001; Lemal & Van den Bulck, 2009; Romer, Jamieson, & Aday, 2003; Smith & Moyer-Gusé, 2006; Van den Bulck & Custers, 2009). However, less empirical research has focused on how media that is perceived as threatening to the consumer's wellbeing might influence their opinions regarding social policies. It is possible that people's support for, or opposition to, various social policies could be directly impacted, and perhaps even predicted, by the nature of the media that they consume. It is important for scientists to understand the potential implications that exposure to threatening information can have on the population, for social, political, and public health reasons. Terror management theory is a unique theory about self-esteem (i.e., a person's evaluation of self) which has demonstrated the

potential to predict how individuals will react to certain types of threatening information. The aim of this thesis was to utilize the predictions of terror management theory to understand how people's opinions of various social policies can be affected or influenced by reminders of their mortality. In addition, the extent to which political orientation, authoritarianism, and attachment security are predictors of these opinion changes was explored.

What follows next is a review of terror management theory and the empirical support for its predictions. Because more than 300 studies have been published to date on terror management theory, only the studies that are most relevant to the present investigation will be reviewed. Following this review, a discussion of the current state of the corporate media will illustrate how the principles of terror management theory may be impacting citizens at a population level.

Terror Management Theory

Overview of Terror Management Theory

Terror management theory (TMT) was inspired by the work of Ernest Becker (1971; 1973; 1975) who recognized that, through self-awareness, human beings are in a unique position to contemplate our own mortality (Greenberg, Pyszczynski, & Solomon, 1986). We are faced with the knowledge that death is inevitable, often beyond our control, and can occur at any time without warning. This existential knowledge is in direct conflict with our species' inherent predisposition toward self-preservation and it creates the potential for human beings to experience a constant and debilitating death-related anxiety or terror (Landau, Solomon, Pyszczynski, & Greenberg, 2007). According to TMT, the same highly-developed cognitive structures that have allowed our species to

reflect on its vulnerability and ultimate mortality are also responsible for the solution to this potential existential crisis, namely by permitting us to deny that physical death is the absolute end to our existence. Through the development of cultural worldviews, which are value-laden, socially-constructed views of reality, human beings have created the assurance of immortality (Pyszczynski, Greenberg, Solomon, Arndt, & Schimel, 2004). The promise of immortality can be either literal, such as life after death (e.g., through reincarnation, heaven, or another form of afterlife), or symbolic, such as cultural institutions that allow individuals to become part of something that is more important and enduring than their own existence (e.g., family, culture, country, ideology, profession, etc.). Human beings obtain and maintain self-esteem by believing in the validity of their cultural worldviews and by believing that they are adhering to the values and expectations associated with them. Although it is the culturally-valued standards that actually protect us from our existential fears, self-esteem is the cue that we rely on to ensure that we are adhering to these standards and self-esteem, then, becomes the anxiety-buffer. Thus, according to TMT, self-esteem serves to protect people from the anxiety of an unavoidable death by verifying to us that we are living up to cultural worldviews that carry death-transcending properties by “providing a view of the world as orderly, predictable, meaningful, and permanent” (Greenberg, Pyszczynski, & Solomon, 1986, p. 198). The development of this anxiety-buffer system is discussed in the next section the thesis.

With high self-esteem, individuals can function well in the world with little or no death-related anxiety because self-esteem, in turn, boosts confidence that they are adhering to their (death-transcending) cultural standards. If self-esteem is low or

compromised, then individuals are at a greater vulnerability to experience death-related anxiety and, consequently, must engage in compensatory behaviours aimed at rectifying this circumstance (described below). Striving to bolster self-esteem, then, is both a response to current death-related anxiety and a constant pursuit due to the anxiety that is inherent in the ever-present knowledge of our inevitable mortality (Pyszczynski et al., 2004). Although it is, of course, acknowledged that self-esteem has many additional benefits for human beings (e.g., positive affect, self-efficacy, etc.), the proponents of TMT theorize that self-esteem developed as an evolutionary response to the unique human awareness of mortality and that these other benefits are secondary to its anxiety buffering effects (Pyszczynski et al., 2004).

The Development of Self-Esteem as an Anxiety-Buffer

According to TMT, the process by which self-esteem serves as a buffer to anxiety begins to develop from birth. As infants, human beings have the capacity to respond to life threatening situations by experiencing and communicating negative affect. However, being unable to effectively manage their own negative experiences, infants are almost completely dependent on caregivers (e.g., parents) for survival and to defend them from threats to their lives. It is through basic behavioural processes that children learn that parental love and protection is contingent on their adherence to the values and standards put forth by their parents. Although adherence serves to build self-esteem and mitigate anxiety, a lack of adherence may result in a reduction in self-esteem and an increased vulnerability to threat (Pyszczynski et al., 2004). Through these processes, being “good” (i.e., adhering to parental demands) becomes associated with feelings of safety and security, while being “bad” (i.e., violating parental demands) becomes associated with

feelings of anxiety and insecurity. Thus, children strive to increase self-esteem by meeting parental values and standards, which are likely derived from their parents' cultural worldviews, and self-esteem is established as an effective buffer to anxiety (Pyszczynski, Solomon, & Greenberg, 2003).

Early in life, before children are capable of comprehending the possibility of the absolute obliteration of their existence, parents are effective at managing the fear of threats to the child through love and affection. However, as children age, their capacity to conceptualize mortality increases and, with this advanced thinking, comes the realization that parents are insufficient sources of protection from this fate. At this stage, the anxiety that arises from the developing notion that the universe might be cold and empty, the world and human life might be devoid of any inherent value or meaning, and life will inevitably end and this could occur at any time, cannot be relieved by parental affection. In response, the source of security and comfort transitions from parents to culturally-constructed worldviews that give value to humanity and the world. As previously stated, worldviews promise immortality to active believers, be it literal immortality, symbolic immortality, or both. Believers endeavour to maintain high self-esteem through adherence to their cultural worldviews. In turn, high self-esteem functions as the psychological mechanism for the management of existential terror (Greenberg, Arndt, Schimel, Pyszczynski, & Solomon, 2001; Pyszczynski et al., 2004; Solomon, Greenberg, & Pyszczynski, 2004a).

Solomon, Greenberg, and Pyszczynski (2004b) note that, although worldviews vary greatly across cultures and individuals, they consistently carry death-transcending properties. However, given the vast differences between these cultural worldviews, it is

unlikely that any one is absolutely true in the literal sense. The veracity of a cultural worldview is maintained via consensus among its believers. Consequently, cultural worldviews are delicate social creations. Although the simple knowledge of others who share our beliefs can serve to strengthen our faith in their legitimacy, the exposure to individuals and cultures with differing beliefs can (implicitly or explicitly) compromise the integrity of our anxiety-buffering belief system and, potentially, unleash the existential terror that is typically managed by a security in these beliefs. In these circumstances, efforts to re-establish confidence and faith in our beliefs are necessary (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992; Pyszczynski et al., 2003; Solomon et al., 2004). Thus, although TMT is a theory of self-esteem at its core, the implications of the theory extend well beyond this construct.

The Anxiety-Buffer Hypothesis

Research on TMT has typically been centered on two aspects of the theory: the anxiety-buffer hypothesis and the mortality salience hypothesis. The anxiety-buffer hypothesis is the aspect of the theory which proposes that self-esteem functions as a buffer against anxiety. If this proposition is accurate, then theoretically, strengthening self-esteem should be associated with lower anxiety and vice versa. Greenberg, Solomon, et al. (1992) found this to be the case. In a series of studies with male college students, the researchers demonstrated that experimentally manipulated, heightened self-esteem (e.g., through phoney positive feedback on supposed personality and intelligence tests) was associated with lower self-reported state anxiety immediately following a graphic death-related video, compared to a control group which received neutral feedback on the supposed personality and intelligence tests. In addition, the researchers found lower

levels of physiological arousal (i.e., skin conductance) in participants in the heightened self-esteem condition, in response to the threat of impending, painful, electric shocks (which were never actually delivered), compared to participants in the neutral feedback control group. These studies demonstrate that experimentally manipulated self-esteem can serve as a buffer against anxiety.

In a similar vein, Greenberg et al. (1993) provided introductory psychology students with either neutral or positive feedback on a purported personality inventory to manipulate self-esteem (feedback was identical to that used by Greenberg, Solomon, et al., 1992). They also provided false information purporting that either high or low levels of emotionality was related to a short life expectancy. That is, participants were led to believe that their level of emotionality is related to their life expectancy. The results revealed that participants in the neutral personality feedback group adjusted their responding to a measure of emotionality to reflect their newly formed beliefs regarding the relation between emotionality and early death. That is, if they were led to believe that people with low emotionality die young, they reported higher scores on a measure of emotionality (and vice versa). Participants in the positive personality feedback group (i.e., those with experimentally manipulated, heightened self-esteem) did not adjust their responding on the measure of emotionality to reflect the information they received on emotionality and early death. That is, among participants with heightened self-esteem, the scores of individuals led to believe that high emotionality was associated with an early death were not significantly different from those that were led to believe that low emotionality was associated with an early death. These results were replicated in a subsequent study with individuals with high and low levels of dispositional (trait) self-

esteem. The findings of Greenberg et al.'s (1993) studies demonstrate that higher self-esteem (both experimentally manipulated and dispositional) served to mitigate the anxiety associated with an early death. In addition, higher self-esteem led to less defensive responding on a measure of emotionality as an effort to deny one's vulnerability to an early death.

Further review of the empirical literature linking self-esteem to TMT is provided throughout this paper. However, an exhaustive review of this literature was not undertaken because this aspect of TMT is not a major focus of this thesis. For a thorough review of the empirical evidence supporting the role of self-esteem in TMT, see Pyszczynski et al. (2004).

The Mortality Salience Hypothesis

The majority of research on TMT, more than 200 studies to date, has been focused on the mortality salience (MS) hypothesis, which is very closely linked to the anxiety-buffer hypothesis. According to the mortality salience hypothesis, if cultural worldviews and self-esteem are psychological constructs that serve to protect people from death-related anxiety, then making mortality salient (e.g., reminding people of their mortality) should result in efforts to build up these constructs. In the typical mortality salience condition of an experiment, participants are asked to respond to two open-ended questions, designed by Rosenblatt, Greenberg, Solomon, Pyszczynski, and Lyon (1989), that focus thoughts on one's own death. Specifically, participants are asked the following 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." These questions are usually

embedded in a variety of instruments purported to be measures of personality. In contrast, participants in control conditions have been asked to contemplate or respond to questions ranging from relatively benign topics (e.g., watching television) to more aversive topics (e.g., thoughts of intense pain, paralysis, losing a limb, imagining the death of a loved one, etc.). While briefly contemplating one's mortality increases death-related thoughts momentarily in consciousness, subsequent tasks that are unrelated to death cause death-related thoughts to fade from current focal attention. However, according to TMT, the accessibility of death-related thoughts remains high for some time after mortality is made salient. It is this increase in death-thought accessibility (DTA), which occurs after mortality becomes salient, that leads to the defensive strategies people use to counteract death-related thoughts (described below).

Greenberg, Pyszczynski, Solomon, Simon, and Breus (1994) sought to test whether mortality salience does indeed lead to increased DTA. The researchers had introductory psychology students complete a packet of questionnaires purportedly measuring personality. Within the packet was either the aforementioned mortality salience induction (see Rosenblatt et al., 1989) or a similar set of questions asking participants to describe their experiences watching television (neutral control). Participants then completed a word-fragment completion task. On this task, participants were presented with word fragments and were asked to complete the fragment with the first word that came to mind. Some of the fragments could be interpreted as either neutral or death-related words. For example, to complete the fragment "COFF__", one could use the word *coffee* (neutral) or *coffin* (death-related). Compared to control participants who described their experiences watching television, participants exposed to the mortality

salience induction completed significantly more ambiguous words with death-related words, as opposed to neutral alternatives. This was interpreted as evidence that the mortality salience induction had caused death to be more cognitively accessible (i.e., it increased DTA), which influenced participants' responses on the ambiguous task. Further evidence in support of the TMT's claims regarding DTA is discussed in a future section of this review.

Influence of Mortality Salience on Attitudes Towards Others

According to TMT and the mortality salience hypothesis, reminders of one's own mortality will increase DTA, subsequently increasing the need to reinforce one's anxiety-buffer. In turn, this fosters negative reactions to individuals who threaten one's cultural worldviews (e.g., out-group members) and positive reactions to those who bolster them (e.g., in-group members; Greenberg et al., 1990). Greenberg et al. tested this hypothesis among Christian introductory psychology students. Participants completed a packet of questionnaires purportedly measuring personality and attitudes. Among the content of the questionnaires were demographic questions (including religious affiliation), a "Who am I?" questionnaire (which asked questions about the participant), and a survey inquiring about the participants' views on various social issues. The mortality salience induction designed by Rosenblatt et al. (1989) was added as the final item in half of the participants' packets. The participants who did not complete this measure served as the control group. Upon completing the packets, all participants were given two packets of questionnaires that, based on responses to the questions, appeared to have been completed by a Jewish and a Christian 'target' participant. Participants were asked to rate the Jewish and Christian 'targets' using the Interpersonal Judgment Scale (Byrne, 1971),

which provides ratings on intelligence, knowledge of current events, morality, adjustment, and the extent to which they would like and enjoy working with the participants. They were also asked to rate each 'target' on 20 characteristics (5 of which were taken from anti-Semitic literature). Consistent with the mortality salience hypothesis, Greenberg et al. found that, in general, Christian participants who were subjected to a mortality salience induction evaluated a Christian 'target' more positively and a Jewish 'target' more negatively, compared to the ratings provided by the mortality non-salient Christian control group.

In another experiment, Greenberg et al. (1990) had American introductory psychology students rate three interviewees based on written transcripts from purported interviews in which the interviewees espoused different views about politics in the United States. Based on their interview transcripts, the interviewees appeared to demonstrate pro-U.S., anti-U.S., and mixed attitudes towards United States politics. Participants were asked to rate the interviews and the interviewees, based on criteria such as how much they liked and would like to meet them, how knowledgeable they appeared, and how much the participants agreed with their views. Before reading the transcripts, half of the participants had been exposed to the mortality salience induction designed by Rosenblatt et al. (1989), while the other half were asked questions about eating. The mortality salience group demonstrated an increased approval of the pro-U.S. interviewee compared to the mixed and anti-U.S. interviewees. In addition, the mortality salience group demonstrated significantly more contempt for the anti-U.S. interviewee than they did for the mixed interviewee. No significant differences were found between ratings of the interviewees in the mortality non-salient control group. These findings demonstrate that

mortality salience can lead to increased approval of individuals who share or support one's worldview and increased disdain for individuals who oppose one's worldview.

Rosenblatt et al. (1989) conducted a series of experiments demonstrating that mortality salience can mediate people's reactions to individuals who violate their cultural values and to those who uphold them. The researchers gave municipal court judges a fictional case involving an alleged prostitute (a moral transgressor) and asked them to recommend a bail bond. Participants were either exposed to a MS induction or a neutral control. The results revealed that, after mortality salience was induced, municipal court judges recommended a higher bond for an alleged prostitute than they did when mortality was not salient (the mean bonds issued were \$455 and \$50 for the MS and control groups, respectively; $p < .05$). That is, MS led to harsher reactions to a moral transgressor. This experiment was replicated with college students and, once again, participants exposed to mortality salience recommended a higher bond for an alleged prostitute than did control participants (the mean bonds issued were \$283 and \$132 for the MS and control groups, respectively; $p < .003$). However, these results were only obtained in participants with pre-existing moral objections to prostitution (as measured by a 5-item questionnaire consisting of statements about prostitution that participants agreed or disagreed with on a 10-point scale). That is, among participants who were exposed to the mortality salience procedure, only those with unfavourable attitudes towards prostitution recommended a significantly higher bond than control participants. The bond assessments of participants with relatively favourable attitudes towards prostitution were not affected by mortality salience because, presumably, prostitution is not a violation of their important cultural values. In a subsequent experiment, Rosenblatt

et al. sought to determine whether an opposite reaction would be found among MS participants towards an individual who exemplifies generally accepted cultural values. In this study, participants were asked to set a reward for a woman who helped the police apprehend a criminal. The results revealed that participants in the mortality salience condition set higher rewards for the woman than did non-MS control participants, demonstrating increased favourable reactions after mortality salience to someone who exemplifies cultural values. Taken together, these results support the proposition that, after mortality salience, participants tend to respond more harshly to those who act inconsistently with their cultural values (e.g., moral transgressors) and more positively to those who exemplify cultural values.

Similarly, Nelson, Moore, Olivetti, and Scott (1997) predicted that a nationalistic bias would be obtained among introductory psychology students following a mortality salience induction. Specifically, the researchers had participants view either a driver's education video containing graphic images of fatal automobile accidents (mortality salience condition) or a driver's education video covering mundane topics, such as signalling when turning and reading maps (control condition). Next, participants in both conditions completed a thought listing task (i.e., they wrote down thoughts that were induced by watching the video) which served as a manipulation check for the mortality salience condition. Participants then read a scenario in which a man was permanently injured in a motor vehicle accident while driving an automobile that was manufactured by one of four American or one of four Japanese automobile manufacturers. Participants were then asked to rate (on 9-point scales) how much the driver, the company, and "uncontrollable chance events" were responsible for the accident. In general, results

demonstrated a nationalistic bias when participants had been exposed to the mortality salience condition. Specifically, participants assigned significantly more blame to the Japanese company than to the driver in the mortality salience condition. In all other conditions, there were no significant differences between the blame assigned to the company and the driver. That is, in the control condition, there was no significant difference in the blame assigned to the Japanese company and the blame assigned to the driver. Also, in the MS and control conditions involving American car companies, there were no significant differences in the blame assigned to the American companies and the blame assigned to the driver. In addition to these findings, comparisons between the different mortality salience groups revealed that participants assigned significantly more blame to the Japanese company than they did to the American company. The researchers also found that the results were significantly more pronounced when participants in the mortality salience condition described personal mortality salience on the thought listing task (e.g., they mentioned thinking about their own death), than when they described general mortality salience (e.g., mentioning thinking about death in general, but not their own death). This finding provides support to the terror management theory prediction that the effects of mortality salience are driven most strongly by thoughts of personal mortality, as opposed to more general thoughts of mortality. In addition, given that participants in the mortality salience condition were exposed to a graphic video, rather than the MS induction procedure developed by Rosenblatt et al. (1989), this experiment serves as an example of the diverse methods that have been utilized to induce mortality salience. A further review of the methods that have been used to induce mortality salience in participants will be discussed in a future section of this literature review.

Taken together, Greenberg et al. (1990), Rosenblatt et al. (1989), and Nelson et al. (1997) provide solid evidence in support of the TMT claim that mortality salience leads to more negative reactions to worldview threatening individuals and more positive reactions to individuals who bolster cultural worldviews. The effects of mortality salience induction are typically only obtained when one's own mortality is salient, rather than mortality in general or other aversive events (e.g., Nelson et al., 1997). However, Greenberg, Pyszczynski, Solomon, Simon, and Breus (1994) found that thoughts of the death of a loved one could invoke similar effects to thoughts of one's own mortality, although the effect was not as strong.

In a series of studies, Greenberg, Schimel, Martens, Solomon and Pyszczynski (2001) sought to determine whether mortality salience would increase Euro American (or White) introductory psychology students' identification as White. The first study served to gauge White participants' reactions to either a White or a Black author expressing racial pride, without mortality salience being induced in them. In this study, Greenberg et al. had participants read a short essay and provide their impressions of the author, who was supposedly a fellow student expressing racial pride. Half of the participants received an essay written by a White student and half received an essay by a Black student. The authors predicted that, under non-mortality salience conditions, a White person expressing racial pride will tend to be viewed as more racist than a Black person expressing racial pride. Greenberg et al. explained that, although many groups in the United States are encouraged to express pride for their ethnicity or race, the glaring exception has been White people expressing White pride. White pride in the United States has tended to be associated with separation from and superiority to members of

other groups and thus tends to be viewed as racist. The results confirmed the authors' predictions. White participants in this study viewed a White person expressing racial pride as significantly more racist than a Black person engaging in the same behaviour. In addition, White participants indicated that they liked the Black essayist significantly more than the White essayist and also that they would like to meet the Black essayist more than the White essayist, although this last comparison only approached statistical significance ($p < .07$). In the second study, White participants were either assigned to a mortality salience condition (i.e., the same questions about death posed by Rosenblatt et al., 1989) or to a condition asking parallel questions about dental pain which served as the control condition. Participants were also given one of the two essays regarding racial pride that were used in the first study and asked to provide their impressions of the author. The authors predicted that after mortality salience, White participants would view a fellow White person expressing racial pride as less racist than they otherwise would. The results of the experiment confirmed these predictions. In this study, White participants who had been exposed to the mortality salience induction viewed a White person expressing racial pride as less racist than did White participants in the control condition. In contrast, White participants in the mortality salience condition viewed a Black person expressing racial pride as more racist than did White participants in the control condition. In addition, White participants expressed more liking for the White essayist in the mortality salience condition, although this difference only approached statistical significance ($p < .07$). In the final study, Greenberg et al. (2001) evaluated White participants' judgements of a White or Black employer who clearly discriminated against an employee of the other race and made statements justifying his actions in a

written statement. In the mortality salience condition, White participants rated the White bigot as less guilty of discrimination and the Black bigot as more guilty of discrimination, compared to White participants who had not been exposed to a mortality salience induction (the second comparison approached, but did not reach, statistical significance; $p < .10$). In addition, after mortality salience, White participants viewed the White bigot as less guilty of racism than the Black bigot. Consistent with the previous two studies, White participants in the control condition viewed the White individual they evaluated as more guilty of racism than the Black individual. The findings of the final study are particularly unsettling because they demonstrate an increased sympathy or tolerance for racist attitudes and actions among members of one's in-group following mortality salience (Greenberg, Landau, Kosloff, & Solomon, 2009; Greenberg, Schimel, et al., 2001).

Pyszczynski et al. (2006) examined the effects of mortality salience on support for extremist solutions to the ongoing conflict between the United States and parts of the Middle East. In their first study, undergraduate students from two Iranian universities completed several filler questionnaires and then either the two-question mortality salience induction questionnaire which inquires about one's own death (see Rosenblatt et al., 1989) or two parallel questions about experiencing dental pain, which served as the control condition. Participants were then given two bogus questionnaires that were supposedly completed by two fellow university students. The questionnaires contained open-ended questions about what the respondent feels is the most pressing world issue, the respondent's life motto, the respondent's opinion of the role of the United States in the Middle East, and the respondent's opinion on the justification of martyrdom attacks

on the United States. In one questionnaire, the student's responses clearly expressed a pro-martyrdom attitude. In the second questionnaire, the other student's responses clearly expressed an anti-martyrdom attitude. Participants were asked to read each questionnaire and answer questions such as: how much they like, agree with, and respect the other student; how intelligent they believe them to be; and, the degree to which they would consider joining their cause. Answers to these questions were divided into two categories: (a) evaluation of the person supporting and the student opposing martyrdom attacks, and (b) willingness to consider joining pro- and anti-martyrdom causes. The results were striking. Whereas participants in the dental pain condition reported more favourable evaluations of the student who opposed martyrdom attacks than the student who supported martyrdom attacks, students in the mortality salience condition reported more favourable evaluations of the student who supported martyrdom attacks. With respect to the question on willingness to join a pro- or anti-martyrdom cause, students in the dental pain condition reported greater interest in joining the anti-martyrdom cause than the pro-martyrdom cause. Once again, students in the MS condition demonstrated a reversal of these results, indicating a greater willingness to join a pro-martyrdom cause than an anti-martyrdom cause. This study demonstrated that MS contributed to more favourable ratings of a pro-martyrdom 'target' person and an increased willingness to join his or her cause.

In the second study, Pyszczynski et al. (2006) examined American undergraduate university students' support for the use of extreme military tactics (e.g., pre-emptive wars, the use of nuclear and chemical weapons, and killing thousands of innocent citizens as collateral damage in the hunt for Osama bin Laden) and support for the Patriot Act,

even if it meant relinquishing personal freedoms to make the country more secure. The Patriot Act, which was signed into law by George W. Bush on October 26, 2001, was created “To deter and punish terrorist acts in the United States and around the world, to enhance law enforcement investigatory tools, and for other purposes” (USA PATRIOT ACT, 2001). However, the Patriot Act is controversial, as several of its provisions (e.g., reductions in the legal requirements that the U.S. government must satisfy before conducting surveillance and searches of American citizens) have been criticized as being unconstitutional and violations of civil liberties (e.g., “Judge rules,” 2007, September 27).

Participants began the experiment by completing two filler questionnaires followed by the MS induction utilized in the previous experiment, the parallel questions on intense dental pain utilized in the previous experiment, or two questions asking participants to describe the terrorist attacks of September 11, 2001, and to describe the emotions that thinking about those attacks arouses in them. It had been revealed previously that thoughts of the 9/11 terrorist attacks increase death-thought accessibility (e.g., Landau, Solomon, et al., 2004). Thus, it was predicted that reminders of 9/11 would have similar effects on participants as the typical MS induction. After completing these questionnaires, participants answered questions regarding their support for the use of extreme military force and for the Patriot Act. Finally, participants completed a demographic questionnaire, which included a question which asked participants to describe their political orientation on a 9-point scale (1 = very conservative, 5 = moderate, 9 = very liberal). This item was added to determine whether political orientation would be a moderating factor between MS and Americans’ support for the use of extreme military actions. The results revealed that among politically conservative

students, reminders of both one's mortality and 9/11 led to significantly higher support for the use of extreme force, compared to conservative students exposed to the dental pain questions. There were no significant differences in support for the use of extreme force between liberal students in all three conditions. The same pattern of results was obtained for support for the Patriot Act. Politically conservative, but not politically liberal, students demonstrated significantly greater support for the Patriot Act (and relinquishing personal freedoms to increase security) after being exposed to the mortality salience and 9/11 inductions, than they did after being exposed to the dental pain induction. There were no significant differences in support for the Patriot Act among liberal students in the three conditions. Pyszczynski et al. (2006) noted that politically conservative individuals are more likely than liberals to hold intolerant attitudes towards out-groups (e.g., Greenberg, Simon, et al., 1992; Jost, Glaser, Kruglanski, & Sulloway, 2003a) and are more likely to support the use of military force in the Middle East (Gallup, 2005, March 15). Thus, the authors interpreted the results of the second study (i.e., that support for the use of extreme military action and the Patriot Act among liberals did not increase after mortality salience) as owing to the fact that the worldviews of liberals are generally inconsistent with support for these measures. A further analysis of these conclusions was undertaken by Weise et al. (2008) and is reviewed in a future section of this thesis.

Florian, Mikulincer, and Hirschberger (2001a) examined the effects of MS on Israeli boys' and girls' (ages 15 to 18) willingness to interact with similar-aged, same-gendered students who displayed stereotypical masculine or feminine traits. Participants completed the Bar-Ilan Sex Role Inventory (BI-SRI; Tzuriel, 1984), a modified version

of the Bem Sex Role Inventory (Bem, 1974) that was adapted to fit Israeli sex-role norms. The measure contained 20 adjectives that corresponded to masculine traits, 20 adjectives that corresponded to feminine traits, and 20 adjectives that corresponded to neutral traits. Participants rate the extent to which they feel each of these traits describes themselves. The authors used the data obtained from this measure to categorize participants into one of four sex-role groups (i.e., masculine, feminine, androgynous, or undifferentiated). Participants were categorized in the masculine sex-role group if their score fell above the median score of all participants on masculine traits and below the median score on feminine traits. Participants were categorized in the feminine sex-role group if their score fell above the median score on feminine traits and below the median score on masculine traits. Participants were categorized as androgynous if their score fell above the median score on both masculine and feminine traits. Participants were categorized as undifferentiated if their score fell below the median score on both the masculine and feminine traits. Participants then completed either the Fear of Personal Death Scale (FPDS; Florian & Kravetz, 1983), which consists of 12 items that tap personal fear of death, or a comparable 12-item questionnaire on leisure time activities. The FPDS was utilized as the MS induction. Each item on the scale begins with the statement "Death frightens me because _____." Participants then rate the extent to which various factors related to personal death frighten them (e.g., punishment in the hereafter, consequences to family and friends, self-annihilation, etc.). Participants then received two descriptions of same-gendered high school students (targets). One target was portrayed as possessing stereotypical masculine attributes and behaving in a stereotypical masculine manner, and the other was portrayed as possessing stereotypical

feminine attributes and behaving in a stereotypical feminine manner. Participants then completed a measure of their willingness to interact with each of the target students.

Florian et al. (2001a) found that, after MS, sex-typed boys and girls (i.e., masculine boys and feminine girls) demonstrated significantly less willingness to interact with cross sex-typed targets (i.e., feminine boys and masculine girls) of the same gender. MS did not affect sex-typed boys' and girls' reactions to sex-typed targets. In contrast, cross sex-typed boys and girls demonstrated more willingness to interact with cross sex-typed targets, and only cross sex-typed boys demonstrated less willingness to interact with sex-typed targets. No significant effects of MS were observed among androgynous or undifferentiated boys or girls. Florian et al. (2001a) noted that sex-typed participants represent the "ideal" sex-role behaviour in Western culture. Thus, when mortality was made salient, sex-typed participants feel secure in their sex-role, and do not feel the need to approach other sex-typed individuals to validate their identity. They may, however, feel the need to distance themselves from others who pose a threat to their identity (i.e., cross sex-typed individuals). Further, Florian et al. (2001a) noted that cross sex-typed individuals cannot afford to reject dominant mainstream culture (i.e., a sex-typed person), because distancing themselves may result in further rejection. Thus, in response to MS, cross sex-typed individuals' best strategy appears to be to increase their affiliation with similar (cross sex-typed) others. These findings demonstrate how, after contemplating their mortality, sex-typed and cross sex-typed individuals use different strategies (i.e., the desire to approach similar others and the desire to avoid dissimilar others) to validate their personal identity.

Florian et al.'s (2001a) study is one of several studies which show that the effects of mortality salience are found in individuals at various ages and stages of development (i.e., cognitive, social, moral, etc.). For example, the effects of MS have been found to occur in children and adolescents ranging in age from 7 to 17 years (for example, see Florian, Mikulincer, & Hirschberger, 2001b; Florian & Mikulincer, 1998; Janssen, Dechesne, & Van Knippenberg, 1999; Pyszczynski, Wicklund, Florescu, Koch, Gauch, Solomon, et al., 1996; Taubman-Ben-Ari & Findler, 2006). Interestingly, Florian and Mikulincer (1998) found that the effects of mortality salience on attitudes towards in-group and out-group children differed between 7- and 11-year-old children. Although 11-year-olds responded to mortality salience in a manner similar to that of adults (i.e., more acceptance of an in-group child and more rejection of an out-group child), 7-year-olds (particularly those with low self-esteem) responded to mortality salience with rejection of both in- and out-group children. These findings support the hypothesis of terror management theory that the human motivation to defend against death occurs across the lifespan. However, these results suggest that cultural worldviews may not be fully internalized at age 7 and the concept of death may still be immature, thus leading to results that differ from older, more cognitively mature individuals (Florian & Mikulincer, 1998). A number of studies have also obtained consistent effects of MS on individuals at various ages throughout adulthood, ranging from 18- to 86-years-old (e.g., Jonas, Fritsche, & Greenberg, 2005; Kazén, Baumann, & Kuhl, 2005; Pyszczynski et al., 1996). Taken together, the results of these studies lend support to the proposition that the motivation to defend against death-related anxiety affects cognitions and behaviours across the lifespan. However, the precise ways in which MS will affect an individual

appears to be dependent on both the level of general cognitive development and the maturity of their concept of death (Florian & Mikulincer, 1998).

In line with the findings of Florian et al.'s (2001a) study, numerous other studies have found increased favourability to similar others and reduced favourability to dissimilar others in response to mortality salience. Using similar procedures as the above studies, research has linked mortality salience to misogynistic attitudes or tendencies towards women (Landau, Goldenberg, et al., 2006) and negative reactions to the elderly (Martens, Greenberg, & Schimel, 2004). In addition, mortality salience has been linked to preference for individuals in society who engage in behaviours that are consistent with common stereotypes associated with their minority group (e.g., Germans, African Americans, and male homosexuals) or gender (e.g., women), as opposed to individuals whose behaviour does not correspond with these stereotypes (Schimel et al., 1999). For a further review of this line of research, see Greenberg, Solomon, and Pyszczynski (1997) and Pyszczynski, Solomon, and Greenberg (2003). Goldenberg, Heflick, Vaes, Motyl, and Greenberg (2009) review research linking the objectification of women to the predictions of TMT. Greenberg et al. (2009) provide an overview of the effects of death-related thoughts on prejudice, stereotyping, discrimination, and conflict.

Influence of Mortality Salience on Behaviour

Empirical evidence has also demonstrated that thoughts of death can affect people's behaviour in interesting ways. For example, after a typical mortality salience induction, participants were more hesitant, and experienced more discomfort, than control participants when using esteemed cultural symbols in a disrespectful manner (e.g., using an American flag to sift coloured dye; using a crucifix as a hammer;

Greenberg, Simon, Porteus, Pyszczynski, & Solomon, 1995). Such actions were deemed by the authors to be insulting or disrespectful to participants' cultures and worldviews and, subsequently, were avoided or performed with significant distress under mortality salience. Similar behavioural effects of mortality salience have been demonstrated across cultures. For example, German participants seated themselves nearer to a German confederate and farther from a Turkish confederate after mortality salience (Ochsmann & Mathy, 1994; as cited in Solomon, Greenberg, & Pyszczynski, 2004). This finding appeared to demonstrate the desire of participants to physically distance themselves from others of worldview-threatening cultures. Under the guise of a study on consumer taste preferences, mortality salience participants administered more hot sauce than control participants to a fellow participant who criticized their political orientation, knowing that this participant did not like spicy food (McGregor et al., 1998). This finding was interpreted by the authors as an increase in physical aggression, brought on by mortality salience, against a worldview threatening other. It has also been found that, after mortality salience, participants donated more money to a charity that supported their own culture (i.e., an American charity) than did participants who had been exposed to parallel questions on dental pain. In contrast, mortality salience did not have an effect on the amount of money that was donated to a foreign charity, indicating favouritism towards one's own culture after MS (Jonas, Schimel, Greenberg, & Pyszczynski, 2002). Together, these studies demonstrate that mortality salience has an effect on more than just attitudes. It appears that thoughts of death can also influence people's behaviour. Moreover, the effects tend to be in the direction of increased negative behaviour towards out-groups and/or increased positive behaviour towards in-groups.

Influence of Mortality Salience on Political Preferences

Research on the mortality salience hypothesis has also revealed that inducing mortality salience in participants can affect their preferences regarding political leadership and political policies. Cohen, Solomon, Maxfield, Pyszczynski, and Greenberg (2004) approached college students in a school cafeteria and solicited them to participate in an experiment that was supposedly about the relationship between personality attributes and opinions of political candidates. After completing filler personality questionnaires, participants either completed the MS induction questionnaire (see Rosenblatt et al., 1989) or a parallel questionnaire inquiring about an upcoming exam. This was followed by a short literary passage, which served as a delay and distraction. Next, participants were given three campaign statements that were purportedly written by gubernatorial candidates running in an upcoming election. The statements were written so that each of the candidates appeared to possess a different leadership style (i.e., charismatic leader, task-oriented leader, and relationship-oriented leader). The leadership styles were modeled after Ehrhart and Klein's (2001) study of leadership preferences of managers in business settings. The charismatic leader was "portrayed as having high expectations of followers, having confidence in followers' abilities, engaging in risky but calculated behavior, and emphasizing the importance of the overarching vision and identity of the group as a whole" (p. 848). The task-oriented leader was portrayed "as setting high, yet achievable goals and effectively achieving those goals by efficiently allocating resources and delegating responsibilities" (p. 848). The relationship-oriented leader was "portrayed as treating followers compassionately and respectfully, emphasizing communication by listening to followers, showing trust and confidence in

followers, and acknowledging followers with recognition and appreciation” (p. 848). Participants were asked to evaluate the candidates and identify the candidate for whom they would vote in the election. When the votes of the exam-salient (control) participants were analyzed, the task-oriented candidate received approximately half of the votes, followed closely by the relationship-oriented candidate. In contrast, only 4% of the vote went to the charismatic candidate. Consistent with the results obtained from the control participants, when the votes of the participants who had received a mortality salience induction prior to reading the statements were analyzed, just under half of them voted for the task-oriented candidate. However, among the MS participants, the relationship-oriented candidate only received 22% of the vote and support for the charismatic candidate increased to nearly 33% of the vote. This study demonstrates that MS can affect preferences for political candidates of various leadership styles. Thus, a charismatic candidate, who appeared to be visionary and promoted a sense of unity and confidence in the ability of citizens, may fare better under conditions when mortality is salient in voters. Conversely, MS can decrease preferences for an egalitarian, relationship-oriented candidate. As previously noted, MS increases the desire to enhance self-esteem (i.e., self-esteem striving). In turn, this can cause people to want to identify strongly with special or grandiose goals associated with their distinct group. Thus, it appears that MS may increase preferences for a charismatic candidate because he/she implicitly or explicitly promises these opportunities to voters.

Kosloff, Greenberg, Weise, and Solomon (2010) built upon the findings of Cohen et al. (2004). They sought to determine more precisely the relationship between MS and voting shifts towards charismatic leaders. Specifically, they predicted that MS would lead

individuals to shift their voting preferences towards a charismatic leader if that leader shared their political values (i.e., liberal or conservative), rather than MS leading to voting shifts towards any charismatic leader, regardless of their political orientation. In their study, Kosloff et al. (2010) selected strongly liberal and strongly conservative participants from a mass pre-screening in which they rated their political orientation on a 9-point scale. Participants in the experimental condition were then subjected to the typical MS induction questions imbedded within a purported battery of personality measures, whereas control participants responded to the same personality battery, but instead answered questions on experiencing intense pain. Next, all participants were asked to read statements written by two hypothetical gubernatorial candidates and to evaluate each candidate on a 9-point scale. One candidate clearly expressed liberal values and the other conservative values. For half of the participants, the liberal candidate had a charismatic style (i.e., he had bold expectations, steadfast optimism, and a very positive view of the group) and the conservative candidate had an uncharismatic style (i.e., he had modest expectations, acknowledged his limitations, and spoke humbly about the future of the group). For the other half of the participants, the conservative candidate had a charismatic style and the liberal candidate had an uncharismatic style. The results of the study were in line with the researchers' predictions. That is, MS participants reported more positive ratings of the charismatic candidate who shared their political orientation than they did of the charismatic candidate of the opposing political orientation (i.e., liberal participants preferred the liberal charismatic candidate over the conservative charismatic candidate, and vice versa). Although these findings also held for control participants, the heightened preference for a candidate of the same political orientation

was stronger among MS participants than it was among control participants. Kosloff et al. also found that MS participants rated the uncharismatic candidate of the opposing political orientation more negatively than control participants, indicating that MS led to a significant shift away from uncharismatic candidates. In sum, these results demonstrate that MS heightened liking for charismatic candidates who shared the participant's political worldview, but lessened liking for uncharismatic candidates and candidates who opposed their political view, thereby supporting and advancing the findings of Cohen et al. (2004).

Landau, Solomon, et al. (2004) conducted a series of experiments with American university students prior to the 2004 U.S. presidential election between incumbent Republican President George W. Bush and Democratic challenger John Kerry. In general, the researchers sought to determine whether MS would affect the participants' reported voting decisions. In Study 1, participants were either asked to respond to the standard MS induction questions (Rosenblatt et al., 1989; MS condition) or to parallel questions on watching television (control condition). Participants then read a statement by George W. Bush regarding 9/11 and the Iraqi conflict. Next, they were asked to respond to several questions (i.e., "To what extent do you endorse this statement?" "I share many of the attitudes expressed in the above statement," and "Personally, I feel secure knowing that the President is doing everything possible to guard against any further attacks against the United States." p. 1140) on a 5-point scale. As predicted, the researchers found that participants in the MS condition demonstrated increased support for George W. Bush and his counter-terrorism policies in Iraq compared to participants in the control condition.

In Study 2, Landau, Solomon, et al. (2004) sought to determine whether subliminal reminders of 9/11 and the World Trade Centre would increase the accessibility of death-related thoughts. Previous research has found that threats to terror management defenses can increase the accessibility of death-related thoughts (see Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997). In addition, research has demonstrated that supraliminal (i.e., overt) reminders of death increase death-thought accessibility only after a delay because, according to TMT, our initial response is to actively suppress death-related thoughts. Recall that it is only after death-related thoughts have faded from current focal attention, but are still highly accessible, that they have their worldview-bolstering effect (Greenberg et al., 1994). However, subliminal reminders of death have been found to lead to an immediate increase in death-thought accessibility and an immediate increase in worldview defense because they bypass this process of active suppression. That is, they are outside of focal awareness, but are highly accessible (Arndt, Greenberg, Pyszczynski, & Solomon, 1997). Thus, it was predicted that reminders of 9/11 would function as a MS prime and, subsequently, increase death-thought accessibility. It was also predicted that, if reminders of 9/11 were presented subliminally, they would immediately increase the accessibility of death-related thoughts. In Study 2, participants were exposed to subliminal stimuli during a computer task and then asked to complete a measure of death-thought accessibility. Specifically, participants were presented with two words that were flashed sequentially on a computer screen. They were asked to identify whether the two words were related to one another (e.g., the words ‘flower’ and ‘rose’ are related words, whereas the words ‘sneaker’ and ‘fajita’ are not related). However, a subliminal prime was flashed very briefly between the two task-

related words, which was not consciously detectable by participants. In two experimental groups, participants were exposed to either the prime '911' (for the date of the terrorist attacks) or 'WTC' (for the World Trade Center). Control participants were exposed to the prime '573' (for the area code of Columbia, Missouri, which was the location of the study). After 10 trials, all participants completed a word-fragment completion task to measure death-thought accessibility (e.g., the fragment "COFF__" could be completed as the neutral word *coffee* or the death-related word *coffin*; see Greenberg et al., 1994). The findings revealed that participants in the two experimental conditions demonstrated significantly greater death-thought accessibility than did participants in the control condition, indicating that stimuli related to the 9/11 terrorist attacks can lead to an increase in death-thought accessibility.

In Study 3, Landau, Solomon, et al. (2004) sought to determine whether reminders of 9/11 would result in increased support for George W. Bush and his policies, as did reminders of death in Study 1. Participants were exposed to a nearly identical procedure as was used in Study 1, except that, in addition to the MS induction procedure, another group of participants were asked to describe the events of 9/11 and their reaction to these events. As predicted, the results mirrored those obtained in Study 1. That is, participants in the experimental conditions (MS and 9/11 reminder) indicated significantly stronger support for George W. Bush and his policies than did individuals in the control condition. Interestingly, increased support for George W. Bush was found among both politically liberal and conservative participants. The implications of this finding will be discussed shortly.

In Study 4, the researchers compared the effects of MS on attitudes towards and intention to vote for George W. Bush and the Democratic presidential nominee, John Kerry. Participants were exposed to either the MS induction used in Studies 1 and 3 (experimental condition) or parallel questions on experiencing intense pain. Next, participants were asked to rate their views towards, admiration of, and intention to vote for Bush and Kerry on a 9-point scale. The results revealed that, in the control condition, participants preferred Kerry over Bush. However, in the mortality salience condition, support for Kerry decreased and support for Bush increased to the extent that Bush was more positively evaluated than Kerry. Once again, these results occurred among politically liberal and conservative participants. Together, these results of Studies 1-4 demonstrate that MS can influence people's preferences and intention to vote for a political candidate and that reminders of the 9/11 attacks can serve as a MS induction.

Cohen, Ogilvie, Solomon, Greenberg, and Pyszczynski (2005) conducted a related study to Landau, Solomon, et al. (2004) on a date that was closer to the actual 2004 presidential election. Participants in this experiment completed several filler questionnaires, engaged in the MS induction procedure (see Rosenblatt et al., 1989) or completed parallel questions on watching television, completed several questionnaires on social issues (which were not included in the analysis), and finally indicated who they intended to vote for in the 2004 presidential election. Cohen et al. found that, in the control condition, registered voters indicated that they intended to vote for Kerry over Bush at a rate of 4:1. However, in the mortality salience condition, registered voters indicated that they intended to vote for Bush over Kerry at a rate of 2:1. The authors suggest that the abundance of reminders of death (particularly terrorism-related content)

in the media prior to the 2004 presidential election may have facilitated Bush's successful re-election.

Vail, Arndt, Motyl, and Pyszczynski (2009) examined support for presidential candidates John McCain and Barack Obama during the 2008 U.S. presidential election. Citing statements made during the campaigns of both candidates, Vail et al. predicted that reminders of mortality would lead to increased support for McCain among American university students, due to McCain's ardent "defense of the moral righteousness of the American way of life" (p. 259). For example, McCain spoke of "evil" regimes and international leaders, and he touted his support for the Iraq war. In contrast, Vail et al. predicted that Obama would be viewed as the more compassionate candidate due to statements he made during his campaign (e.g., advocating for humanitarian aid, opposing the Iraq war, dismantling nuclear weapons worldwide). In support of this prediction, Vail et al. cited a CNN/Opinion Research Corporation poll which found 55% of registered voters indeed viewed Obama as the more compassionate candidate, with only 35% of registered voters indicating that McCain was the more compassionate candidate. Given that Obama was thought to be viewed as more compassionate than McCain, Vail et al. predicted that participants primed with the value of compassion after mortality salience would increase their support for Obama. Thus, Vail et al. had participants complete several filler questionnaires, engage in the MS induction procedure (see Greenberg et al., 1992) or complete parallel questions on feeling uncertain (see Van Den Bos, 2001), complete a Values manipulation (described below), and finally rate their support for each presidential candidate. The Values manipulation included having participants indicate their support for either quotes that were used to increase the salience of cultural

compassion (compassion prime; e.g., “When it comes to our enemies, we should try to understand them”) or quotes that did not refer to the value of compassion (control condition; e.g., “A single conversation across the table with a wise man is worth a month’s study of books”). As anticipated, participants in the control condition increased their support for McCain following mortality salience, compared to participants asked to think about uncertainty. However, participants in the compassion prime condition increased their support for Obama following mortality salience, compared to participants asked to think about uncertainty. Thus, Vail et al. concluded that not only can MS influence support for a political candidate, priming the value of compassion can alter the direction of that support from a candidate heavily endorsing American worldviews (McCain) to a candidate more closely aligned with the value of compassion (Obama).

In summary, after being exposed to a MS manipulation in the majority of TMT studies, participants have demonstrated heightened efforts to bolster their predominant worldviews. In general, studies have demonstrated that worldviews that provide structure, order, and meaning to the world (Landau, Greenberg, Solomon, Pyszczynski, & Martens, 2006; Landau, Johns, et al., 2004), as well as those that promote pre-eminence of one’s own group over other groups (Cohen, Solomon, Maxfield, Pyszczynski, & Greenberg, 2004), are likely to be more alluring when mortality salience is induced. The Landau, Solomon, et al. (2004) and Cohen et al. (2005) studies are intriguing because they provide evidence that, in some cases, individuals will respond to mortality salience by shifting away from worldviews that they adhere to under less threatening conditions, or perhaps by giving greater weight to aspects of their overall worldview that are most likely to provide security (see Pyszczynski et al., 2006). Thus, Landau, Solomon, et al. (2004)

and Cohen et al. (2005) found that, under control conditions, both liberals and conservatives tended to prefer Kerry over Bush. However, both liberal and conservative participants increased their support for Bush and decreased their support for Kerry in response to MS. These results demonstrate how even fundamental worldview shifts can occur under threatening conditions (i.e., when mortality is salient). It could be argued that Bush's more forceful stance towards foreign policy (e.g., in Iraq and Afghanistan), under the banner of protecting America from threats abroad, may have caused Americans to perceive him as being more capable of providing security. In addition, it could be argued that Bush was the leader of the United States and, thus, a key authority figure representing the American cultural worldview at the time of the study. These perceptions may have then become more pertinent under conditions of mortality salience. Vail et al.'s (2009) findings indicate that political opinions may also be influenced by the promotion of values (i.e., compassion).

Mortality Salience, Political Orientation, and Attachment Security

Empirical evidence has demonstrated that mortality salience can have different effects on people of different political orientations based on their distinct worldviews, value systems, and upbringings. Greenberg, Simon, et al. (1992) found evidence that highly liberal and conservative subjects react differently towards similar and dissimilar others in response to mortality salience. In the control condition, both conservative and liberal participants tended to evaluate a similar target individual more favourably than a dissimilar target, based on fictional responses to a political attitudes questionnaire. However, conservative participants in the mortality salience condition became more extreme in their evaluations of the target individuals, rating the similar target more

favourably and the dissimilar target less favourably than their conservative counterparts in the control condition. In contrast, liberal participants in the mortality salience condition became less extreme in their evaluations. Although they did not respond more favourably to a similar target, they did respond more favourably to a dissimilar target than their liberal counterparts in the control condition. Although the pattern of results demonstrated by the conservative participants is consistent with typical mortality salience experiments, Greenberg, Simon, et al. (1992) concluded that their mortality salience induction activated the traditionally liberal values of open-mindedness and tolerance in the liberal participants, resulting in heightened favourability to a dissimilar individual. It should be noted that liberal participants in the mortality salience condition still favoured a similar target individual over a dissimilar target, but this difference was smaller than it was in the control condition. Also of interest was the finding that conservative participants scored significantly higher on a measure of authoritarianism than did liberal participants. The authors note that this result is consistent with Wilson's (1973) contention that conservatism may be a manifestation of authoritarian tendencies, raising the possibility that authoritarianism may be a factor mediating different peoples' reactions to mortality salience. Similarly, recall that Pyszczynski et al.'s (2006) study, which demonstrated that conservatives responded to mortality salience with increased support for extreme military interventions that could result in thousands of civilian casualties, as well as support for the Patriot Act, which had the potential to sacrifice citizens' personal freedom for their security. Liberals did not support such policies, even after mortality salience.

Although the above studies demonstrated different reactions to mortality salience among conservative and liberal participants, several studies have demonstrated that

people of different political orientations sometimes react to mortality salience in a similar manner. For example, recall McGregor et al.'s (1998) finding that both conservative and liberal participants responded more aggressively (i.e., inflicted more pain via hot sauce) to critics of their political views in response to mortality salience. Likewise, recall Landau, Solomon et al.'s (2004) finding that both liberal and conservative participants increased their support for George W. Bush after a mortality salience induction.

In an attempt to explain the apparent inconsistencies in these findings, Weise et al. (2008) combined the theory behind TMT with Lakoff's (2002) work on political attitudes and Mikulincer, Florian, and Hirschberger's (2003) work on TMT and interpersonal attachment. The researchers proposed that political responses to mortality salience may be mediated by attachment security. A high level of attachment security is associated with high self-esteem, empathy, compassion, and interpersonal trust. A low level of attachment security is associated with hostility and a general mistrust of others. Weise et al. suggested that the liberal ideals of empathy, tolerance, and compassion originate in secure attachment experiences. Conversely, they suggested that rigid conservative ideals of right and wrong developed from authoritarian parenting experiences, resulting in low attachment security. Guided by these premises, Weise et al. (2008) demonstrated that dispositional and experimentally manipulated (situational) attachment security influenced political attitudes. Specifically, they found that following mortality salience, low attachment security was associated increased support for George W. Bush (a conservative candidate), whereas high attachment security was associated with increased support for John Kerry (a liberal candidate; Study 1). Unlike Landau, Solomon, et al.'s (2004) finding that mortality salience increased both conservative and

liberal participant's support for Bush, Weise et al. (2008) found that attachment security was the variable that moderated support for Bush. Weise et al. (2008) also found that, when mortality salience participants were primed to think of an accepting relationship (i.e., situationally induced attachment security), they were less likely to support the extreme use of military force than mortality salience participants who were primed to think of a neutral relationship (Study 2). Although greater conservatism was associated with greater support for the use of extreme force, unlike the results of Pyszczynski et al. (2006), support for extreme force did not increase after mortality salience. Weise et al. (2008) attribute the different results to the timing of the studies, suggesting that support for extreme military force was more present in the American worldview at the time of the earlier study and, thus, would have been perceived to provide a greater defense against death concerns at that time. Weise et al. (2008) concluded that attachment security (both dispositional and situationally induced) was associated with liberal shifts in attitudes in response to mortality salience. They noted that all worldviews have many facets, which may not always be consistent with each other, and that liberals and conservatives likely share some aspects of their worldviews. Pyszczynski et al. (2006) suggested that people will "gravitate toward whatever aspect of one's worldview is expected to provide the best protection at the time the protection is needed" whether it be "the dominant aspects of one's worldview...[or] less dominant aspects of the worldview that are heavily associated with feelings of superiority, structure, and security" (p. 536). Weise et al. (2008) proposed that, although conservatives and liberals will tend to respond similarly when certain situational demands are strong (e.g., perceived imminent threats to security), they are more likely to respond in accordance with their political orientation when situational

demands are less salient. These experiments demonstrated that people's responses can also be mediated by attachment security.

Mortality Salience and Self-Esteem

According to TMT, self-esteem serves as a buffer against existential anxiety (i.e., an anxiety buffer). If this aspect of the theory is accurate, then high self-esteem should reduce the need to engage in worldview defense in response to mortality salience. That is, under conditions of mortality salience, individuals tend to more strongly endorse important aspects of their worldview. If self-esteem serves as an anxiety buffer, then, following mortality salience, high self-esteem should reduce this tendency in individuals. Harmon-Jones et al. (1997) tested this hypothesis by comparing worldview defense among American introductory psychology students who had received either bogus positive personality feedback (experimentally heightened self-esteem condition) or bogus neutral personality feedback. Participants were then subjected to either a mortality salience manipulation (experimental condition) or parallel questions about watching television (control condition; see Greenberg et al., 1990). Worldview defense was then measured by having all participants evaluate the authors of a pro-U.S. and an anti-U.S. essay (in counterbalanced order) by indicating the extent to which they liked the author, and thought the author was intelligent and knowledgeable. Giving American participants the opportunity to rate the pro-U.S. author more favourably than the anti-U.S. author was interpreted by the researchers as an opportunity to engage in worldview defense. Harmon-Jones et al. found that, among participants in the neutral personality feedback condition, those who had received the mortality salience manipulation demonstrated greater preference for the pro-U.S. author than did participants who had received the

control manipulation (i.e., questions about watching television). This finding was interpreted as an increase in worldview defense among mortality salience participants. However, in the heightened self-esteem condition, no such differences were found between mortality salience and control participants. Therefore, the researchers concluded that experimentally heightened self-esteem eliminated the need to engage in worldview defense following mortality salience.

In a second experiment, Harmon-Jones et al. (1997) replicated these findings among participants with either moderate or very high dispositional self-esteem. They found that, among participants with moderate dispositional self-esteem, mortality salience led to an increased preference for the pro-U.S. author and the pro-U.S. essay (compared to participants in the control condition), demonstrating increased worldview defense in response to mortality salience. In contrast, among participants with very high dispositional self-esteem, no such differences were found between participants in the mortality salience and control conditions. Together, the results of these experiments demonstrate that heightened self-esteem (whether experimentally manipulated or dispositional) reduced the need to engage in worldview defense in response to mortality salience.

In a third experiment, Harmon-Jones et al. (1997) found evidence which suggests that the results of the first two experiments occurred because high self-esteem serves to suppress death-related thoughts following mortality salience. Participants followed a similar procedure as described in the first experiment, with a personality measure, feedback (positive or neutral), and a mortality salience treatment (mortality salience manipulation or television control). Participants were then given a second packet

containing a word-fragment completion task, a short passage to be read as a distraction, and a second word-fragment completion task. The accessibility of death-related thoughts was measured using the word-fragment completion tasks (see Greenberg et al., 1994), which included death-related, television-related, and filler words. The death-related words were ambiguous (e.g., DE_ _) and could be completed as either death-related words (e.g., DEAD) or neutral words (e.g., DEEP). Among participants who received neutral personality feedback, participants in the mortality salience condition demonstrated an increased accessibility of death-related thoughts (DTA) following a delay and distraction from mortality salience, whereas participants in the control condition did not demonstrate an increase in DTA. Among participants who received positive personality feedback, neither the mortality salience group nor the control group demonstrated an increase in DTA. These findings provide evidence in support of the claim that heightened self-esteem reduces worldview defense because it facilitates the suppression of death-related thoughts following mortality salience (Harmon-Jones et al., 1997). An overview of the research on the DTA hypothesis is provided in a future section of this review.

Interestingly, Arndt and Greenberg (1999) found that a boost in self-esteem (e.g., bogus positive feedback indicating that the participant's personality was well suited for their college major) reduced worldview defense (e.g., derogation of the author of an anti-American essay) in response to mortality salience (replicating the findings of Harmon-Jones et al., 1997); however, the self-esteem boost did not reduce worldview defense in response to mortality salience if the author of the essay was instead critical of the participants' college majors, which was the source of the initial self-esteem boost. These

findings suggest that, if the source of one's self-esteem is undermined, then the anxiety-buffering properties of self-esteem are weakened. It then becomes necessary for people to engage in worldview defense to compensate for this disruption in the anxiety-buffering system (Arndt & Greenberg, 1999).

Mortality Salience and Self-Esteem Striving

Although the majority of research on the mortality salience hypothesis has been focused on the worldview defense aspect of the theory, Pyszczynski et al. (2004) note that, according to TMT, inducing mortality salience should also result in a greater need for high self-esteem and a greater need to perceive oneself as adhering to cultural standards of value (i.e., the endorsed worldview), which is the source of one's self-esteem. This process is termed *self-esteem striving*. However, typically, people do not have the luxury of simply enhancing their self-esteem without evidentiary support (e.g., positive feedback from others). Thus, in order to boost self-worth, mortality salience may cause people to increase their adherence to cultural standards, it may cause them to experience greater distress if they infringe on these standards, and/or it may lead them to bias their interpretation of information they receive about themselves (Pyszczynski et al., 2004). Consistent with these propositions, research has found that mortality salience increases behaviour previously identified by participants as being highly valued as an aspect of their worldview or a source of personal self-esteem. This includes tolerance of individuals with differing worldviews (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992), individualism and collectivism separately (Kashima, Halloran, Yuki, & Kashima, 2004), desire for high-status items (Mandel & Heine, 1999), risky driving behaviour (Taubman Ben-Ari, Florian, & Mikulincer, 1999), fitness intentions (Arndt,

Schimmel, & Goldenberg, 2003), physical strength output (Peters, Greenberg, Williams, & Schneider, 2003), and favourable attitudes towards charity and a willingness to donate to charity (Jonas, Schimmel, Greenberg, & Pyszczynski, 2002). See Pyszczynski et al. (2004) for a review of TMT and self-esteem striving.

In a series of studies, Landau, Greenberg, and Sullivan (2009) provided empirical support for several interesting propositions regarding self-esteem striving, self-enhancement (i.e., affirming and asserting one's personal worth), and mortality salience. In Study 1a, the researchers predicted that, although mortality salience will typically increase tendencies towards self-enhancement, it would actually reduce these tendencies if self-enhancement was inconsistent with, or would undermine aspects of, the dominant worldview. In this study, participants were presented with bogus positive results on an intelligence test. However, participants were also led to believe that experts in government and education unanimously agree that scores on such tests are not valid reflections of one's actual intelligence. Participants were then asked to give their own opinion on the validity of the test. Participants who had been subjected to a mortality salience induction prior to rating the test judged it as significantly less valid than participants who had been subjected to parallel questions related to pain (control condition). That is, mortality salient participants were less likely to engage in self-enhancement when the source of positive feedback (the test itself) was viewed negatively by authorities. These findings support the claim that mortality salience will reduce the likelihood of engaging in self-enhancement if doing so would undermine some aspect of the dominant worldview (i.e., the opinions of experts or authorities).

In study 1b, Landau et al. found that mortality salience participants were less likely than control participants to criticize feedback that was detrimental to self-esteem if the feedback was sanctioned by authorities. In this study, participants completed a personality measure that was purportedly sanctioned by institutional authorities as being a highly accurate measurement of one's personality. This measure was followed by either a mortality salience manipulation or parallel questions on intense pain (control condition). Participants then received either negative or neutral feedback on an aspect of their personality in which they were personally invested, based on a pre-screening measure (i.e., ambition, extraversion, organizational ability, self-control, and openness to experience). Finally, participants rated the perceived validity of the personality measure. Participants in the mortality salience condition rated the personality inventory as significantly more valid than participants in the pain condition. These findings support the proposition that mortality salience eliminates the tendency to dismiss self-esteem threatening information when doing so would undermine the credibility of authorities that represent the worldview (Landau et al., 2009).

In Study 2, Landau et al.'s (2009) participants completed either a mortality salience induction or parallel questions on experiencing intense pain (control condition). They were then asked to rate either a close friend or their same-sex parent on two characteristics, one which they previously identified (four weeks earlier in a mass testing session) as a characteristic that they admired in their parent and one on which they had identified their parent as only average. Participants were then asked to rate themselves on these same characteristics. The results revealed that mortality salience led participants to rate themselves higher than they rated a friend on the characteristic they previously

indicated that they admired in their parent (i.e., the parent-admired characteristic). In contrast, participants who first rated a parent on the parent-admired characteristic did not respond to mortality salience with increased self-ratings. There were no significant differences between conditions with respect to self-ratings on the parent non-admired condition. These findings indicate that people will respond to mortality salience with self-enhancement, unless doing so would threaten the special status of an admired authority, such as one's parent (Landau et al., 2009).

In Study 3, Landau et al.'s (2009) participants completed a purported measure of leadership. Then, they underwent a mortality salience induction (as in the previous studies) or completed parallel questions on experiencing uncertainty (i.e., participants were asked to describe their emotions and physical state when they feel uncertainty; control condition). Next, participants received feedback that they had performed in the 92nd percentile on the leadership test and, moreover, that they had outperformed an admired cultural leader on this test (admired leaders had been identified six weeks earlier in a mass testing session from a list of 12 well-known leaders). Finally, participants rated the validity of the leadership inventory. Two types of leaders were cited, namely current societal leaders and canonical societal leaders. Current leaders were still in a leadership position at the time of the study and were "still active in the public sphere and have not yet attained canonical [i.e., pervasive or well-established] status as embodiments of the dominant worldview" (p. 75). Current leaders included Nelson Mandela, Oprah Winfrey, George W. Bush, Bill Clinton, and Lute Olson (the widely known coach of the university basketball team). In contrast, canonical leaders were "no longer active or under public scrutiny, and have achieved a canonical [i.e., pervasive or well-established] status as

embodiments of the dominant worldview” (p. 75). Canonical leaders included John F. Kennedy, Martin Luther King Jr., and Ronald Reagan. Among participants who received feedback that they had outperformed an admired current leader, mortality salience participants rated the leadership scale as significantly more valid than participants in the uncertainty salience (control) condition. However, among participants who received feedback that they had outperformed an admired canonical leader, mortality salience participants rated the leadership scale as significantly less valid than participants in the uncertainty salience condition. Taken together, the results of Studies 2 and 3 reveal that mortality salient participants had a greater tendency towards self-enhancement (i.e., they evaluated themselves more positively on valued dimensions), unless doing so meant evaluating themselves more positively than an admired parent or cultural leader. Maintaining the special status of parents and/or leaders lends credence to dominant cultural worldviews, which facilitates the perception that life has meaning, order, and permanence (Landau et al., 2009). The authors extend these findings to explain the distress that people often experience when the special status of leaders is undermined (e.g., if a representative from one’s preferred political party is indicted for a crime).

The Cultural Generalizability of Mortality Salience

The effects of mortality salience on self-esteem and worldview defense have been replicated in at least 14 countries and across various cultures (for a review, see Greenberg, Solomon, & Arndt, 2007). Consistent results have been found in several non-Western cultures with varying beliefs about death (e.g., Halloran & Kashima, 2004; Heine et al., 2002), including in the Middle East, where death is discussed more openly and even celebrated by many Muslims (Pyszczynski et al., 2006). These findings

demonstrate that the effects of contemplating one's mortality transcend even cultural views on death and appear to be a universal human characteristic. According to Greenberg et al. (2007), the only effect of mortality salience that varies between cultures appears to be the specific worldviews that are bolstered or defended in response to mortality salience (e.g., see Ma-Kellams & Blascovich, 2011, 2012).

Diverse Methods for Inducing Mortality Salience

Although the typical method for inducing mortality salience has involved two open-ended questions designed to focus thoughts on one's own death (see Rosenblatt et al., 1989), several other approaches have been successful at reproducing the effects of mortality salience. For instance, the effects of mortality salience induction have been obtained by having participants: complete a death anxiety scale (Rosenblatt et al., 1989); write down, in a single sentence, the first thing that comes to mind when thinking about death (Dechesne et al., 2003); view videotape of graphic fatal car accidents (Nelson, Moore, Olivetti, & Scott, 1997); answer questions in close proximity to a funeral home (Pyszczynski et al., 1996); view subliminal death-related primes (e.g., the words 'death' or 'dead' [Arndt, Greenberg, Pyszczynski, & Solomon, 1997; Landau, Goldenberg, et al., 2006]; and 9/11-related stimuli [the words '9/11' or 'WTC', for World Trade Centre; Landau, Solomon, et al., 2004]). These diverse methods of inducing mortality salience in participants emphasize the real-world implications of the theory (e.g., cultural worldview defense, derogation of dissimilar others, etc.). Given that death-related content is ubiquitous in today's news media, and this content is often presented in a frame of reference that enhances the personal significance and relevance of this content to the consumer by spreading messages stressing fear and personal danger (Altheide, 1997), it is

imperative that we understand the potential implications of these conditions (Arndt, Cook, Routledge, 2004; Greenberg et al., 1990).

The Death-Thought Accessibility Hypothesis

More recently, a third line of TMT research has focused on the death-thought accessibility hypothesis. According to this hypothesis, if a psychological construct (e.g., cultural worldviews) serves to defend people from thoughts about their own mortality, then threatening or undermining that construct should increase their accessibility of death-related thoughts (Arndt, Cook, & Routledge, 2004; Schimel, Hayes, Williams, & Jahrig, 2007). Following this line of reasoning, it has been theorized that close relationships serve as a buffer to death-related anxiety because they provide a source of symbolic immortality. If this is indeed the case, then threatening or undermining an individual's close relationships should lead to an increase in death-related thoughts. Mikulincer, Florian, and Hirschberger (2003) proposed that close relationships "provide a symbolic meaning structure that allows people to transcend the self, create a sense of connectedness with the world, and then mitigate death concerns" (p. 24). Specifically, it has been argued that close (heterosexual) relationships allow people to reproduce and, subsequently, live on after death through their offspring. Close relationships also allow people to feel connected to a larger social group (e.g., couple, family, community) that transcends the self and has the potential to continue indefinitely. Close relationships can also provide a source of self-esteem through the experience of being accepted and valued by others (Florian, Mikulincer, & Hirschberger, 2002; Mikulincer, Florian, & Hirschberger, 2003).

In line with the above propositions, Florian, Mikulincer, and Hirschberger (2002) hypothesized that increasing mortality salience would strengthen the desire to obtain and sustain close relationships and, if close relationships are threatened, death-thought accessibility would be increased. Florian et al. exposed Israeli undergraduates who were involved in a serious heterosexual romantic relationship to a mortality salience induction (thinking about personal death; experimental group), to a physical pain condition (thinking about intense physical pain), or to a neutral condition (thinking about a neutral television program). Participants then completed a shortened version of the Dimensions of Commitment Inventory (Adams & Jones, 1997). In addition, two aspects of relationship commitment were examined, namely commitment to their romantic partner (measured by attraction, trust, and love) and moral commitment to romantic relationship (measured by moral-normative obligations and sense of responsibility to maintain the relationship). Consistent with the first hypothesis, participants who were exposed to the mortality salience induction reported higher commitment to their romantic partner than did participants in the physical pain or neutral conditions (no significant differences were found between the later two conditions). There were no significant differences between groups on the moral commitment to relationships factor. These results suggest that reminders of mortality increase striving for commitment to a romantic partner. The researchers suggested that it is the commitment to relationships that provides a sense of connectedness and personal meaning. They suggest further that it is these aspects of the relationship that carry the death-transcending properties. Thus, efforts are made to bolster these aspects of the relationship when faced with the thought of personal mortality. In contrast, the researchers note that maintaining a relationship due to moral obligation is

less related to connectedness and personal meaning and, subsequently, provides an insufficient buffer against death-related concerns.

In a subsequent study, Florian et al. (2002) tested the death-thought accessibility (DTA) hypothesis that undermining a psychological mechanism that serves as a buffer against death-related concerns would increase the accessibility of death-related thoughts. The researchers divided Israeli undergraduate participants who were involved in a serious romantic relationship into three groups. In the first group (relationship problems condition), participants were asked to think about problems they have experienced in their current romantic relationship. In the second group (academic problems condition), participants were asked to think about problems they have experienced in their academic studies. In the third group (neutral control condition), participants were asked to think about their experiences watching television. All participants then completed a Hebrew version of Greenberg et al.'s (1994) word completion task, which measured DTA. As predicted, thinking about relationship problems (which makes salient the possibility of a disruption to the relationship) led to higher accessibility of death-related thoughts than did the other two conditions. No significant differences were found between the academic problems and the neutral control conditions.

Goldenberg, Cox, Pyszczynski, Greenberg, and Solomon (2002) noted that, as human beings, we strive generally to elevate our species to a level that is greater and more meaningful than that of mere animals. They reasoned that threats to this unique status should serve to undermine our symbolic position in the world and, subsequently, lead to increases in DTA. Goldenberg et al. hypothesized that sex has the potential to undermine our position in the world when the symbolic and cultural meaning of sexual

intercourse (i.e., romance) is stripped away and the physical nature of the sexual act is highlighted. The researchers reasoned that this manipulation could be accentuated by emphasizing direct comparisons describing the similarities between humans and other animals (i.e., by emphasizing our ‘creatureliness’). Introductory psychology participants were randomly divided into one of four groups for this experiment. Participants were primed by reading one of two essays emphasizing either the similarity of humans to other animals (‘creatureliness prime’) or the uniqueness of humans to other animals.

Participants were then provided with one of two questionnaires to complete which made salient either the physical aspect of sex, or the romantic or personal connection aspect of sex. All participants then completed a word-fragment completion task similar to that utilized by Greenberg et al. (1994) to measure DTA. As predicted, after being primed with the similarities between humans and animals (‘creatureliness prime’), participants led to think about the physical aspect of sex demonstrated higher DTA than did participants led to think about the romantic aspects of sex. Conversely, after being primed with the differences between humans and other animals, participants led to think about the physical aspect of sex did not demonstrate heightened DTA when compared to participants led to think about the romantic aspects of sex. These results indicate that the perceived uniqueness of human beings compared to other animals may serve as a buffer against death-related concerns. They also indicate that the thought of physical sex can heighten DTA when the symbolic cultural meaning of sex is threatened by emphasizing human ‘creatureliness.’

In a related series of studies with undergraduate students, Landau, Goldenberg, et al. (2006) sought to explain the derogation and aggression that is sometimes experienced

by women who are perceived by men as being sexually attractive. The researchers began with the premise that negative reactions to sexually attractive women are not due to women's sexual allure per se. Instead, sexual attraction to a woman may increase heterosexual men's awareness of their corporeality (i.e., the physical nature of their body) and thus, their mortality. This, in turn, may create a conflict in men between their pursuit of sex and the denial of their corporeality (and ultimately their mortality). Study 1 was designed to test whether mortality salience would influence heterosexual participants' ratings of a woman's attractiveness. Specifically, it was predicted that mortality salience would lead men, but not women, to decrease their ratings of a woman's attractiveness. Initially, as part of the mortality salience manipulation, participants were asked to judge whether or not two words presented on a computer screen were related. For example, the words 'rose' and 'flower' were presented sequentially for 427.5 ms each and participants responded by pressing a button on a computer keyboard. However, inserted between the presentation of these words was either a subliminal mortality prime (i.e., the word 'DEAD') or a subliminal control prime (i.e., the word 'PAIN'), which was presented for 42.8 ms and was not consciously detected by participants. Participants were then asked to look at a series of pictures and rate the attractiveness of six notably attractive and sexually appealing, but unfamiliar, women. The results revealed that the subliminal mortality salience prime led to decreased attractiveness ratings by men, but not by women, compared to attractiveness ratings following the control prime. These findings support the assertion that mortality concerns may be a factor affecting men's ambivalent reactions to sexually attractive women. If it was simply the women's bodies that served

as the threat, then women in the mortality salience condition should have also rated the target women as less attractive.

In Study 2, it was predicted that men who were subjected to a mortality salience induction would downplay their sexual, but not their friendly, intent towards a sexually attractive woman. In this study, men were given a packet of questionnaires to complete, including the MS induction questionnaire (see Rosenblatt et al., 1989) or parallel questions about dental pain (control group). Participants then engaged in a scripted question and answer period with a purported female participant (actually a confederate in the study), who gave the impression that she was single, inviting, and enjoyed a good time. They were given the instruction to get a sense of the other person's personality. After the interaction, participants rated themselves and the woman on various factors, including sexual flirtatiousness and friendliness. As predicted, men's self-perceived sexual intent was significantly lower in the MS condition than it was in the control condition. That is, mortality salience led men to downplay their sexual intent towards the sexually attractive female confederate. In addition, men's self-perceived sexual intent was lower than men's ratings of the woman's perceived sexual intent. Perceived friendliness ratings were not influenced by MS. Study 3 was designed to determine whether MS leads men to respond less favorably towards women in general or only towards sexually attractive women.

In Study 3, male participants were given a packet of questionnaires similar to that utilized in Study 2 (as a purported measure of personality), which contained either the MS manipulation or parallel questions on dental pain. Participants were then told that they would be assisting the researcher to select a woman for an upcoming short film. All

participants were shown a picture of the same attractive, college-aged woman who appeared to be either wholesome or seductive (based on pilot testing done with pictures of the woman displaying various postures, smiles, and clothing). They were then asked to respond to several questions (using a 7-point scale) about the woman's attractiveness and their interest in having a relationship with the woman (including a one-night-stand, a date, several dates, and a lasting relationship). The questions had a high degree of internal consistency, thereby allowing the scores to be compiled to create an overall attraction rating. The results confirmed the researchers' hypothesis, that MS would decrease men's interest in a seductive, but not a wholesome, woman.

In Study 4, the researchers sought to test their hypothesis that the effects of MS on sexual attraction would be limited to males. Specifically, they hypothesized that male's attraction to females (particularly in response to visual stimuli) is more focused on the physical aspects of sex and sexual arousal than female's attraction to males. In this study, heterosexual male and female participants completed a packet of questionnaires with either a MS induction or parallel questions pertaining to either feeling uncertainty or shelving books. Participants then rated a sexually appealing picture of a person of the opposite sex by answering three of the questions from Study 3 on the same 7-point scale (i.e., "I would think this person is attractive"; "I would be particularly attracted to this person"; "I would be interested in going on a date with this person"). The picture of the male and female were found to elicit almost identical attractiveness, seductiveness, and sexual appeal ratings from men and women in a pilot study. As predicted, among men, MS led to decreased attractiveness ratings to a sexually appealing opposite-sex target compared to the control groups. This effect of MS was not obtained among women,

demonstrating that although women respond defensively to reminders of their corporeality (e.g., Goldenberg et al., 2002), sexual attraction does not elicit this threat to the same extent as it does for men. Landau, Goldenberg, et al. proposed that some of the violence and aggression by men towards women may be due to the constant struggle of some men who attempt to transcend their “hedonistic bodily needs,” but are continually reminded of this by the sexual appeal of women.

In Study 5, the researchers sought to test whether MS and a corporeal lust prime would increase men’s tolerance of aggression toward women. A sample of heterosexual male participants was given the standard questionnaire packet utilized in the previous studies, which included a MS prime or parallel questions on dental pain. Next, they were given a purported projective personality test which asked them to write about either an experience when an anonymous woman or women aroused intense, animal-like sexual lust in them, or a sport event that aroused intense game excitement. Finally participants were asked to read one of two police reports and to decide on the severity of the sentence, ranging from a verbal warning to 3-years in county jail with no parole. The reports were about either a man who attacked his live-in girlfriend after a verbal altercation, causing bodily harm, or a parallel report about a man who attacked his male friend after a verbal altercation. The reports were very similar in all other respects. The results confirmed the researchers’ predictions. There were no differences between pain-salient participants’ sentences, regardless of whether they wrote about lust or sports. However, among mortality salient participants, those who wrote about lust assigned significantly more lenient sentences to the male-female perpetrator than those who wrote about sports. In addition, among participants who wrote about lust, those in the MS condition gave more

lenient sentences to the male-female perpetrator than did participants in the pain-salience condition. Taken together, the results of the five studies demonstrate that men respond to MS with decreased sexual attraction to and interest in seductive, but not wholesome, women. Moreover, the results help to explain the ambivalence that men experience with their own sexual arousal and the women on whom it is focused. In addition, these findings provide an explanation for some of the violence and aggression that is directed at women by some men.

As part of a series of studies examining the death-thought accessibility hypothesis, Schimel, Hayes, Williams, and Jahrig (2007) measured DTA in Canadian introductory psychology students who had been exposed to threats to important aspects of their worldviews. One study involved participants who were identified by their responses to a survey as being heavily invested in Canadian culture. These participants were exposed to one of two essays that were designed to belittle either common Canadian values and culture, or common Australian values and culture. The values and culture that were attacked in each essay included popular foods, national sports, cultural achievements, governmental systems, and general collective appraisals (e.g., Canadians as polite and Australians as easygoing). Participants then completed the word completion task designed by Greenberg et al. (1994). Schimel et al. found that DTA was significantly higher among participants who had been exposed to the anti-Canada essay relative participants exposed to the anti-Australia essay. A subsequent study replicated these findings with a similar sample using a lexical decision task, whereby participants had to decide whether sequences of letters that were presented rapidly on a computer screen were words or non-words. The list of words included neutral words (e.g., bottle), negative

words (e.g., suffer), and death-related words (e.g., killed). Words were matched according to word length and frequency of occurrence in daily speech. Participants who had been exposed to the anti-Canada essay responded more quickly to death-related words than did participants exposed to the anti-Australia essay. The results of these two studies were interpreted as evidence that the derogation of the Canadian worldview led to an increase in DTA amongst Canadians heavily invested in this worldview (Schimel et al., 2007).

Schimel et al. (2007) conducted another study with Canadian introductory psychology students who were identified as having either creationist or evolutionist worldviews, based on their responses to a survey. Creationists either read an anti-creation essay, which presented evidence that the author claimed was contradictory to a creationist perspective, or an essay on attitude measurement that was similar to the anti-creation essay in length, tone, and scholarliness. Evolutionists read the anti-creation essay and served as a second control group. Participants then completed the same word-fragment completion task that was described in the studies above. Schimel et al. found that creationists who read an anti-creationist essay interpreted more ambiguous words as death-related words, demonstrating significantly higher DTA, relative to evolutionists who read the same anti-creationist essay and creationists who read a non-worldview-threatening essay.

Landau, Johns, et al., 2004 conducted a series of studies examining the predictions of terror management theory and the need for structure in the social world with introductory psychology students. In one study, Landau, Johns, et al. found that mortality salience in participants who scored high on a measure of personal need for

structure (PNS) led to an increased desire to learn negative information about the victim of a senseless tragedy. The researchers interpreted these results as evidence that such information would serve to restore the participants' belief in a just world (i.e., that the victim somehow got what he or she deserved). Belief in a just world is a trait that is associated with high PNS and is thought to mitigate death-related concerns in individuals high in PNS. In a subsequent study, Landau, Johns, et al. sought to test whether a threat to the belief in a just world would result in increased DTA in participants high in PNS. The researchers identified participants who were high and low in PNS based on their responses to the Personal Need for Structure Scale (PNS Scale; Thompson, Naccarato, Parker, & Moskowitz, 2001). Participants read a newspaper article describing a tragic, senseless shooting and disfigurement of a university student, followed by either positive or negative quotes about the victim. Participants then completed a word-fragment completion task similar to that utilized by Florian et al. (2002) to measure death-thought accessibility. Landau, Johns, et al. found that DTA was higher for participants high in PNS when the victim of the senseless tragedy was portrayed positively (threatening a just world belief) relative to when the victim was portrayed negatively (consistent with a just world belief). In addition, participants high in PNS demonstrated higher DTA than participants low in PNS following a positive portrayal of the victim. These findings supported the hypothesis that a threat to belief in a just world would lead to higher DTA in individuals for whom such a belief is an important aspect of their worldview.

Recall Landau, Solomon, et al. (2004) tested the prediction that, if the events of 9/11 serve as an unconscious reminder of mortality, then subliminal exposure to 9/11-related stimuli should increase death-thought accessibility. The researchers found that

participants exposed to subliminal presentations of the numbers '9/11' or the letters 'WTC' (for World Trade Centre) demonstrated greater DTA than participants in the neutral prime condition (the numbers '573' for the area code of Columbia, Missouri, where the study took place). These results were interpreted as evidence establishing a cognitive link between the events of 9/11 and death thought accessibility. Because the attacks on 9/11 have been interpreted as attacks on the American worldview, it could be reasoned that reminders of threats to this worldview were responsible for the increase in DTA among American participants.

The research cited thus far has focused on threats to worldviews resulting in increased DTA. As self-esteem is thought to be a buffer against death-related anxiety, Hayes, Schimel, Faucher, and Williams (2008) sought to test whether direct threats to self-esteem would result in increased DTA. The researchers conducted three experiments with Canadian introductory psychology students, in which various aspects of their self-esteem were threatened and the accessibility of death-related thoughts was measured. In Study 1, participants completed a purported intelligence test and were provided with either positive performance feedback (92nd percentile), negative feedback (35th percentile), or no feedback. Participants then completed a lexical decision task that was similar to that utilized by Schimel et al. (2007) to assess DTA. Participants who received negative feedback on the intelligence test (i.e., self-esteem threat) responded significantly faster to death-related words on the lexical decision task than they did to neutral or negative words. In contrast, no significant differences in response times between the different types of words were found for participants who received either positive or no feedback. Study 2 was nearly identical to Study 1, except that participants began the

experiment by completing a measure of personality and then typing their career choice into a computer. Participants received bogus feedback that suggested either incongruence (self-esteem threat) or congruence between their personality and career choice. They then completed the same lexical decision task as was described in Study 1. As predicted, participants who received incongruent feedback (i.e., the self-esteem threat manipulation) demonstrated higher DTA on the lexical decision task relative to participants who received congruent feedback.

In Study 3, Hayes et al. (2008) reasoned that the looming potential of a negative public evaluation would serve as a threat to self-esteem and subsequently lead to an increase in death-thought accessibility. However, they also reasoned that reinforcing self-esteem after the threat (e.g., making an affirmation) would prevent the increases in DTA. To test these predictions, the researchers assigned participants to one of three conditions. In the threat/affirmation condition, participants were informed that the participant who had been assigned to be the speech-giver in the experiment had not yet arrived and that they would be required to give a speech to a group of their peers. This served as the threat manipulation because it was assumed that participants would feel ill prepared to deliver such a speech and would face potential negative evaluation from their peers. The participants were then given a copy of the speech, but were told to complete a packet of purported personality-related questionnaires prior to reviewing the speech. The affirmation manipulation was contained within this packet. It involved having the participant (a) select their most important value from a list and write a paragraph about why they had chosen this value, (b) provide examples of past behaviour that was consistent with this value, and (c) explain how they planned to act consistently with this

value in the future. Participants in the threat/no-affirmation condition followed the same procedure as described above, except they were asked to select the value from the list that was least important to them and write a paragraph describing how this value might be important to others. Participants in the no-threat condition were told that the speech-giver had not yet arrived and were given the same questionnaire to complete as those in the threat/no-affirmation condition. As part of the questionnaire, all participants completed the word-fragment completion task that was utilized by Schimel et al. (2007) to measure DTA. As predicted, participants in the threat/no-affirmation condition demonstrated higher DTA, relative to participants in the other two conditions. No significant differences in DTA were noted between the threat/affirmation and no-threat conditions. Taken together, the results of these studies provide evidence that diverse threats to self-esteem can serve to increase the accessibility of death-related thoughts.

Hayes, Schimel, and Williams (2008) examined the effects of worldview threat on death-thought accessibility and were particularly interested in the effects of learning that a group of worldview violators have died. The researchers predicted that learning such information would reduce DTA and abolish the need for further worldview defense. To test these hypotheses, the researchers recruited a group of self-identified Christians who strongly endorsed Christian beliefs (scoring at least 7 on a 9-point scale). Participants were randomly divided into three groups. Each participant began the experiment by reading an article. Two groups read an identical article discussing Muslim's attending The Feast of the Sacrifice in Nazareth, which largely focused on the increasing dominance of Muslims over Christians in Nazareth (Jesus' childhood home). However, for one group, the article concluded with an extra paragraph describing a plane crash

which killed 117 devout Muslims en route to The Feast of the Sacrifice. Participants who read the article without the additional paragraph formed the ‘threat’ condition, whereas participants who read the article with the additional paragraph formed the ‘annihilation’ condition. Participants in the ‘control’ condition read an article about the aurora borealis. Following the article, all participants completed a word-fragment completion task as a measure of DTA (see Greenberg et al., 1994). After a memory test to maintain the experiment’s cover story and a brief manipulation check to ensure the world-view threatening article was indeed threatening, all participants completed the measure of worldview defense by indicating on a 9-point scale (1 = *not at all*; 9 = *very much*) their liking of various religious groups: Hindus, Jews, Christians, Buddhists, atheists, and Muslims. The results revealed that DTA was significantly higher in the ‘threat’ condition than in either the ‘control’ or ‘annihilation’ conditions, with no significant differences between the latter two conditions. In addition, participants in the ‘threat’ condition demonstrated significantly greater worldview defense than did participants in the other two conditions, as assessed by lower liking ratings of Muslims. No difference was found between participant ratings of Muslims in the other conditions. With the exception of liking ratings of Christians and Jews, participant ratings of the other religious groups was significantly (or marginally) lower in the ‘threat’ condition than in the other conditions. Taken together, these results confirmed the hypothesis that the annihilation of worldview violators serves a worldview defense function by eliminating the increase in DTA that a worldview threat would otherwise cause, and also by eliminating the need for further defense (i.e., the derogation of out-group members; Hayes, Schimel, & Williams, 2008).

The Dual-Process Model

A consistent finding in TMT research is that, although very explicit reminders of death can sometimes invoke anxiety and arousal in people, the subtle mortality salience induction procedure used in TMT research does not cause negative affect, anxiety, or physiological arousal in participants (Greenberg et al., 1994). Similarly, people often respond to descriptions of TMT by indicating that they spend very little time thinking about death and that thoughts of death rarely cause them any distress. Yet, despite the absence of any overt distress, mortality salience inductions in TMT experiments have consistently led to increased worldview defense. Therefore, it would appear that the cognitive processes involved in managing death-related thoughts occur outside of conscious awareness (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997). According to TMT, when thoughts of death are in focal attention, individuals engage in *proximal* defenses (i.e., active suppression) to reduce conscious awareness of death (e.g., avoidant thinking, minimizing the threat, denying one's vulnerability to the threat, emphasizing temporal remoteness of the problem). These proximal defenses are rational attempts to remove death-related thoughts from the conscious level and are employed when individuals become consciously aware of thoughts of death. When thoughts of death are out of conscious awareness but still highly accessible (i.e., they can be easily activated), *distal* defenses are utilized to keep death-related thoughts at bay. Distal defenses are symbolic constructions of self and reality, which identify the individual as an important member of an eternal, death-transcending reality. They include the aforementioned worldview bolstering and derogation of out-group members. Distal defenses serve an important function because implicit knowledge of the inevitability of

death is ever present and has the potential to cause a great deal of distress, even in times when death is not the focus of attention (Pyszczynski, Greenberg, & Solomon, 1999; Pyszczynski et al., 2003). Together, these features of TMT are called the dual-process model.

Empirical support for the dual-process model has been garnered through a series of related studies. For example, in Study 1, Greenberg et al. (1994) demonstrated that a subtle MS induction procedure (i.e., the typical MS induction questions; Rosenblatt et al., 1989) produced greater worldview defense (i.e., distal defenses) than did a more intense MS induction (i.e., the typical MS induction questions followed by another questionnaire asking participants to think more deeply about the emotions associated with their death). The intense MS induction was thought to have led participants to remain consciously oriented towards death-related thoughts longer than the more subtle MS induction. Thus, the intense MS induction served to keep thoughts of death closer to consciousness, thereby preventing activation of the unconscious distal defenses which only occur when death-related thoughts fade from conscious awareness. Similarly, in Studies 2 and 3, Greenberg et al. (1994) found that, if participants were forced to focus on death-related thoughts after a MS induction by searching for death-related words in a word-search puzzle (thereby keeping death-related thoughts in consciousness), then worldview defence did not occur. In the above studies, worldview defense (i.e., distal defenses) only occurred after a distraction from death-related thoughts (e.g., when the word search contained only words related to television). In Study 4, Greenberg et al. (1994) used the word-fragment completion task that was described in an earlier section of this review to measure the accessibility of death-related thoughts. The researchers measured DTA

immediately following a MS induction and after a delay and distraction. It was predicted that DTA would be higher after a distraction than immediately following the MS induction. Recall that the dual-process model hypothesizes that individuals actively suppress conscious death-related thoughts immediately following MS. However, after a distraction, death thoughts fade from conscious awareness, but are still highly accessible. In this study, two groups of participants completed the MS induction and a third (control) group completed parallel questions on watching television. Of the MS participants, one group completed the MS induction followed immediately by the word-fragment completion (DTA) task. The other MS group completed the MS induction followed by a delay and distraction (i.e., they read a mundane passage from a short story), followed by the word-fragment completion. This delay and distraction was thought to have allowed death-related thoughts to fade from focal attention. The control group also had the delay and distraction included in their procedure. The results revealed that the accessibility of death-related thoughts was low immediately following mortality salience; however, DTA was significantly higher after a delay and distraction, among participants exposed to the MS induction. That is, after a delay, participants who had been exposed to a MS induction completed significantly more of the ambiguous word-fragments (e.g., COF_ _) as death-related words (e.g., COFFIN) than did either participants who completed the word-fragment task immediately after the MS induction or control participants who responded to questions on watching television. There were no significant differences between the number of death-related words identified by the later two groups. These studies clearly demonstrate that worldview defense occurs most strongly after participants have been distracted from death-related thoughts. Although the evidence

from Study 4 does not point to a conclusive explanation for the findings, Greenberg et al. (1994) hypothesized that the low death-thought accessibility among MS participants who completed immediately the word-fragment task was due to their active suppression of death-related thoughts immediately following MS.

Building on Greenberg et al.'s (1994) studies, Arndt, Greenberg, Solomon, Pyszczynski, and Simon (1997) sought further evidence in support of the dual-process model of TMT. In Study 1, the researchers reasoned that if participants were denied the cognitive resources necessary to perform the suppression of death-related thoughts following MS, then the accessibility of death-related thoughts immediately following MS would be high (recall that Greenberg et al., 1994, found that DTA was low immediately following MS). In this study, participants were given an 11-digit number to hold in memory from the onset of the study. Some participants were allowed to recall and forget the number shortly after the MS induction (low cognitive load), whereas other participants were required to hold the number in memory for a longer period of time (high cognitive load). DTA was measured using the same method as utilized by Greenberg et al. (1994). The researchers found that, immediately following MS, participants under a low cognitive load demonstrated low DTA, whereas participants under a high cognitive load demonstrated significantly higher DTA. Study 2 was similar to Study 1, with the addition of a measure of worldview defense. Recall that in a typical TMT experiment, worldview defense occurs only after a delay (i.e., when death thoughts are no longer in conscious awareness). However, in Study 2, it was predicted that participants who were under a high cognitive load (when DTA is high) would engage in worldview defense immediately following MS. The results of the study confirmed the

researchers' predictions (i.e., high cognitive load resulted in an immediate increase in cultural worldview defense in response to MS). These results also demonstrate that it is not necessary for death thoughts to be suppressed (via an active suppression process) for worldview defense to occur. Rather, it would appear that it is only necessary for death-thought accessibility to be high (Arndt et al., 1997).

Greenberg, Arndt, Simon, Pyszczynski, and Solomon (2000) sought to provide further evidence in support of the dual-process model. The researchers gave participants the opportunity to engage in proximal defenses and distal defenses immediately following MS, or after a delay and distraction. In order to allow participants to engage in proximal defenses, the researchers led participants to believe that a certain personality trait (i.e., emotional lability) is associated with an early death. Participants were then given the Emotional Lability Inventory. On this questionnaire, participants had the opportunity to bias their responding to achieve a low score on emotional lability, thereby denying their vulnerability to an early death. In addition, the researchers allowed participants to engage in distal defenses by giving them the opportunity to defend their worldview through the derogation of a worldview violator (i.e., participants evaluated the authors of a pro-American and an anti-American essay; see Greenberg et al., 1990). In support of the predictions of the dual-process model, the researchers found that, immediately after the mortality salience induction, participants engaged in proximal defenses, but they did not demonstrate distal defenses. That is, immediately following MS, participants biased their responses to the questionnaire (i.e., lowered their score on emotional lability), thereby producing results that they believed were not associated with an early death. However, immediately following MS, participants did not engage in the

derogation of a worldview violator. In contrast, after a distraction, participants exposed to an MS induction engaged in distal defenses, but not proximal defenses (i.e., they engaged in the derogation of a worldview violator, but did not bias their questionnaire responses to deny vulnerability to an early death). Taken together, these studies on the dual-process model provide solid evidence demonstrating that the worldview-defending effects of mortality salience occur when the thoughts of death are on the periphery of consciousness (i.e., outside of focal attention), but are still highly accessible (Greenberg et al., 2000).

The Corporate Media

The next section of this review provides an overview of the corporate media system and its implications for society. The review commences with a general discussion of the state of the corporate media system and how it has led to the corruption of journalistic integrity. It then focuses on the roots and effects of sensationalism in the news media, which has a direct bearing on the degree to which the general population is exposed to information that threatens their various worldviews and, often, their overall wellbeing.

In 1983, Ben Bagdikian published a book detailing the dangers to democracy in America of corporate consolidation and mass advertising. In *The Media Monopoly*, Bagdikian warned that, through massive mergers and acquisitions, the roughly fifty corporations in control of the newspapers, magazines, television and radio stations, movie studios, and book publishers in the United States represented a monopolized media that had gained unprecedented political and social power. Few chose to heed his warnings and many critics at the time dismissed his views as alarmist. However, since 1983 the number of corporations in control of the American media has dramatically decreased even

further, largely as a result of new laws opening up the system to massive deregulation of mass communication. Today, just five companies control all of the dominant media outlets in the United States: Time Warner, Disney, Rupert Murdoch's News Corporation, Viacom, and Bertelsmann A.G. (Bagdikian, 2004). The primary motivation for the mergers and acquisitions is to enhance the potential for profit-making through *vertical integration*, or the ability to not only produce content, but also guarantee that it is displayed by owning the distribution outlets (McChesney, 2000). According to McChesney, over the last half century, this media system, which historically has been responsible for "providing the institutional basis for having an informed and participating citizenry" (p. 2), has instead served to depoliticize the populace through the perpetuation of the status quo. Moreover, McChesney notes that, through a focus on profit and an advertising-based revenue system, the media system has led to hyper-commercialism and the "denigration of journalism and public service" (p. 2), resulting in what Robert Entman (1989) first termed "democracy without citizens" (cited in McChesney, 2000, p. 2). According to McChesney, this corporate/commercial media system tends to heavily emphasize "[c]onsumerism, the market, class inequality, and individualism" (p. 110). Further, it tends to "promote a general belief that politics is unimportant and that there is little hope for organized social change" (p. 110). It is essentially a profit-driven system with little incentive for public service. As such, the implications of this system of media for a democracy and the well-being of its citizens are daunting.

In modern democratic societies, a principal function of the news media is to keep the public informed of important events and the decisions that are being made by their political representatives. By so doing, the news media help the populace understand the

world and be informed about the political decisions that affect their lives. The news media also stimulate public debate and discourse (McChesney, 1998). Theoretically, the population can then initiate change if it appears desirable. In contrast, by law, corporations are mandated to earn as much profit as possible for their shareholders. It would be illegal for them to put the interests of their employees, consumers, or even the public ahead of maximizing profit. Thus, in a corporate media system that is based on profit, advertising, commercialism, and consumerism, the business of news becomes less about the news and more about the business. The adherence to standards of journalistic integrity takes second place to the profit-driven agendas of those in control. Although a thorough discussion of the implications of corporate news media for democratic society is beyond the scope of this thesis, a few general themes should be highlighted.

The Corruption of Journalistic Integrity

The corruption of journalistic integrity is an important theme that becomes increasingly more pertinent in a highly concentrated media system, as exists today. Although the mass media collectively touts its role as defenders of truth and justice in society, a multitude of evidence exists to suggest that, in fact, much of the content that is produced is designed to advance the interests and agendas of those who control and finance it, as well as various other powerful interests (Herman & Chomsky, 2002). Without singling out any specific culprits, liberal and conservative news networks, and those that claim to produce *balanced* or *unbiased* content, have been accused of misreporting, underrepresenting, overemphasizing, and manipulating the content of news stories to further various social, political, and corporate agendas (Ansolabehere &

Iyengar, 1995; Brader, 2005; Lupia & Menning, 2009; Herman & Chomsky, 2002; McChesney, 2000).

The Propaganda Model

Herman and Chomsky (2002) describe how reporting of news fits into what they term a *propaganda model*, whereby individuals and organizations with aligning interests decide what information is reported, how the stories are presented, and what information is left out, as a means of advancing their interests. These interests do not always correspond with the public good. Herman and Chomsky present a myriad of evidence in support of their claims that the mass media are not providing people with the information they need to understand the world. Instead, they argue, the current system of profit-driven, advertising-dependent media has put profit far ahead of the public interest. In their propaganda model, Herman and Chomsky identify five major/powerful “filters” within the mass media that serve dominant private and bureaucratic interests by filtering out news that is fit to print, while neutralizing or minimizing dissent.

Size, ownership, and profit orientation. According to Herman and Chomsky (2002), the first filter is the “size, concentrated ownership, owner wealth, and profit orientation of the dominant mass-media firms” (p. 2). As discussed earlier, the dominant media outlets are part of massive corporations and they operate in a system that is driven by profit. As such, they share common interests with other major corporations. In addition, the media giants rely on governments for licenses and favourable legislation (e.g., regarding media consolidation). Thus, they have formed a relationship of mutual interdependence with government. These factors have a significant impact on the type of content that is selected for coverage in the news media, how much coverage each issue

receives, how this content is presented to the viewer. It has been argued that the initial lack of news coverage of the Occupy Wall Street movement (and the subsequent derogation of the movement) by the largest media corporations (i.e., the mainstream media) was a deliberate and concerted effort to discredit the movement and to direct attention away from the social and economic issues that the movement was intended to expose (Greenwald, 2011; Olbermann, 2011; Randall, 2011). Greenwald (2011) suggested that the mainstream media's disdain for and neglect of the Occupy Wall Street movement reflects the fact that those in control of the media are integrated into and highly dependent upon the political class (i.e., society's ruling elite) and are eager to serve those in power.

The advertising license to do business. Herman and Chomsky (2002) indicate that the second news filter results because advertising is the primary source of income for the mass media. The mass media has increasingly relied on advertising dollars to fund their operations and, have therefore, geared the content of their programming to attract audiences with purchasing power, which appeals to advertisers. Consequently, issues that are pertinent to the working-class (e.g., income inequality) are often ignored. In addition, Herman and Chomsky note that large corporate advertisers are rarely willing to sponsor programming that is critical of corporate activities (e.g., environmental concerns, the military-industrial complex). Instead, corporate advertisers seek programming that avoids disturbing controversies and interferes with the "buying mood."

Sourcing mass media news. Herman and Chomsky (2002) note that a third filter arises because the news media relies on a constant supply of inexpensive news material, whereas high quality investigative journalism is very expensive and time consuming.

This has become especially relevant given the development of 24-hour news networks. Thus, the mass media typically relies on *official sources* of public information, such as news briefs and press releases from large government bureaucracies and corporations. In addition, the “experts” that are recruited to appear on news programs are often present or former government or corporate officials. The reliance on information from such sources often results in slanted or biased viewpoints on news and serves to advance the interests of the powerful organizations that are providing the information. Corporate news media also create their own experts on various issues by giving their correspondents, who are often purveyors of the official or preferred view, a great deal of exposure, thus conferring upon them the status of “expert.”

Flak and the enforcers. According to Herman and Chomsky (2002), “flak,” which refers to “negative responses to a media statement or program” (p. 26), is the fourth media filter. Flak is often generated by powerful non-media individuals or organizations with vast resources. It may take the form of threats of lawsuits, letters, petitions, speeches or bills in legislatures, and other such complaints, threats, and negative reactions. Flak can cause harmful publicity and be very costly to media organizations (e.g., advertisers withdrawing patronage). Thus, flak is used as a means of managing or filtering public information, and it is often backed by concerted efforts to discredit individuals or organizations who disagree with the viewpoints of these powerful sources.

Anti-communism. The fifth filter identified by Herman and Chomsky (2002) is a dominant anti-communist ideology that keeps the supporters of social movements in the media on the defensive and serves to curtail critiques of the elite. This poorly defined but deeply rooted anti-communist mentality continues, despite the fall of the Soviet Union.

Ongoing conflicts and highly publicized abuses of communist states of the present (e.g., China, Cuba) and the past (e.g., the Soviet Union) are utilized as evidence in opposition to policies that can be construed as pro-communism (e.g., threats to property interests, accommodations with communist states, liberal social policies, etc.). Many political pundits in the United States media use the word “socialism” interchangeably with the word “communism.” This creates (intentionally or not) a cognitive link between these concepts in the minds of viewers to the extent that progressive social and economic policies are likened to the restrictive and oppressive policies of China, Cuba, or the former Soviet Union.

McChesney (2000) echoes many of the sentiments expressed by Herman and Chomsky (2002). As previously noted, his assessment of the current media system focuses on the oligopolistic trends that are quickly gaining momentum, in the mass media and throughout the corporate world. Such trends towards media control by a handful of firms make the perpetuation of the status quo and dominant ideologies, as well as the derogation of alternatives, much more likely. McChesney notes that even Adam Smith, whose work is often cited by supporters of limitless corporate mergers, warned that a capitalist system could not be sustained if monopolies were permitted (Smith, 1776). McChesney argues that excessive commercialism of the media system results in a loss of public interest in politics (i.e., depoliticization) and a despondent attitude towards the possibility of social change.

Manjoo (2008) conducted an analysis of the splintering of society into factions, not only with respect to opinions and political values, but also regarding indisputable and scientific facts. According to Manjoo, there is a trend towards *truthiness* in society (i.e.,

the perception that one's opinion is correct because it feels correct, rather than because it is supported by corroborating evidence). Manjoo notes that this trend has resulted in a situation in which factual realities are being debated and disagreed upon as though they are opinion. For example, a Harris survey conducted in July, 2006 revealed that half of Americans still believed that Iraq possessed weapons of mass destruction (WMD) at the time of the U.S. invasion, despite the fact that even then President Bush and Vice President Cheney had publicly acknowledged that there were no WMD in Iraq (Manjoo, 2008). Manjoo notes that society is divided on many other issues (e.g., global warming) and that these divergent opinions are often split along political lines (e.g., liberals taking one position and conservatives taking another). According to Manjoo, this has resulted in a great rift within society, whereby people vehemently disagree on issues that have actual, indisputable answers. This situation can reinforce cultural, social, and political divides. These divides perpetuate social unrest, prejudice, discrimination, and hatred for dissimilar others. Manjoo acknowledges that there is a bias within people to prefer, even selectively attend to, information that confirms their beliefs, and to dismiss or ignore competing information (Brock & Balloun, 1967; Iyengar & Morin, 2006). However, Manjoo (2008) notes that news organizations cater to and propagate these biases in their audiences, resulting in several "competing versions of reality" (p. 2). Thus, rather than debating what needs to be done to solve various social, economic, and political crises (e.g., the war in Iraq, global warming, etc.), scarce time and resources are dedicated to arguing over what is actually happening in the world.

The Business of News

Another consequence of the profit-driven news media system is the shift in focus from important public affairs content to an entertainment-based, tabloid, or sensationalistic medium. There are two primary motivations behind such a shift in news media's focus. The first motivation is profit. Many news media providers argue that consumers become upset or bored by public affairs content, which can reduce viewership and significantly impact advertising revenues (Glassner, 1999). Thus, news media organizations believe that an entertainment-based format is necessary to appease consumers and, more importantly, advertisers. This dynamic is made even more important because many corporate media giants hold major stakes in the companies that are their advertisers (McChesney, 2000). However, the notion that inevitably people find political issues uninteresting and that news organizations should cater to the demands of their viewers is based on a narrow, flawed analysis. Audiences have been brought up with a media system that has served to misinform and depoliticize them. The entertainment-based format of the news media continues to depoliticize the general public, to the extent that many of the most important social and economic issues are ignored or given only minimal attention. As a result, citizens (who are kept abreast of the latest celebrity sex scandals) are lacking the information and political sophistication to understand some of the most important issues of the day. During the 2010 G-20 Summit in Toronto, for example, much of the news coverage focused on protests, riots, and security costs, rather than on the social, political, and economic issues that were being discussed by the member nations. Moreover, the issues that many would argue should have been discussed by the nations, or even the motivations behind the legitimate protests that occurred, were

largely ignored. At the same time that consumers were shocked and entertained by the news media coverage, they were effectively distracted from the decisions that would most significantly impact their lives.

A second motivation behind the shift towards an entertainment-based news media format is the ability to pass into law the agendas of powerful elites in society, which again, are often driven by profit. In the United States, for example, Senator Al Franken has called *net neutrality* “the First Amendment issue of our time” (Franken, 2010, August 19). Net neutrality refers to the principle advocates against Internet service providers (ISPs) or governments restricting consumer access to content on the Internet. An alternative to net neutrality is a tiered system of Internet service whereby access to certain applications or content is blocked or degraded (e.g., slowed down) by ISPs. Under this system, ISPs could charge users or Internet content providers more money for preferred access to higher tiers of service (i.e., easier/faster service). It is argued that this system would reduce competition and render the Internet an uneven playing field that favours individuals or corporations with the greatest resources. Net neutrality potentially has enormous implications for society. However, very little mainstream news media coverage is currently being dedicated to this issue, even as it is being debated by the United States Congress (often behind closed doors with media industry giants). For example, little media attention was dedicated to the merger between media giants Comcast and Viacom, which has arguably set a precedent that could lead to a domino effect in mergers, resulting in four or five massive corporations controlling the Internet (potentially regulating content and ease of access). Such a scenario would certainly be detrimental to a democratic, informed society. As these already massive corporations grow more

powerful, their influence spreads far beyond the United States, into the arena of the global media. Thus, these mergers have implications for the control of the flow of information in the United States and, ultimately, throughout the world. Yet, the corporations in control of the news media today are dedicating few resources to covering these issues, presumably because such coverage could jeopardize the proposed mergers and acquisitions. Two controversial pieces of legislation regarding the regulation of the Internet were introduced to the United States Congress in 2011. The Preventing Real Online Threats to Economic Creativity and Theft of Intellectual Property Act of 2011 (PROTECT IP Act or PIPA) was introduced to the United States Senate in May 2011, and the Stop Online Piracy Act (SOPA) was introduced to the United States House of Representatives in October 2011. These bills were purportedly designed to target online piracy and websites that enable or facilitate copyright infringement. However, opponents of PIPA and SOPA argue that the provisions contained in these bills could severely restrict or jeopardize online freedom, free speech, innovation, job creation, and cybersecurity (Dimiero, 2012). Dimiero used Lexis-Nexis (an electronic database for legal and public-records related information) to search the references to SOPA or PIPA in the transcripts of evening programming produced by the major television news outlets (MSNBC, Fox News, ABC, CBS, CNN, and NBC) from October 1, 2011 to early January, 2012 (comprehensive daytime transcripts are not available on Nexis, therefore only programming offered after 5:00 PM was included in the analysis). Dimiero noted that all of these news outlets have publically declared their support for SOPA, either directly or through their parent companies (i.e., Comcast/NBCUniversal, Viacom, News Corporation, Time Warner, and Disney through Disney Publishing Worldwide). Despite

a multitude of online debate and discussion of these bills, and online activism opposing SOPA (e.g., the successful boycott of the company GoDaddy that was initiated by users of the website Reddit, which caused GoDaddy to change their position on SOPA from support to opposition of the bill), Dimiero found that most of these news outlets made absolutely no reference to the bills during their evening broadcasts. Dimiero found that CNN's *The Situation Room with Wolf Blitzer* dedicated a single segment to the issue and Fox Business Network's Andrew Napolitano expressed opposition to the bills in several segments, but this network is separate from Fox News. Although the motivations of the media giants (who support this legislation) cannot be known, the lack of coverage of these important bills by their evening news outlets has very likely resulted in less public awareness of the bills, particularly among individuals who rely on television news broadcasts as their primary source of news.

Man bites dog. Although the motives of increasing profit and advancing private agendas has resulted in the depoliticization of society and the suppression of important information, these are not the only implications of the shift in the news media to an entertainment-based format. In addition, it is often the unusual and/or sensationalistic stories that make the news. Such content is not without consequences for society. Reporting about an airplane that landed safely or a man who arrived home from work without incident might seem irrelevant or absurd to the average citizen. In contrast, when uncommon or sensationalistic news stories are reported, they are often framed in a manner that gives consumers the impression that they too are in danger of becoming a victim and/or that there is a serious problem affecting society that requires immediate action. Crime is a prime example of this approach to reporting the news. Although the

news media often report the number of homicides or other violent offences in a given city, many of the corresponding statistics are left out of the report. Rarely is it explained that one's chances of being a victim of a homicide or violent offence are drastically reduced if one resides in certain areas of the city and does not engage in illicit activities, such as the drug trade or prostitution. Instead, ambiguous and often misleading headlines such as "Winnipeg Murder Rate Soars" (Sun News, July 20, 2011) and attention-grabbing words such as "Deadmonton" (The Huffington Post Canada, August 10, 2011) are pervasive in the news media. Altheide (1997, 2002) explained that the news media invariably frame stories in ways that lead consumers to interpret them in certain ways and not others (e.g., illegal drug use might be framed as a "public health issue" or a "criminal justice issue"). Altheide notes that issues are often framed in news stories within what he terms the "problem frame." This format conveys to the consumer that there is something wrong in the world and that a solution (typically government action) is required. Moreover, the personal relevance of an issue to the viewer is often exaggerated, over-emphasized, or left ambiguous. He argues that, within this framework, news is no longer a public service, but is produced as a commodity to sell. As a result, the public have been transformed from 'citizens' to 'consumers.' Thus, the "problem frame," and the fear, concern, or anxiety that it generates, correspond directly with the entertainment-based format of the news business. It does so because it catches people's attention, which in turn increases viewership, increases profits, and increases the ability to spread dominant agendas through propaganda (Altheide, 1997, 2002, 2006; Altheide & Michalowski, 1999).

As previously mentioned, a consequence of the “problem frame” is that events in the news are often presented as threats to people’s wellbeing. Consequently, people’s fears of various problems are disproportionate to the actual threat, leading to unnecessary fear, anxiety, and panic within society. Obviously, this societal state has important implications for mental health, but it also affects how the problems that are overly feared are addressed. The predominant response is often ineffective government solutions to superficially identified problems (e.g., initiating or increasing minimum mandatory sentences for non-violent offenders). These solutions are often undertaken as a reactionary means of demonstrating action by politicians and political parties concerned with upcoming elections; however, these solutions typically fail to uncover and address the systemic issues that are at the root of the identified problems (Altheide, 1997). Crime, terrorism, and health concerns are three of the most prevalent topics covered in the news media today within the “problem frame.”

Crime. Crime is often reported in the mass media from the perspective of the “problem frame” and has certainly been sensationalized in the news media. In television news and newspapers, relatively uncommon and violent crime (e.g., homicide) is emphasized disproportionately to how often than it occurs in the community (e.g., Ditton & Duffy, 1983; Humphries; 1981; Liska & Baccaglioni, 1990; Sheley & Ashkins, 1981; Smith, 1984). Many researchers have found evidence to suggest that a relationship exists between media consumption (e.g., television news, newspapers) and fear of crime (e.g., Barzagan, 1994; Chiricos, Eschholz, & Gertz, 1997; Chiricos, Padgett, & Gertz, 2000; Eschholz, Chiricos, & Gertz, 2003; Gebotys, Roberts, & DasGupta, 1988; Gordon & Heath, 1981; Heath, 1984; Liska & Baccaglioni, 1990; Romer, Jamieson, & Aday, 2003;

Smith, 1984; Williams & Dickinson, 1993). Fisher, Allan, and Allan (2004) found that the way in which a news report was framed influenced fear of crime and state anxiety levels. Specifically, they found that when television news stories on a prison escape were framed in the standard, “problem frame” format (i.e., as a problem to be feared, proximate in time and location; see Altheide, 1997), it induced more fear in viewers than did a reassuring format (i.e., which commented on the inmate’s good behaviour in prison and innocuous motive for escape), or a remote format (i.e., which did not present the problem as proximate to the viewer in time and location). In general, research on crime has consistently revealed that people’s fear of crime is disproportionately greater than warranted by both the actual crime rate and their probability of becoming a victim of crime (Ditton & Farrall, 2000; Doob & MacDonald, 1979; Heath, 1984; Jaehnig, Weaver, & Fico, 1981; Liska & Baccaglioni, 1990; Weaver & Wakshlag, 1986; Williams & Dickinson, 1993). Overall, the relationship between media consumption and fear of crime appears to be complex, involving several variables (e.g., characteristics of the audience, the message, etc.), rather than simple main effects (see Eschholz, 1997 and Heath & Gilbert, 1996 for reviews); however, the evidence suggests that the news media’s sensationalistic approach to crime coverage is at least partially responsible for a disproportionately high fear of crime within society. In response to increased fear and anxiety related to crime, governments have relied on reactionary solutions to crime that have not significantly reduced it (e.g., increasing police budgets, building more prisons, increasing the length of prison sentences, etc.). As a result, there are fewer resources available to ameliorate systemic, underlying social issues that have been found to be

drivers of crime (e.g., poverty, unemployment, lack of education, family instability, substance abuse, etc.; for a review, see Ferguson, 2010).

Terrorism. Any consumer of news media in the years following the 9/11 attacks can attest to the fear of terrorism that spread through the Western world. The media coverage of terrorism during this time certainly aligns with the “problem frame” described by Altheide (2006). Research has revealed a link between media consumption and increased fear of terrorism (Healy, Aylward, Bourne, & Beer, 2009; Smith & Moyer-Gusé, 2006; Todd, Wilson, & Casey, 2005). Various studies have also reported symptoms of post-traumatic stress disorder and depression resulting from indirect exposure to terrorism through the media (Ahern et al., 2002; Marshall et al., 2007; Otto et al., 2007; Pollack et al., 2006). A meta-analysis by Jost, Glaser, Kruglanski, and Sulloway (2003a) revealed that exposure to situations of crisis and instability, which constitute threats to the legitimacy or stability of the established system, tend to lead to conservative, system-justification shifts to the political right. In line with Jost et al.’s (2003a) analysis, a number of recent studies have concluded that international terrorism against the West has led to increased support for the unfettered authority of government, support for extreme policies (e.g., suppression of human rights and liberties) and aggressive military action, and system-justifying ideologies (e.g., Chanley, 2002; Cohrs, Kielmann, Maes, & Moschner, 2005; Echebarria-Echabe & Fernández-Guede, 2006; Huddy, Khatib, & Capelos, 2002; Moskalenko, McCauley, & Rozin, 2006; Pyszczynski, Solomon, & Greenberg, 2003; Skitka, Bauman, Aramovich, & Morgan, 2006; Ullrich & Cohrs, 2007; White & Cohrs, 2006; Willer, 2004). It has been argued that the specific frames used by the news media to report on terrorism, once again, are connected to the

agendas of increasing profit and the control of the populace through propaganda (Altheide, 2006). Ironically, the manner in which the news media frames terrorism, which has incited widespread fear of vulnerability, aligns directly with the terrorists' primary objectives (i.e., to spread terror; Breckenridge & Zimbardo, 2007). The threat of terror continues to be ubiquitous in the news media. For example, less than 24-hours after the death of the FBI's most sought after terrorist (Osama Bin Laden) was reported by President Obama on May 2, 2011, news organizations focused their attention on supposed plans found in his compound to bomb trains in the United States, possibly on the anniversary of the September 11th attacks. Thus, even after the death of the world's most infamous terrorist, the threat of terror continued to be put before the public. Reactionary solutions to the threat of terrorism also continue to be widespread (e.g., reduced personal freedoms, invasion of privacy by governments, harsher immigration policies, proactive aggressive foreign policies, reduced social spending in favour of increased defense spending, etc.).

Health risks. Widespread fear of illness and disease can also be attributed in no small part to the "problem frame" approach to news reporting utilized by the media. In 2009, in response to the World Health Organization's (WHO) classification of the Swine Flu (H1N1) outbreak as a phase 6 influenza pandemic (the maximum alert level), the news media overflowed with suggestions about the possibility of high mortality rates, likening it to the "Spanish" influenza outbreak of 1918-1919, which caused roughly 50 million deaths worldwide (Allam, 2009). However, the classification system utilized by the WHO is based upon geographic spread of the virus, rather than on severity (WHO Global Influenza Programme, 2009). Upon their declaration of the influenza as a phase 6

pandemic, Dr. Margaret Chan, Director-General of the World Health Organization, specifically stated that, “On present evidence, the overwhelming majority of patients experience mild symptoms and make a rapid and full recovery, often in the absence of any form of medical treatment... we do not expect to see a sudden and dramatic jump in the number of severe or fatal infections” (Chan, 2009, June 11). Dr. Chan’s reassuring analysis was not widely reported in the news media.

In the empirical literature, a relationship has been identified between media consumption (i.e., how much media to which people are exposed) and various health concerns. For example, increased fear of avian flu (H5N1; Van den Bulck & Custers, 2009) and breast cancer (Lemal & Van den Bulck, 2009), have been found to be related to increased media consumption. Also, King and Hayslip (2001) found that increased exposure to death-related content in the media is associated with increased anxiety about death. It has been argued that the panic associated with various health concerns, such as SARS, anthrax, smallpox, West Nile virus, mad cow disease, and avian flu, were perpetuated largely by a media system driven by profit (Siegel, 2005). In addition to the fear and anxiety that is often associated with health related concerns reported in the news media, other problems include: shortages in vaccines required by vulnerable populations due to mass panic; negative reactions to people from the countries in which these diseases originated; and economic effects, due to bans on imports from countries associated with various diseases (Glassner, 1999; Siegel, 2005).

In a book detailing many of the fears of the American people, Glassner (1999) dismisses the notion that there is actually very little for people to fear. Instead, he asserts that politicians, advocacy groups, the news media, and other major sources of

information profit from the promulgation of fear about the wrong things. Glassner asserts that the widely touted sources of fear (i.e., crime, drugs, disease, minorities, etc.) are actually much less salient concerns than other, more pressing social issues (i.e., poverty, social and economic inequality, unemployment, etc.). However, by selectively promoting public fear through sensationalistic news stories, consumption of news media is raised, profits from advertising are increased, product sales soar (e.g., pharmaceuticals, security-related products, etc.), politicians touting solutions to these problems are elected and re-elected, and the citizenry is distracted from the systemic social issues that are the true dangers lurking in the shadows (Glassner, 1999; Siegel, 2005). McChesney (2000) notes that, even when media attention is dedicated to issues such as economic problems and corporate crime, rarely are the prevailing ideologies that were the breeding ground for such problems criticized by the news media (e.g., limited regulations on the capitalist system; McChesney, 2000).

It should be noted that the trend towards entertainment-based, sensationalistic news media has not been orchestrated entirely by individuals and organizations with sinister motives. Like any other business, the news media is driven by trends in the industry and adjustments must be made to remain competitive. In discussing the trends towards sensationalism in the news media, Keith Connors, News Director of WCNC makes an interesting point. He said, “The question is what do people need to know, what do they want to know, what do they have the right to know, and if we report this, what are the consequences...?” (Public Broadcasting Service, 2001). News directors face a difficult balancing act in deciding which stories are reported and how they are presented. Small, local news outlets must compete for viewers and advertising dollars with

corporate-owned media giants which thrive on the entertainment-based model of news and justify the resultant content with the argument that they are catering to the demands of their viewers. Thus, to be competitive in the news market, smaller local stations have had to adopt the standard practices of the industry and, subsequently, often have been guilty of the same sensationalistic and fear-inducing practices.

The Present Research

The impact of media consolidation and a corporate media system for democracy is being debated by scholars in various fields, including communication, journalism, political science, law, sociology, and psychology. The mental and physical health-related consequences of the business of news, and the sensationalistic and entertainment-based trends that are inciting fear, anxiety, panic, and paranoia in society, are being researched and understood in the context of psychology, sociology, and medicine. However, a very specific product of a sensationalistic news media is that news formats often present content as a potential threat to the culture, way of life, or even the very existence of the news media consumer. Comparatively less empirical investigation has been directed at understanding how people's opinions on social policies may be shaped and influenced by reminders of their own vulnerability and mortality. People rely heavily on the news media for their understanding of social policies and their opinions of these policies are influenced by consuming news media. Fear of mortality may have implications for how national policies are shaped. As a multitude of research on terror management theory (TMT) has demonstrated, death is a unique concept for human beings to consider and there are consequences to raising people's conscious awareness of their own mortality. The present review of the literature has demonstrated that the television news media (for

a variety of reasons) engages in sensationalistic programming which has resulted in increased fear and anxiety in society (e.g., fear for one's health and safety). The review of TMT research has clearly demonstrated that reminders of personal mortality can have an impact on people's political decisions, as well as their opinions on various social policies. TMT research has also demonstrated that graphic visual imagery or reminders of 9/11 can lead to these shifts in opinions in people. Given these factors, it is crucial to understand how important social policies may be influenced by mortality salience and whose opinions might be most susceptible to the effects of mortality salience.

Right-Wing Authoritarianism

Right-wing authoritarianism (RWA) is a set of attitudinal and behavioural characteristics that has been associated with higher levels of prejudicial and discriminatory attitudes, as well as a willingness to submit to and support government authorities advocating activities consistent with such attitudes. According to Altemeyer (1981, 1988, 1996, 1998, 2004, 2006), the three characteristics that define right-wing authoritarianism are authoritarian submission, authoritarian aggression, and conventionalism. That is, right-wing authoritarians are more likely to submit to an established authority in their lives (e.g., their government), to carry out aggression in the name of that authority against those who violate social norms, and to be highly conventional, strictly adhering to the established norms and traditions of society. RWA can be measured by the Right-Wing Authoritarianism Scale (RWA Scale; see Altemeyer, 2006, for the most recent version). On the RWA Scale, participants rate their agreement or disagreement with statements that correspond to authoritarian submission, authoritarian aggression, and conventionalism, using a 9-point scale. Higher levels of

RWA have been associated with prejudicial attitudes against racial and ethnic minorities, women, and homosexuals (Altemeyer, 1981, 1988, 2002, 2006). However, prejudicial attitudes against homosexuals may be decreasing somewhat due largely to a decrease in religiosity in the general population and the dispelling of various myths about homosexuals (Altemeyer 2002, 2006). RWA attitudes are also associated with the desire to see violators of societal norms harshly punished (e.g., longer sentences for criminals, imposition of the death penalty, etc.; Altemeyer, 2006).

Altemeyer (1981, 1988, 1996) describes numerous studies that demonstrate a positive association between scores on the RWA Scale and authoritarian submission, aggression, and conventionalism (i.e., authoritarian behaviour). With respect to authoritarian submission, Altemeyer (1981) reported significantly greater acceptance of illegal and/or unethical acts by government officials among high RWAs than among low RWAs. These acts included illegal wiretaps, illegal searches, denial of the right to assemble, and the use of agents provocateurs (i.e., a person, often employed by the government, used to incite incriminating actions among suspected individuals making them liable to punishment). Altemeyer (1988) reported a study in which participants were asked to react to a (bogus) letter to the editor in which the author attacked the Canadian Charter of Rights and Freedoms and argued for its repeal. Participants were then asked to rate the sensibility of the letter. Scores on the RWA Scale correlated at .45 with agreement that the Charter of Rights and Freedoms should be abolished, showing that high RWAs agreed more strongly with the bogus letter. Altemeyer (1996) described a study in which participants watched a clip from Milgram's (1965) film "Obedience." In this film, an "Experimenter" (the authority) orders a "Teacher" to deliver increasingly

stronger electric shocks to a “Learner” (against his will) when he makes errors on a memory test. Participants in Altemeyer’s experiment were asked to rate the degree to which each person in the film was responsible for the Learner receiving the shocks against his will. Altemeyer found that high RWAs were less likely than low RWAs to attribute responsibility for what occurred to the Experimenter (the authority). Instead, high RWAs were more likely than low RWAs to blame the Learner (the unwilling recipient).

Regarding authoritarian aggression, Altemeyer (1981) reported a study in which participants were asked to predict the length of prison sentences imposed on criminals based on hypothetical crimes. Altemeyer reported correlations from .40 to .50 between RWA Scale scores and length of sentences. That is, high RWAs tended to predict longer sentences for criminals, implying that they thought longer sentences were justified. High RWAs also judged the crimes to be more serious than did low RWAs and were more likely than low RWAs to feel that punishment would improve the behaviour of the criminals. Altemeyer (1996) described several studies in which positive correlations were found between RWA Scale scores and prejudicial beliefs or support for prejudicial actions. Altemeyer (1988, 1996) reported correlations of .30 and .48 with a scale measuring ethnocentric attitudes (i.e., judging another culture by the values and standards of one’s own culture). Altemeyer measured ethnocentrism using his own Manitoba Ethnocentrism Scale (e.g., “Arabs are too emotional, and they don’t fit in well in our country”). Altemeyer (1988, 1996) also reported correlations of .50 to .60 with a scale measuring hostility towards homosexuals (Altemeyer’s Attitudes Toward Homosexuals Scale; e.g., “I won’t associate with known homosexuals if I can help it”). Finally,

Altemeyer (1996) reported negative correlations of $-.26$ to $-.51$ between RWA Scale scores and statements condemning gay-bashing (e.g., “Gay-bashers are far more despicable and disgusting than gays are”). Other researchers (Walker & Quinsey, 1991) found a correlation of $.43$ between RWA Scale scores and self-reported sexual assault against women, indicating higher levels of aggression towards women among high RWAs.

Regarding conventionalism, Altemeyer (1996) reported positive correlations between RWA Scale scores and Christian orthodoxy (correlations of $.50$ with statements upholding conventional Christian beliefs; Revised Christian Orthodoxy Scale; e.g., “Jesus miraculously changed real water into real wine”). Altemeyer (1996) also reported positive correlations between RWA Scale scores and adherence to traditional sex roles among both women and men (correlations of $.59$ and $.60$, respectively, as assessed by the Spence & Helmreich’s [1978] Attitudes Towards Women Scale; e.g., “Women should worry less about their rights and more about becoming good wives and mothers”).

Altemeyer (1996) credits the model of authoritarianism first proposed by Adorno, Frenkel-Brunswik, Levinson, and Sanford (1950) in the book *The Authoritarian Personality* as the inspiration for his theory of RWA. In an effort to develop a scale to measure social prejudice, Adorno et al. devised a scale which, in addition to measuring prejudice, was also found to be a measure of “anti-democratic tendencies” (Altemeyer, 1981; Adorno et al., 1950). Adorno et al.’s Fascism Scale (F Scale) identified nine traits or personality dimensions, including:

- a. *Conventionalism*. Rigid adherence to conventional, middle class values.

- b. *Authoritarian submission*. Submissive, uncritical attitude towards idealized moral authorities of the ingroup.
- c. *Authoritarian aggression*. Tendency to be on the lookout for, and to condemn, reject, and punish people who violate conventional values.
- d. *Anti-intraception*. Opposition to the subjective, the imaginative, the tender-minded.
- e. *Superstition and stereotypy*. The belief in mystical determinants of the individual's fate; the disposition to think in rigid categories.
- f. *Power and "toughness."* Preoccupation with the dominance-submission, strong-weak, leader-follower dimension; identification with power figures; overemphasis upon the conventionalized attributes of the ego; exaggerated assertion of strength and toughness.
- g. *Destructiveness and cynicism*. Generalized hostility, vilification of the human.
- h. *Projectivity*. The disposition to believe that wild and dangerous things go on in the world; the projection outwards of unconscious emotional impulses.
- i. *Sex*. Exaggerated concern with sexual "goings-on." (p. 228)

Although the two models initially appear to have some common elements, Altemeyer is quick to assert that his theory of RWA is fundamentally distinct. Altemeyer identified several criticisms of what he refers to as the "Berkeley theory" (the original theory of authoritarianism was developed by Adorno et al. at the University of California, Berkeley). First, Altemeyer contends that the three clusters of traits that make up the RWA Scale (i.e., authoritarian submission, authoritarian aggression, and conventionalism) are the only three trait names that he adopted from the F Scale.

Altemeyer notes that components of the F Scale such as “superstition,” “cynicism,” or “exaggerated concerns with sexual ‘goings-on,’” have not been supported by research on authoritarianism. Second, although the three clusters on the RWA Scale share names with clusters on the F Scale, Altemeyer contends that the underlying constructs are different and that various clusters on the F Scale are only vaguely defined and/or not supported by research findings. For example, Altemeyer indicates that, while conventionalism is defined in *The Authoritarian Personality* as “rigid adherence to conventional, middle-class values” (Adorno et al., 1950; p. 228), his research points to higher rates of RWA in the “working class” (i.e., individuals with lower economic resources than individuals in the middle class; Altemeyer, 1981, 1996). Third, Altemeyer (1981) explained that the average inter-item correlation of the F Scale has been found to be approximately .13, which he contends is very weak considering the F Scale authors’ claims regarding the scale’s unidimensionality. Altemeyer (1996) argues that, although several of the clusters that make up the F Scale correlate with his model of RWA, the correlations are not strong enough for them to be considered part of his definition of RWA.

Altemeyer (1981, 1996, 2006) also distinguishes his theory of authoritarianism from the Berkeley theory in terms of the hypothesized origins and development of authoritarianism in individuals. According to Adorno et al. (1950), excessively harsh and punitive parenting in response to rebelliousness in children results in anger and hostility towards parents. Subsequently, these feelings are projected onto safer targets than the parents, such as groups of people who were disliked by the parents or weaker members of society who are unable to defend themselves. Simultaneously, feelings of resentment and hostility towards the parents are repressed. Indeed, just the opposite occurs. Parents and

authority figures in the individual's life are revered, resulting in a person with authoritarian characteristics. Although theoretically plausible, Altemeyer (1996, 2006) contends that this theory lacks empirical support. Alternatively, he explains the origins of authoritarianism using a model that he argues has undergone more scientific scrutiny. Although some research suggests that there may be a genetic component to authoritarianism (Altemeyer, 2006; Scarr, 1981), Altemeyer contends that life experiences, particularly those that occur during adolescence, play a crucial role in the development of right-wing authoritarianism (Altemeyer, 1981, 1988, 1996, 2006). Consistent with Bandura's (1973, 1977) social learning theory, Altemeyer explains that, during childhood, experiences in one's family environment, peer relations, community, and education can all contribute to the development of authoritarian tendencies. Altemeyer argues that these authoritarian tendencies and values are shaped by the influential figures in people's lives. Individuals with RWA tendencies have likely been rewarded for engaging in behaviours that are consistent with RWA attitudes and values. In addition, they have likely been punished severely for disobedience. According to Altemeyer (1981, 2006), higher levels of right-wing authoritarianism tend to develop in individuals following: (a) instilment of a strong sense of obedience to, and respect for, authorities (e.g., parents, police, governments); (b) discouragement from criticizing authorities; (c) development of a general fearfulness of the world (as a dangerous place); and (d) development of the belief that protection from the dangers of the world will come from authorities. Altemeyer (1988, 1996, 2006) asserts that, although typically young children may be somewhat authoritarian (particularly in their obedience to authority figures and their conventional attitudes), right-wing authoritarianism, as operationally

defined by his RWA Scale, likely does not organize and crystalize until adolescence. Altemeyer (1988) argues that adolescence is a time in which societal forces (cultural influences, media, education, etc.) converge to prepare children for adulthood. In addition, it is not until this period in people's lives that they possess the cognitive capacity to truly comprehend adult issues and form organized opinions and attitudes about them. Altemeyer (1988) does, however, suggest that "the adolescent's development will be more a continuation of earlier learnings [e.g., submission to authority, conventionalism, and aggression] than a radical departure" (p. 58).

In a review of Altemeyer's (1988) book *Enemies of Freedom: Understanding Right-Wing Authoritarianism*, Dion (1990) raised several points about Altemeyer's theory on the development of RWA in individuals. Dion cites Altemeyer's mentor, M. Brewster Smith, who indicated that Altemeyer's use of Bandura's social learning theory (Bandura, 1973, 1977) to explain the developmental origins of RWA was done out of convenience. That is, social learning theory provides a convenient framework to explain the development of RWA attitudes because the theory's flexible principles can be widely applied. Dion added that Altemeyer derives few predictions specifically tied to social learning theory, making this developmental explanation difficult to refute. Dion (1990) also notes that social learning and psychoanalytic explanations of the roots of authoritarianism do not constitute the only potential explanations, although he does not specify any other possibilities. In a response to Dion's review, Altemeyer (1990) concedes that his theory on the development of authoritarianism (i.e., conforming to Bandura's social learning theory) does provide a convenient framework for his developmental explanation, and he notes that alternative explanations are certainly

possible. However, Altemeyer implicitly challenges the scientific community to derive a better explanation for his findings.

Despite Dion's (1990) criticism, Altemeyer has conducted several studies which provide support for the development of RWA via social learning. For instance, in a longitudinal study of liberal arts (excluding psychology) majors, commerce majors, and nursing students, Altemeyer (1988) found that RWA dropped about 11% over the course of a four-year university degree. The drop in scores was much more substantial for students who were high RWAs as freshman than for students who were low RWAs as freshman. Interestingly, in a sample taken approximately 12 years after the initial RWA scores were collected, former students who did not have children had RWA scores 9% lower than they did during their freshman years. The RWA scores of former students who had children 12 years later were significantly lower than the scores obtained during their freshman year, but had bounced back somewhat from the initial post-four-year university degree drop (i.e., their RWA scores were only about 5% lower than their freshman university scores). The finding that RWA is amenable to change provides some evidence in support of the notion that RWA is an attitudinal orientation (shaped via social learning processes), rather than a personality trait formed early in childhood, which may be more rigid or difficult to change. Also in support of the social learning explanation, Altemeyer (1988) found that, compared to low RWA students, high RWA students reported significantly more direct teaching by their parents to fear "dangerous people" (e.g., kidnappers, drug addicts, homosexuals, atheists, etc.) and to believe that society ought to control these people through tough discipline and punishment. These findings were confirmed by the responses of the students' parents. High RWA parents reported that

they tried to teach their child that these groups of people are dangerous. Altemeyer noted that, in general, authoritarian students and their parents are more fearful of the world, viewing it as a dangerous place (e.g., greater fears of terrorist attacks, vehicle accidents, and contracting AIDS through blood transfusions, food preparation, and drinking fountains). Altemeyer's research suggests that individuals who were taught as children that the world is a dangerous place tend to be more authoritarian later in life.

Subsequent research has demonstrated that not only are right-wing authoritarians more fearful of the world in adolescence and early adulthood, they continue to believe that the world is a dangerous place throughout adulthood and they possess a heightened perceived need for security (Duckitt, Wagner, de Plessis, & Birum, 2002; Duriez & van Hiel, 2002). Based on the findings of Altemeyer and others, right-wing authoritarians appear to have developed a distinct worldview built upon strict adherence to the values and standards of the dominant group in society and loyalty to the leaders of that group. This worldview is an important source of personal security for them. From these premises, terror management theory would predict that reminders of personal mortality would lead right-wing authoritarians to more strongly endorse their fundamental beliefs and values as a means of bolstering support for their worldview. Thus, after being reminded of their mortality, right-wing authoritarians should demonstrate an increased level of support for social policies that are consistent with the core authoritarian attitudes (i.e., authoritarian aggression, authoritarian submission, and conventionalism).

Attachment Security

Recent research has suggested that, in some cases, attachment security may be an influential factor in shaping political preferences after mortality salience (Weise et al.,

2008). Weise et al. based their reasoning on Lakoff's (2002) work, *Moral Politics*, in which he argues that a liberal political orientation is derived from a parenting style emphasizing empathy, nurturance, and growth. In contrast, according to Lakoff, a conservative political orientation is derived from an upbringing emphasizing the difficulty and dangerousness of the world, accompanied by an emphasis on tradition, hierarchy, opposition to evil, and the supremacy of one's worldview (Lakoff, 2002; Weise et al., 2008). According to Weise et al., attachment security corresponds highly with Lakoff's ideas about upbringing and political preferences. Consistent with Lakoff's description of political liberals, Weise et al. contend that individuals high in attachment security are most likely to have had caring and nurturing relationships. Thus, they are more likely to have representations of social reality that include high levels of security and nurturance. In contrast, as with Lakoff's description of political conservatives, Weise et al. argue that individuals low in attachment security are most likely to have had "untrustworthy relationships that deemphasized love and care, and...should be associated with more absolutist, authoritarian [and conservative] representations of social reality" (Weise et al., 2008, p. 450). Consistent with these predictions, research has demonstrated that insecurely attached children tend to be more fearful and demonstrate greater dislike for unfamiliar situations and people into adulthood (Mikulincer, Gillath, & Shaver, 2002; Mikulincer & Shaver, 2001). Recall that Weise et al. found that, after mortality salience, regardless of their political orientation, individuals scoring high in attachment security supported liberal John Kerry and individuals scoring low in attachment security supported conservative George W. Bush. The researchers explain this finding by suggesting that people conform more strongly to their internalized models of

relationships in response to mortality salience. These internalized models tend to be associated with conservative attitudes in individuals scoring low in attachment security and with liberal attitudes in individuals scoring high in attachment security. As conservative social policies, in general, tend to be more consistent with authoritarian beliefs, it is possible that shifts in support for authoritarian social policies may be influenced by attachment security, with individuals scoring low in attachment security increasing their support for authoritarian social policies after MS and individuals scoring high in attachment security decreasing their support for authoritarian social policies after MS.

Experiment 1

The purpose of Experiment 1 was to determine whether mortality salience can influence the strength of Canadian university students' support for various social policies that are relevant to Canada and consistent with the attitudes of authoritarian aggression, authoritarian submission, and/or conventionalism. For example, despite same-sex marriage being legalized in Canada in 2005, one year later the Conservative Party of Canada put forth a motion in Parliament to restore the "traditional definition" of the word "marriage" (MPs defeat bid, 2006, December 7). Such authoritarian policies arguably serve to further marginalize disadvantaged members of society and, thus, are important from a social justice perspective (Altemeyer, 2002, 2006; Rappaport, Swift, & Hess, 1984). Further, Experiment 1 was designed to determine whether RWA would predict shifts in opinions on authoritarian social policies following MS. In addition, research on right-wing authoritarianism has identified an association between RWA and political orientation (Altemeyer, 1981, 2006; Crowson, Thoma, & Hestevold, 2005). In general,

individuals high in RWA tend to have a conservative political orientation and individuals low in RWA tend to have liberal political orientation. Therefore, Experiment 1 was also designed to determine whether political orientation would influence shifts in support for authoritarian social policies following mortality salience. As indicated above, Weise et al. (2008) found that attachment security also may contribute to shifts in political opinions. Therefore, to explore the possibility that attachment security may influence shifts in authoritarian social policies, attachment security was also measured. If attachment security and RWA are both influential factors in strengthening opinions on social policies, it was anticipated that attachment security would be negatively correlated with RWA, both before and after MS. However, it is also possible that attachment security is the sole predictor of shifts in opinion following mortality salience. Although this scenario was not anticipated, if it is indeed the case, attachment security, not RWA, would predict shifts in opinion of authoritarian social policies following MS.

Finally, the Big Five personality traits (Extraversion, Agreeableness, Conscientiousness, Emotional Stability, and Openness to Experience; see Costa, Jr. & McCrae, 1992; Goldberg, 1993) were measured to explore if any of these variables were associated with shifts in social policy opinions following MS. However, no specific predictions regarding the nature or direction of any such shifts were made because personality was included as an exploratory variable. A complete list of hypotheses for Experiment 1 is presented in the next section of this thesis.

Several studies have examined the relationship between authoritarianism and the effects of mortality salience. For example, previous research has demonstrated that level of authoritarianism is associated with evaluations of dissimilar individuals following

mortality salience. For example, recall Greenberg, Simon, et al.'s (1992) finding that, following mortality salience, dislike of a politically dissimilar individual increased among conservative participants and decreased among liberal participants. Participants in that study also completed a measure of authoritarianism (F Scale; Ray, 1972) and it was found that authoritarianism was significantly higher among conservative participants than liberal participants. Further, Weise, Arciszewski, Verlhiac, Pyszczynski, and Greenberg (2012) measured participants' level of right-wing authoritarianism using the RWA Scale (Altemeyer, 1988; Altemeyer & Hunsberger, 1992) and examined the relationship between RWA and evaluations of immigrants. Weise et al. (2012) found that MS led to more negative evaluations of an immigrant among individuals high in RWA and more positive evaluations of an immigrant among individuals low in RWA.

Previous studies have also found that support for various social policies is influenced by mortality salience (e.g., Castano, Leidner, Bonacossa, Nikkah, Perrulli, & Spencer, 2011; Pyszczynski et al., 2006). For example, Castano et al. (2011) examined the effect of mortality salience on support for conservative social policies among liberal participants. The researchers presented liberal university students with either 15 questions about death (mortality salience condition) or 15 questions about TV (control condition). Next, participants indicated their degree of support (on a 7-point scale) for eight conservative policies which had been used by Jost, Fitzsimons, and Kay (2004) to measure support for conservative policies (e.g., stricter sentencing for drug offenders, tighter immigration restrictions). Castano et al. (2011) found that liberal participants in the MS condition demonstrated less support for conservative policies than did liberal

participants in the control condition. The researchers concluded that mortality salience resulted in reduced support for conservative social policies among liberals.

There are several ways in which the present study built upon and advanced the findings of Castano et al. (2011). First, the present experiment specifically examined right-wing authoritarianism in participants and the degree to which this trait influences differential support for authoritarian social policies. Castano et al. did not examine RWA in the study described above. Second, the present study employed a larger sample size than Castano et al., which added statistical power. Third, whereas Castano et al. (Study 2) only examined support for conservative social policies among liberal participants, the present study examined the influence of mortality salience on both liberal and conservative participants' support for authoritarian social policies. Fourth, Canadian social policies were examined in the present study, increasing the relevance of the findings for Canada.

The Social Policy Opinion Questionnaire (SPOQ; Appendix A), utilized to assess support for authoritarian social policies in Experiment 1, was designed by the researcher with two primary criteria in mind. First, the issues addressed by the questions had to be relevant to the Canadian political climate at the time of the study. That is, the issues had to be demonstrably important to Canadians. Notwithstanding this criterion, it is acknowledged that the process by which the SPOQ was developed (described below) may not have captured the most relevant and important issues facing all Canadian citizens at the time of the study. No such claim is made here. The second criterion guiding development of the SPOQ was that each policy question had to relate to at least

one of the three dimensions of right-wing authoritarianism (i.e., authoritarian aggression, authoritarian submission, and conventionalism).

To satisfy the relevancy requirement, issues that were identified as being important to the 2011 Canadian Federal Election were selected. This was accomplished by examining the issues that Canadians were asked about in the Vote Compass Survey (van der Linden, 2011), which was an online political opinion survey designed to give Canadians a sense of which political party most closely shared their opinions on various issues. The ten issues included in the survey were (in no particular order) defense, the economy, the environment, government programs, immigration and multiculturalism, law and order, moral values, parliamentary reform, Quebec, and taxes. These issues were identified by the Vote Compass research team (led by political scientists at the University of Toronto) by examining the most common issues being discussed by the Canadian media in the time leading up to the 2011 Federal Election. In creating the SPOQ, the issue of parliamentary reform was omitted because it is not clear what would be an authoritarian social policy concerning this issue. Although some of the issues were addressed in the SPOQ by asking the identical questions posed by the Vote Compass survey (e.g., sentencing of violent young offenders as adults), other questions in the SPOQ were modified versions of the Vote Compass Survey questions or were developed completely anew to reflect an authoritarian position on an issue (e.g., support for the death penalty). Social policies were considered authoritarian if in some way they (a) promoted aggressive or punitive solutions to problems, (b) supported government actions that arguably violated citizens' rights, or (c) upheld traditions, norms, or customs of mainstream society at the expense of the rights of minorities. In addition, to guard against

a response bias, the questions on the SPOQ were written so that, in some cases, agreeing with a statement would indicate support for an authoritarian social policy, whereas in other cases disagreeing with a statement would indicate support for an authoritarian social policy.

Hypotheses for Experiment 1

There were six hypotheses for this experiment. The first two hypotheses followed the reasoning that: (a) authoritarian beliefs are fundamental to the worldview of individuals scoring high on the RWA Scale, thus support for policies that stem from these beliefs should be strengthened following MS; and (b) authoritarian beliefs are antithetical to the worldview of individuals scoring low on the RWA Scale, thus support for policies that stem from authoritarian beliefs should decrease following MS. Consistent with this logic, the following two hypotheses were advanced for Experiment 1:

Hypothesis 1.1

Among individuals high in authoritarianism, those receiving the MS induction (experimental group) will demonstrate greater support for the authoritarian social policies than those receiving the dental pain induction (control group).

Hypothesis 1.2

Among individuals low in authoritarianism, those receiving the MS induction will demonstrate lower support for the authoritarian social policies than those receiving the dental pain induction.

No hypotheses were made for individuals moderate in authoritarianism because it is unclear the extent to which authoritarian beliefs would be agreeable or disagreeable to

such individuals. Therefore, the direction of any differences between the MS and DS conditions would be difficult to predict.

As previously noted, the attitudes of conservatives, in general, tend to be more authoritarian than the attitudes of liberals (Altemeyer, 1981, 2006; Crowson et al., 2005). Also recall that the social policies included in the SPOQ were based largely on the Vote Compass survey (van der Linden, 2011), which had asked representatives from Canada's political parties to submit their answers to each question. Based on the criteria for creating questions allowing for authoritarian responses, the Conservative Party of Canada's responses to the questions posed in the Vote Compass Survey appeared to demonstrate more support for authoritarian social policies than did the other political parties of Canada, which all self-identify as having more liberal party platforms. That is, in general, the Conservative Party more strongly endorsed policies that appeared to align with one or more of the three dimensions of right-wing authoritarianism (i.e., authoritarian aggression, authoritarian submission, and conventionalism). Therefore, it appeared plausible that self-identified political orientation would predict shifts in support for the authoritarian social policies following mortality salience, as has been demonstrated in previous studies (e.g., Castano et al., 2011; Pyszczynski et al., 2006). This raised the possibility of two more hypotheses for Experiment 1:

Hypothesis 1.3

Among individuals who self-identify as conservative, those receiving the MS induction will demonstrate greater support for authoritarian social policies than those receiving the dental pain induction.

Hypothesis 1.4

Among individuals who self-identify as liberal, those receiving the MS induction will demonstrate lower support for authoritarian social policies than those receiving the dental pain induction.

No hypotheses were made for individuals who self-identify as having a moderate political orientation, for the same reason that no hypotheses were made regarding participants moderate in authoritarianism.

Finally, recall Weise et al.'s (2008) finding that individuals low in attachment security demonstrated conservative attitudinal shifts following MS and individuals high in attachment security demonstrated liberal attitudinal shifts following MS. This raised the possibility of two more hypotheses for Experiment 1:

Hypothesis 1.5

Among individuals low in attachment security, those receiving the MS induction will demonstrate greater support for authoritarian social policies (i.e., will demonstrate a conservative shift in attitude) than those receiving the dental pain induction.

Hypothesis 1.6

Among individuals high in attachment security, those receiving the MS induction will demonstrate lower support for the authoritarian social policies (i.e., will demonstrate a liberal shift in attitude) than those receiving the dental pain induction.

In line with Weise et al.'s (2008) procedure for defining level of attachment security, this variable was operationalized by using a median split on the measure of attachment security (described below). Therefore, unlike RWA and political orientation, no moderate attachment security groups were formed.

Method for Experiment 1

Ethics Approval

Ethics approval for Experiment 1 was obtained following an application to the Psychology/Sociology Research Ethics Board at the University of Manitoba. The application required a description of the purpose and procedures of the experiment, copies of any written and oral communications made to participants, information on how personal information would be handled, a description of any participant deception, a description of how any negative impact on participants would be ameliorated, and a description of how participants would be debriefed following the experiment.

Participants

Four hundred and sixty-four introductory psychology students at the University of Manitoba were recruited to participate in Experiment 1. All participants were recruited through the Department of Psychology's online Subject Pool. Introductory psychology students utilize the Subject Pool website to read recruitment notices for psychological studies and to enroll in them in exchange for partial course credit. The recruitment notice for Experiment 1 is presented in Appendix B.

As the social policy opinion questions in this experiment concerned Canadian issues, all participants were required to be Canadian citizens or permanent residents. Data from 10 participants were excluded from the analysis because they did not meet the citizenship or permanent resident requirement, leaving 454 participants.

With respect to social-demographic characteristics, participants in Experiment 1 included 231 males and 223 females. The mean age was 19.5 years ($SD = 2.3$). The self-reported ethnicity and religion of participants in Experiment 1 are presented in Table 1.

Table 1

Ethnicity and Religion of Participants in Experiment 1

Ethnicity	<i>N</i>	% of Sample	Religion	<i>N</i>	% of Sample
White/European	308	68.1	Christian	227	50.0
Filipino	32	7.0	Jewish	7	1.5
South Asian (e.g., Indian)	18	4.0	Muslim	6	1.3
Métis	18	4.0	Hindu	5	1.1
Black	13	2.9	Buddhist	4	0.9
Chinese	9	2.0	Other	39	8.6
Korean	7	1.5	None	165	36.3
South East Asian (e.g., Vietnamese)	6	1.3	Did not respond	1	0.2
Latin American	5	1.1			
Aboriginal	5	1.1			
Arab/West Asian (e.g., Iranian)	4	0.9			
Japanese	3	0.7			
Other	26	5.7			

With respect to political orientation, 103 individuals indicated a conservative political orientation, 238 indicated a moderate political orientation, 108 indicated a liberal political orientation, and 5 individuals did not respond to this item.

Materials

The Social Desirability Scale (SDS; Crowne & Marlowe, 1960) was utilized as a filler questionnaire in Experiment 1 (i.e., to obscure the purpose of the study). This scale was utilized for the same purpose in a recent study examining MS and political preferences (Kosloff et al., 2010). The Social Desirability Scale is one of the most commonly used measures of socially desirable responding (i.e., attempting to depict oneself as similar to the norms and standards of one's society and community). The measure contains 33 true-false statements. Example items include: "Before voting I thoroughly investigate the qualifications of all the candidates" and "I never hesitate to go out of my way to help someone in trouble." Participants respond by indicating either "True" or "False" to each statement.

The most recent version of the Right-Wing Authoritarianism (RWA) Scale (Altemeyer, 2006) was utilized to measure participants' level of right-wing authoritarianism. The RWA Scale is a 22-item questionnaire. Example items include: "Women should have to promise to obey their husbands when they get married" and "Our country desperately needs a mighty leader who will do what has to be done to destroy the radical new ways and sinfulness that are ruining us." Participants respond to the items using a 9-point scale ranging from "Very strongly disagree with the statement" to "Very strongly agree with the statement." The range of possible scores on the RWA Scale is from 20 to 180, with higher scores indicating higher RWA. The version of the

RWA scale used in the present study has a coefficient alpha greater than .90, indicating strong internal reliability (Altemeyer, 2006). Previous research has demonstrated the scale to be a valid and reliable measure of RWA (Altemeyer, 1981, 1988, 1996, 2006).

The Ten Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann Jr., 2003) was utilized as an exploratory screening measure to identify whether any of the Big Five personality traits (i.e., extroversion, agreeableness, conscientiousness, emotional stability, and openness to experience) were associated with shifts in authoritarian opinions following MS. Example items include: “I see myself as extroverted, enthusiastic” and “I see myself as disorganized, careless.” Participants respond to the items using a 7-point scale ranging from “Disagree strongly” to “Agree strongly.” The range of possible scores on each of the five personality traits measured on the TIPI is from 2 to 14, with higher scores on a trait indicating a greater presence of that trait. Although the TIPI is a very brief measure, it has demonstrated adequate psychometrics concerning each of the criteria against which it was evaluated by Gosling et al. (2003): convergent validity, discriminant validity, and test-retest reliability.

Griffin and Bartholomew’s (1994) 30-item Relationship Scales Questionnaire (RSQ) was utilized to measure level of attachment security. On the RSQ, participants rate the extent to which each statement best describes their characteristic style in close relationships. Example items include: “I find it easy to get emotionally close to others” and “I prefer not to depend on others.” Participants respond to the items using a 5-point scale ranging from “Not at all like me” to “Very much like me.” The RSQ yields scores on four subscales: secure, fearful, preoccupied, and dismissing. Five statements contribute to the secure and dismissing attachment subscales and four statements

contribute to the fearful and preoccupied attachment subscales. Following Weise et al.'s (2008) procedure, scores on the secure subscale were utilized to provide a measure of attachment security. The range of possible scores on the secure subscale is from 5 to 25, with higher scores indicating higher attachment security. Research on the RSQ has found it to be a valid and reliable measure of attachment styles (e.g., Kurdek, 2002).

The Participant Information Questionnaire (PIQ; Appendix C) was developed by the researcher for this study to measure basic social-demographic characteristics, political orientation, and strength of religious beliefs. The measure of political orientation consisted of a single item asking: "How would you describe your political orientation?" Participants responded on a 9-point scale ranging from "Strongly conservative" to "Strongly liberal." Lower scores on this measure are associated with a conservative political orientation and higher scores are associated with a liberal political orientation. An identical measure of political orientation as the one used within the PIQ has reliably predicted differential responses to MS inductions by liberal and conservative participants in several studies (e.g., Kosloff, et al., 2010; Pyszczynski et al., 2006). Further, self-assessment measures which require individuals to place themselves on a single-item bipolar liberal-conservative scale have been found to have a relatively high degree of accuracy and consistency (Conover & Feldman, 1981; Evans, Heath, & Lalljee, 1996; Feldman, 2003; Kerlinger, 1984; Knight, 1999; Noelle-Neumann, 1998) and are able to reliably predict the voting intentions, values, opinions, and beliefs of respondents (Jost, 2006). The measure of strength of religious beliefs on the PIQ included a single item asking: "How religious are you?" Participants responded on a 9-point scale ranging from

“Very religious” to “Very non-religious.” Lower scores on this measure indicate stronger religious beliefs and higher scores indicate weaker religious beliefs.

The mortality salience induction (experimental condition; MS) included two questions that were developed by Greenberg et al. (1992) to arouse thoughts of mortality in participants: “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.” These questions have been used to induce mortality salience in many TMT experiments. The dental pain salience induction (control condition; DS) included parallel questions about an aversive experience not related to death (i.e., experiencing dental pain): “Please briefly describe the emotions that the thought of dental pain arouses in you” and “Jot down, as specifically as you can, what you think will happen to you as you experience dental pain and once you have physically experienced dental pain.” The parallel questions on experiencing dental pain have been used as a control condition in a number of TMT experiments (e.g., Greenberg, Martens, Jonas, Eisenstadt, Pyszczynski, & Sheldon, 2003). An aversive experience not related to death was utilized as the control condition, rather than a neutral experience (e.g., watching television), to ensure that any differences between the experimental and control conditions were not simply due to the effect of exposure to aversive thoughts in the experimental condition and neutral thoughts in the control condition.

Research has demonstrated that the worldview-bolstering effects of MS are most pronounced after a short delay and distraction from thoughts of mortality (Pyszczynski et al., 1999). Therefore, the Positive and Negative Affect Schedule - Expanded Form

(PANAS-X; Watson & Clark, 1994) was utilized as a delay and distraction, and also to confirm that there were no significant post-manipulation affective differences between the MS and DS groups. The PANAS-X is a 60-item scale that includes two higher-order affective scales (Positive Affect and Negative Affect) and 11 specific affective scales (Fear, Sadness, Guilt, Hostility, Shyness, Fatigue, Surprise, Joviality, Self-Assurance, Attentiveness, and Serenity). Example items include: “cheerful,” “relaxed,” “upset,” and “confident.” Participants indicate the degree to which they have experienced each feeling or emotion over the past few weeks by responding to a 5-point scale ranging from “Very slightly or not at all” to “Extremely.” A higher score on any given scale indicates a stronger endorsement of having experienced that particular affective state at any time during the past two weeks. Research on the PANAS-X has found the scale to be a reliable and valid measure of affect (see Watson & Clark, 1994; Watson, Clark, & Tellegen, 1988).

A word search puzzle, obtained from the Terror Management Theory website (Cox & Arndt, 2006), was also utilized to add to the delay and distraction. The word search puzzle was designed to avoid the use of any words that are associated with the topic of death. Death-related words could potentially arouse mortality salience in control participants or keep death-related thoughts in the focal attention of mortality salience participants (recall that the effects of MS occur when thoughts of death are highly accessible, but have faded out of focal attention; see Pyszczynski et al., 1999).

The Social Policy Opinion Questionnaire (previously described; Appendix A) was utilized as a measure of opinions on authoritarian social policies related to Canada. The SPOQ contains 19 items. Participants were asked to indicate the degree to which they

agree or disagree with each item on a 9-point scale ranging from “Very strongly disagree” to “Very strongly agree.” Example items include: “Canada should repeal the laws allowing same-sex couples to get married” and “Canada should spend much less money on the military.” Higher scores on the SPOQ indicate greater support for authoritarian social policies and lower scores indicate lesser support for such policies. An analysis of the reliability of the SPOQ (and range of possible scores) is presented in the results section for Experiment 1 (described below).

The order of the questionnaires was consistent for all participants, rather than counterbalanced, for several reasons: (a) to maintain consistency with previous TMT research; (b) to ensure that the filler questionnaire (i.e., the SDS) was presented first for all participants; and (c) to ensure that certain items (e.g., the MS manipulation, the SPOQ) were administered after baseline scores on the various other scales were obtained.

Procedure

Participants were tested in groups of up to 25 individuals. Each participant completed the experiment at a large desk with ample space between participants to ensure confidentiality. Upon entering the experiment, participants completed an informed consent form and then a single questionnaire package containing all of the measures utilized in the experiment. Participants were asked to complete the questionnaire package in order and not to read ahead or move forward until each page had been completed. The order of the measures in the questionnaire package was as follows: the Social Desirability Scale, the Right-Wing Authoritarianism Scale, the Ten Item Personality Inventory, the Relationship Scales Questionnaire, the Participant Information Questionnaire, the mortality salience or dental pain salience induction, the PANAS-X, the word search

puzzle, and the Social Policy Opinion Questionnaire. Participants were randomly assigned to receive either the MS or DS induction. Random assignment was accomplished by randomly distributing questionnaire packages containing either the MS or the DS induction among the seats in the experimental room and allowing participants to select their own seat. Participants were unaware that there were different conditions in the experiment (MS or DS) until the debriefing phase. The experimenter was blind to the condition in which each participant was involved. Following the completion of the questionnaire package, participants sealed their questionnaire in an envelope, returned it to the experimenter, and were debriefed about the nature and purpose of the study. Debriefing was accomplished by having participants read a written description of the experiment prior to leaving the experimental room (see Appendix D).

Results for Experiment 1

Missing Data

Missing data was handled differently, depending on the measure. As the SDS was used as a filler scale, missing data were not addressed. Missing items on the RWA Scale were scored at the midpoint of the scale (as recommended by Altemeyer, 2006). Missing items from the RSQ, the SPOQ, and the PANAS-X were addressed by using the participant's average item score on the scale in place of the missing item. Prior to the data analysis, it was decided that any of the above measures would not be included if more than 10% of the items were missing on any particular measure. Two participants did not complete enough items on the RSQ to satisfy this requirement. Therefore, the data from these participants were not included in the analyses involving the RSQ. There was no missing data on the TIPI. Five participants did not respond to the political orientation

measure on the PIQ. Therefore, data from these participants were not included in any analyses involving political orientation.

Reliability of the SPOQ

As the SPOQ was a new measure, its internal consistency was assessed. Cronbach's α was calculated with all 19 items of the SPOQ initially entered into the analysis. Items were systematically removed until an acceptable Cronbach's α was obtained. The analysis revealed that by removing items 1, 10, and 18 from the SPOQ, Cronbach's α was 0.67. Items 1, 10, and 18 are related to the rights that are afforded to the Aboriginal peoples of Canada, Canadian language requirements, and the province of Quebec, respectively. Each of these topics have long aroused highly polarized views among Canadians and these views do not necessarily correspond predictably to political orientation, RWA, or attachment security. Therefore, a composite score on the SPOQ was computed by adding together the scores on the remaining 16 items of the scale. The range of possible scores on the 16-item SPOQ is from 16 to 144.

Descriptive Statistics

Descriptive statistics for the measures used in Experiment 1 are presented in Table 2.

Correlations Between Independent and Dependent Variables

As an exploratory analysis, Pearson correlations were calculated between each of the independent variables in Experiment 1 and composite scores on the primary dependent variable, the Social Policy Opinion Questionnaire (SPOQ). These correlations are presented in Table 3.

Table 2

Means and Standard Deviations for the Measures used in Experiment 1 by Experimental Condition

Measure	MS		DS	
	Mean	Std. Dev.	Mean	Std. Dev.
RWA Scale	71.91	25.9	69.73	23.8
TIPI Extroversion	9.46	2.9	9.24	2.9
TIPI Agreeableness	9.41	2.1	9.53	2.0
TIPI Conscientiousness	10.18	2.4	10.28	2.3
TIPI Emotional Stability	9.39	2.6	9.28	2.6
TIPI Openness to Experience	10.89	2.3	10.87	2.1
RSQ Attachment Security	16.63	3.0	16.78	3.1
PIQ Strength of Religious Beliefs	5.26	2.5	5.47	2.6
PIQ Political Orientation	4.77	1.8	5.31	1.8
SPOQ	73.43	15.5	72.46	13.2

Table 3

Correlations Between the Independent Variables and SPOQ

Independent Variable	SPOQ
	<i>R</i>
RWA Scale	.64**
Political Orientation	-.49**
Strength of Religious Beliefs	-.30**
Openness to Experience	-.15**
Conscientiousness	.10*
Emotional Stability	.06
Extroversion	.03
Agreeableness	-.03
Attachment Security	.07

* $p < .05$ ** $p < .01$

This analysis revealed a significant positive correlation between RWA Scale score and the SPOQ, indicating that higher right-wing authoritarianism was associated with greater support for authoritarian social policies. A significant negative correlation was found between political orientation and the SPOQ (note that lower scores on the political orientation measure corresponded with conservatism and higher scores corresponded with liberalism). Thus, a more conservative political orientation was associated with stronger support for authoritarian social policies and a more liberal political orientation was associated with weaker support for authoritarian social policies. A significant negative correlation was also found between strength of religious beliefs and the SPOQ (note that lower scores on the strength of religious beliefs measure corresponded with stronger religious beliefs and higher scores corresponded with weaker religious beliefs). In other words, stronger religious beliefs were associated with greater support for authoritarian social policies and weaker religious beliefs were associated with less support for authoritarian social policies. Openness to Experience was negatively correlated with the SPOQ, indicating that openness to new experiences was inversely related to support for authoritarian social policies. Finally, Conscientiousness was positively correlated with the SPOQ, indicating that higher conscientiousness was associated with lower support for authoritarian social policies. The correlations between the SPOQ and attachment security, Emotional Stability, Extroversion, and Agreeableness were not significant. Thus, degree of support for authoritarian social policies was not associated with differences regarding these variables.

A comprehensive table showing correlations among all of the variables in Experiment 1 is presented, for consideration, in Appendix E.

Regression Analysis

A stepwise linear regression was conducted to determine which of the independent variables were significant predictors of support for authoritarian social policies (as measured by the SPOQ). All of the independent variables ($n = 9$) were entered into the regression. The results revealed that only right-wing authoritarianism and political orientation were significant predictors of support for authoritarian social policies ($R^2 = .46$, $F = 148.55$, $p < .001$). Together, they accounted for 46% of the variance in support for authoritarian social policies. Inclusion of any additional variables did not significantly contribute to the statistical model. Therefore, only RWA and political orientation warranted further evaluation as independent variables predicting changes in SPOQ. Attachment security neither significantly correlated with scores on the SPOQ nor accounted for a significant amount of the variance on the regression analysis. However, specific predictions were made regarding attachment security and support for authoritarian social policies (i.e., Hypotheses 1.5 and 1.6). Therefore, these hypotheses were tested specifically for the sake of completeness.

Gender

A 2 (experimental condition [MS vs. DS]) by 2 (gender [male vs. female]) by 4 (RWA group [Low vs. Moderate-Low vs. Moderate-High vs. High]) by 3 (political orientation [liberal vs. moderate vs. conservative]) by 2 (attachment security group [Low AS vs. High AS]) analysis of variance, with SPOQ score as the dependent variable, was conducted to determine whether or not data for males and female participants should be examined separately. Neither the main effect of gender, nor any of the interactions

between gender and the other independent variables, reached statistical significance. Therefore, gender was not examined further as a variable of interest in Experiment 1.

Affect

A manipulation check was undertaken to ensure that the post-manipulation affect of participants receiving the MS induction did not differ significantly from the post-manipulation affect of those receiving the DS induction. If differences in affect were observed between MS and DS groups, then it would be unclear whether any further differences between these groups are due to the effects of mortality salience or to differences in affect between these groups. A series of independent samples t-tests was conducted on the 13 subscales of the PANAS-X. None of the comparisons reached significance. Thus, the mortality salience induction procedure did not appear to lead to any affective differences between the MS and DS groups.

Right-Wing Authoritarianism by RWA Group and Experimental Condition

The scores obtained on the RWA Scale were divided into quartiles to identify four groups representing different levels of right-wing authoritarianism in Experiment 1 participants. This procedure has been used consistently in the research literature to identify individuals at different levels of RWA (Altemeyer, 1981, 1988, 1996, 2006). From lowest to highest level of right-wing authoritarianism, the groups were labeled Low RWAs, Moderate-Low RWAs, Moderate-High RWAs, and High RWAs. Scores on the RWA Scale and the Social Policy Opinion Questionnaire by RWA group (Low RWA, Moderate-Low RWA, Moderate-High RWA, High RWA) and experimental condition (mortality salience or dental pain salience) are presented in Table 4 (recall that the RWA Scale was administered pre-manipulation and the SPOQ was administered post-

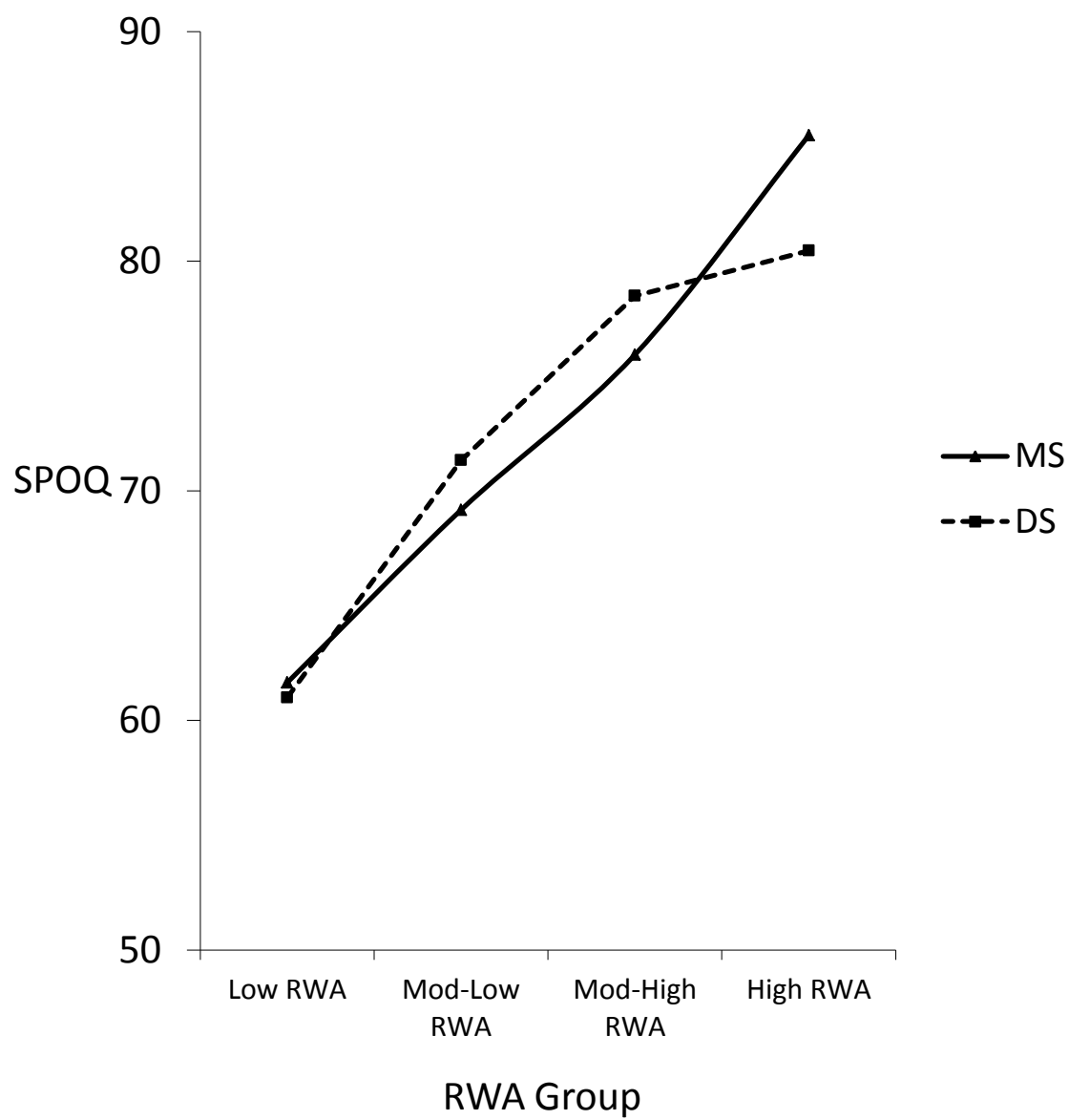
manipulation). These data are represented graphically in Figure 1. A 2 (experimental condition [MS vs. DS]) by 4 (RWA group [Low vs. Moderate-Low vs. Moderate-High vs. High]) analysis of variance, with RWA Scale score as the dependent variable, was conducted to ensure that pre-manipulation scores on the RWA Scale did not differ significantly between experimental conditions (MS vs. DS), within the various RWA groups. The main effect of condition and the interaction effect of condition by RWA group were not significant, indicating as anticipated that, within the four RWA groups, the random assignment of participants to the MS and DS conditions did not lead to significantly differences regarding RWA. The main effect of RWA group was significant ($F = 922.32, p < .001$), indicating as anticipated that there were significant differences in right-wing authoritarianism between the RWA groups. A series of independent samples t-tests confirmed that each RWA group was significantly different from each other RWA group in the expected direction.

Table 4

Right-Wing Authoritarianism (RWA) Scale and Social Policy Opinion Questionnaire (SPOQ) Means and Standard Deviations by RWA Group and Experimental Condition

RWA Group	Condition	N	RWA Scale		SPOQ	
			Mean	Std. Dev.	Mean	Std. Dev.
Low RWA	MS	57	39.89	9.5	61.65	13.7
	DS	59	40.63	8.6	61.00	12.4
Moderate-Low RWA	MS	53	62.02	4.9	69.17	12.4
	DS	60	61.87	5.0	71.33	12.5
Moderate-High RWA	MS	55	78.89	5.3	75.93	12.4
	DS	57	79.26	4.9	78.49	9.1
High RWA	MS	63	103.10	16.3	85.48	12.4
	DS	50	102.66	12.0	80.46	8.2

Figure 1. Social Policy Opinion Questionnaire (SPOQ) mean scores by RWA group and experimental condition.



SPOQ Scores by RWA Group and Experimental Condition (Hypothesis 1.1 and 1.2)

Hypotheses 1.1 and 1.2 were evaluated using independent samples t-tests (see Table 5). Note that throughout this thesis, a p-value of .025 (reduced from .05) was used to signify statistical significance on all t-tests. This procedure was undertaken to reduce the probability of Type I error (i.e., incorrect rejection of the null hypothesis), which is increased by multiple statistical comparisons.

With regard to Hypothesis 1.1, among High RWAs, support for authoritarian social policies was significantly higher after mortality salience than it was after dental pain salience. That is, MS appears to have led to a significant increase in support for authoritarian social policies among High RWAs, relative to the control (DS) condition (see Table 5 and Figure 1).

With regard to Hypothesis 1.2, among Low RWAs, there was no significant difference in support for authoritarian social policies between the MS and DS conditions. That is, MS did not have a significant effect on support for authoritarian social policies among Low RWAs, relative to the control (DS) condition.

As anticipated, there were no significant differences in support for authoritarian social policies between individuals in the MS and DS conditions among Moderate-Low RWAs or Moderate-High RWAs.

Table 5

Independent Samples T-Tests Comparing SPOQ Scores by RWA Group and Experimental Condition

RWA Group	Condition	SPOQ	<i>t</i>	<i>df</i>
Low RWA	MS	61.65	.27	114
	DS	61.00		
Moderate-Low RWA	MS	69.17	-.92	111
	DS	71.33		
Moderate-High RWA	MS	75.93	-1.25	110
	DS	78.49		
High RWA	MS	85.48	2.58*	108
	DS	80.46		

* $p < .025$

Right-Wing Authoritarianism by Political Orientation and Experimental Condition

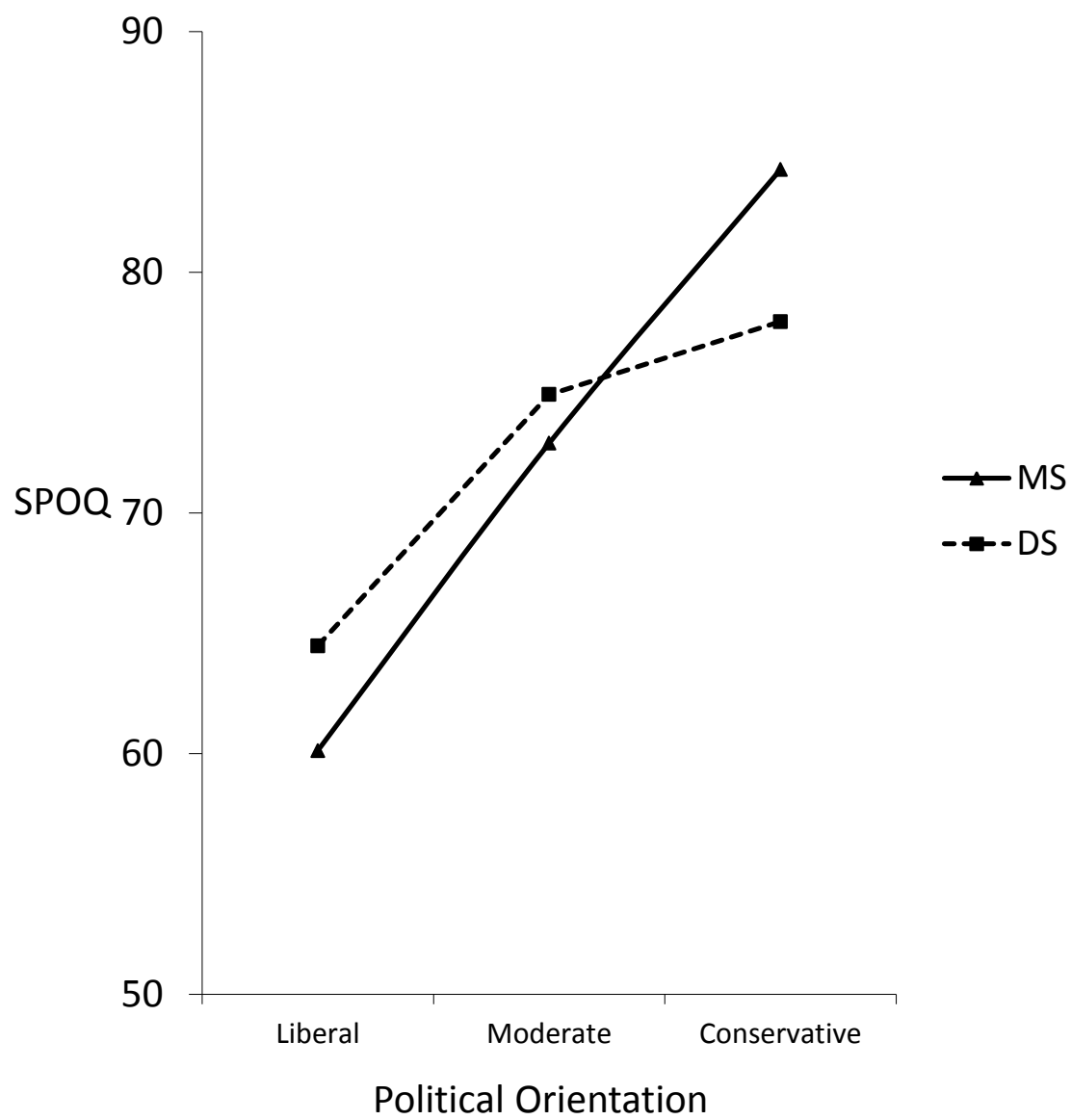
Following previous research, scores of 1, 2, and 3 on the measure of political orientation on the PIQ were used to identify conservative participants, scores of 4, 5, or 6 were used to identify moderate participants, and scores of 7, 8, and 9 were used to identify liberal participants (e.g., Kosloff, et al., 2010; Pyszczynski et al., 2006). Scores on the RWA Scale and the SPOQ by political orientation (conservative, moderate, or liberal) and experimental condition (mortality salience or dental pain salience) are presented in Table 6 (recall that the RWA Scale was administered pre-manipulation and the SPOQ was administered post-manipulation). These data are represented graphically in Figure 2.

Table 6

Right-Wing Authoritarianism (RWA) Scale and Social Policy Opinion Questionnaire (SPOQ) Means and Standard Deviations by Political Orientation and Experimental Condition

Political Orientation	Condition	N	RWA Scale		SPOQ	
			Mean	Std. Dev.	Mean	Std. Dev.
Liberal	MS	45	54.40	18.3	60.13	14.8
	DS	63	55.69	19.8	64.48	15.1
Moderate	MS	118	72.30	22.5	72.90	11.4
	DS	120	73.22	22.5	74.92	10.5
Conservative	MS	63	84.29	29.4	84.27	15.1
	DS	40	81.48	23.9	77.95	11.5

Figure 2. Social Policy Opinion Questionnaire (SPOQ) mean scores by political orientation and experimental condition.



A 2 (experimental condition [MS vs. DS]) by 3 (political orientation [conservative vs. moderate vs. liberal]) analysis of variance, with RWA Scale score as the dependent variable, was conducted to ensure that pre-manipulation scores on the RWA Scale did not differ significantly between experimental conditions (MS vs. DS), within the various political orientation groups. The main effect of condition and the interaction effect of condition by political orientation were not significant, indicating as anticipated that, within the three political orientation groups, the random assignment of participants to the MS and DS conditions did not lead to significantly different scores between these groups on the RWA Scale. The main effect of political orientation was significant ($F = 37.62, p < .001$), indicating as anticipated that there were significant differences in scores on the RWA Scale between the political orientation groups. A series of independent samples t-tests confirmed that each political orientation group was significantly different from every other political orientation group in the expected direction. The Pearson correlation between right-wing authoritarianism and political orientation was $-.40 (p < .01)$, indicating a relatively strong association (also see Appendix E). That is, a conservative political orientation was associated with a higher level of right-wing authoritarianism and a liberal political orientation was associated with a lower level of right-wing authoritarianism. Thus, it is unsurprising that level of RWA was significantly different between each of the political orientation groups.

SPOQ Scores by Political Orientation and Experimental Condition (Hypothesis 1.3 and 1.4)

Hypotheses 1.3 and 1.4 were evaluated using independent samples t-tests (see Table 7).

Table 7

Independent Samples T-Tests Comparing SPOQ Scores by Political Orientation and Experimental Condition

Political Orientation	Condition	SPOQ	<i>t</i>	<i>df</i>
Liberal	MS	60.13	-1.49	106
	DS	64.48		
Moderate	MS	72.90	-1.42	236
	DS	74.92		
Conservative	MS	84.27	2.27*	101
	DS	77.95		

* $p < .025$

With regard to Hypothesis 1.3, among conservatives, support for authoritarian social policies was significantly higher after mortality salience than it was after dental pain salience. That is, MS appears to have led to a significant increase in support for authoritarian social policies among conservatives, relative to the control (DS) condition (see Table 7 and Figure 2).

With regard to Hypothesis 1.4, among liberals, although individuals in the MS condition demonstrated somewhat lower support for authoritarian social policies than did individuals in the DS condition, this difference did not reach statistical significance. That is, MS did not have a significant effect on support for authoritarian social policies among liberals, relative to the control (DS) condition.

As expected, no significant differences in support for authoritarian social policies were found between individuals in the MS and DS conditions among political moderates. Thus, MS did not appear to influence support for authoritarian social policies among political moderates.

Right-Wing Authoritarianism by Attachment Security and Experimental Condition

Following previous research, the scores obtained on the security subscale of the Relationship Scales Questionnaire were split at the median to identify two groups representing different levels of attachment security (see Weise et al., 2008). The groups were labeled High Attachment Security (High AS) and Low Attachment Security (Low AS). Scores on the RWA Scale and the SPOQ by attachment security group (High AS vs. Low AS) and experimental condition (mortality salience vs. dental pain salience) are presented in Table 8 (recall that the RWA Scale was administered pre-manipulation and

the SPOQ was administered post-manipulation). These data are represented graphically in Figure 3.

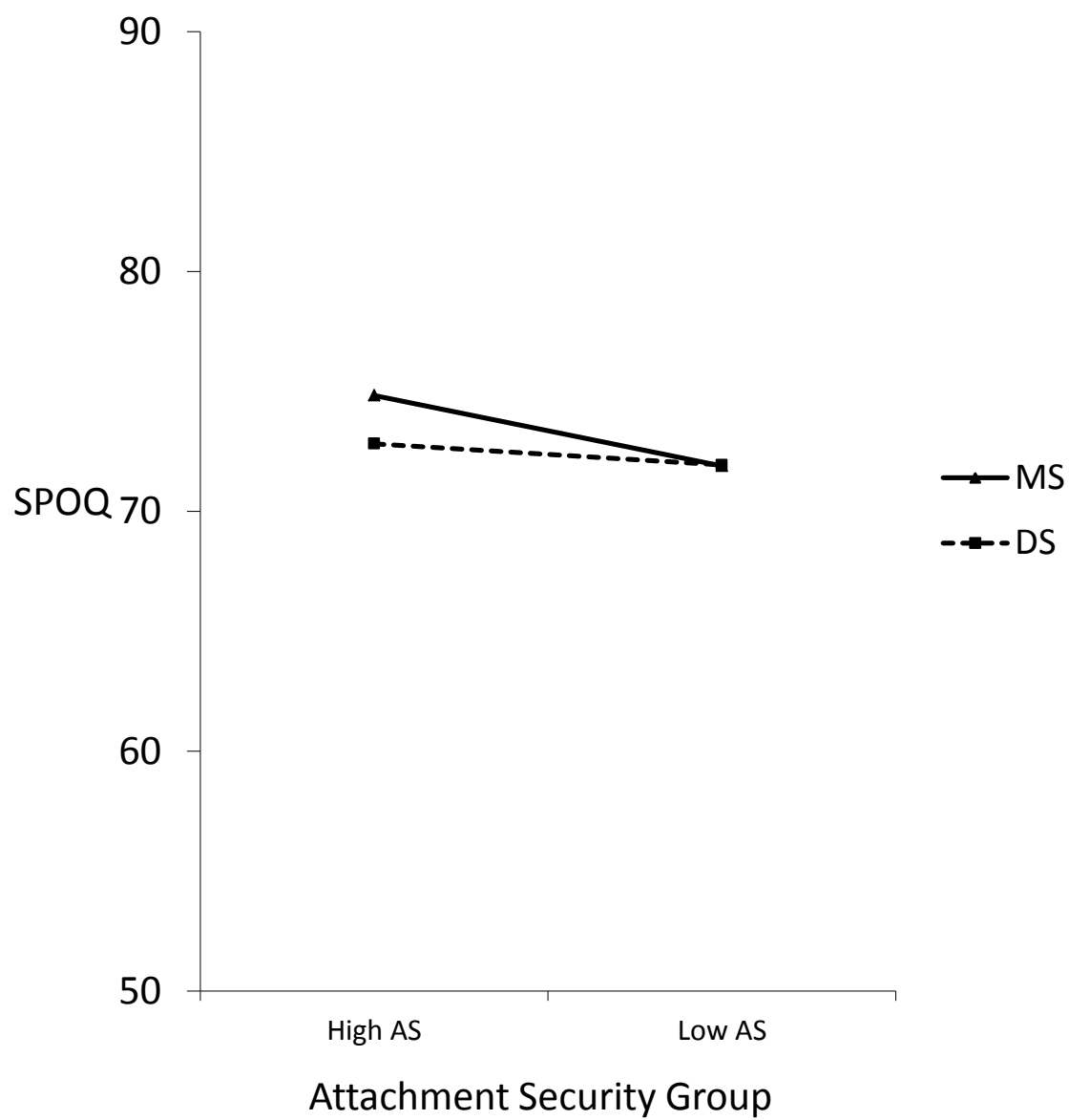
A 2 (experimental condition [MS vs. DS]) by 2 (Attachment Security group [High AS vs. Low AS]) analysis of variance, with RWA Scale score as the dependent variable, was conducted to ensure that pre-manipulation scores on the RWA Scale did not differ significantly between experimental conditions (MS vs. DS), within the Attachment Security groups. The main effect of condition and the interaction effect of condition by RWA group were not significant, indicating as anticipated that, within the two Attachment Security groups, the random assignment of participants to the MS and DS conditions did not lead to significant differences regarding RWA. The main effect of Attachment Security group was also not significant, indicating as anticipated that there were no significant differences in RWA between the Attachment Security groups. The Pearson correlation between RWA and attachment security was not statistically significant (see Appendix E), indicating that RWA and attachment security were not associated with each other. Therefore, it is not surprising that level of RWA did not differ between Attachment Security groups.

Table 8

Right-Wing Authoritarianism (RWA) Scale and Social Policy Opinion Questionnaire (SPOQ) Means and Standard Deviations by Attachment Security (AS) Group and Experimental Condition

Attachment Security (AS) Group	Condition	N	RWA Scale		SPOQ	
			Mean	Std. Dev.	Mean	Std. Dev.
High AS	MS	119	73.14	25.5	74.83	15.3
	DS	117	68.56	23.2	72.82	12.7
Low AS	MS	109	70.56	26.4	71.89	15.7
	DS	107	70.74	24.7	71.93	13.8

Figure 3. Social Policy Opinion Questionnaire (SPOQ) mean scores by attachment security (AS) group and experimental condition.



SPOQ Scores by Attachment Security and Experimental Condition (Hypothesis 1.5 and 1.6)

Hypotheses 1.5 and 1.6 were evaluated using independent samples t-tests (see Table 9). With regard to Hypothesis 1.5, among individuals low in attachment security (Low AS), there were no significant differences in support for authoritarian social policies between the MS and DS conditions. That is, MS did not have a significant effect on support for authoritarian social policies among individuals low in attachment security, relative to the control (DS) condition. Thus, Hypothesis 1.5 was not supported.

With regard to Hypothesis 1.6, among individuals high in attachment security (High AS), there were no significant differences in support for authoritarian social policies between the MS and DS conditions. That is, MS did not have a significant effect on support for authoritarian social policies among individuals high in attachment security, relative to the control (DS) condition. Thus, Hypothesis 1.6 was also not supported.

Table 9

*Independent Samples T-Tests Comparing SPOQ Scores by Attachment Security (AS)**Group and Experimental Condition*

Attachment Security (AS) Group	Condition	SPOQ	<i>t</i>	<i>df</i>
High AS	MS	74.83	1.10	234
	DS	72.82		
Low AS	MS	71.89	-.02	214
	DS	71.93		

Note. None of the comparisons in Table 9 were significant.

SPOQ Scores by RWA Group, Political Orientation, and Experimental Condition

As shown above, both higher right-wing authoritarianism and more conservative political orientation were positively associated with greater support for authoritarian social policies (see Table 3 and the regression analysis for Experiment 1). In addition, there was a negative correlation between higher right-wing authoritarianism and more liberal political orientation was ($r = -.40, p < .01$; see Appendix E). The statistical examination of the interaction between RWA group (four levels), political orientation (three levels), and experimental condition (two levels) was not planned for Experiment 1, as obtaining the sample size necessary to create 24 groups, each large enough to ensure adequate statistical power, was not feasible. However, from the data that was obtained in Experiment 1, it was possible to form such groups and to visually examine patterns in the data, although some of the groups contained a relatively small number of participants (see Table 10). As attachment security was neither correlated with support for authoritarian social policies nor correlated with RWA or political orientation (see Appendix E), it was not included in this examination.

Table 10

Right-Wing Authoritarianism (RWA) Scale and Social Policy Opinion Questionnaire (SPOQ) Means and Standard Deviations by RWA Group, Political Orientation, and Experimental Condition

RWA Group	Political Orientation	Condition	N	RWA Scale		SPOQ		
				Mean	Std. Dev.	Mean	Std. Dev.	
Low RWA	Conservative	MS	9	43.78	10.6	72.44	14.3	
		DS	5	45.00	7.3	67.40	8.2	
	Moderate	MS	24	37.46	7.6	62.88	10.8	
		DS	21	40.43	8.8	66.19	13.6	
	Liberal	MS	23	40.70	10.8	56.57	14.1	
		DS	31	40.58	8.8	56.45	10.5	
	Moderate-Low RWA	Conservative	MS	14	63.21	5.3	77.79	12.4
			DS	9	64.22	4.0	72.78	11.4
Moderate		MS	26	62.73	5.0	69.15	9.6	
		DS	32	61.12	5.1	72.34	9.4	
Liberal		MS	12	59.17	3.4	58.92	11.0	
		DS	19	62.00	5.2	68.95	17.2	

Table 10 (continued)

RWA Group	Political Orientation	Condition	N	RWA Scale		SPOQ		
				Mean	Std. Dev.	Mean	Std. Dev.	
Moderate-High RWA	Conservative	MS	16	82.00	5.2	84.19	11.3	
		DS	12	80.08	6.3	80.17	8.6	
	Moderate	MS	31	77.94	4.9	74.58	9.7	
		DS	38	78.95	4.5	78.47	8.9	
	Liberal	MS	8	76.38	4.4	64.63	14.4	
		DS	6	79.00	5.1	74.33	11.9	
	High RWA	Conservative	MS	24	113.29	21.6	92.54	14.8
			DS	14	106.79	15.5	83.14	11.8
Moderate		MS	37	96.89	6.7	80.62	7.9	
		DS	29	102.83	10.4	79.41	6.0	
Liberal		MS	2	95.50	9.2	90.50	10.6	
		DS	7	93.71	5.5	79.43	7.9	

Among High RWA conservatives, those in the mortality salience condition appeared to demonstrate higher SPOQ scores than those in the dental pain salience condition ($M_s = 92.54$ and 83.14 , respectively). That is, among High RWA conservatives, it appears that mortality salience resulted in greater support for authoritarian social policies compared to the control (DS) condition. Given that mortality salience resulted in greater support for authoritarian social policies among both High RWAs and conservatives when these groups were examined separately, this finding follows logically for a group created by combining these variables. Interestingly, conservative participants across all RWA levels demonstrated greater support for authoritarian social policies in the MS condition than did conservative participants in the DS condition. Even among Low RWAs, conservatives in the MS condition scored higher on the SPOQ than conservatives in the DS condition ($M_s = 72.44$ and 67.40 , respectively). However, the sample sizes in these groups were quite small (9 and 5 participants, respectively). Therefore, these results must be interpreted with caution. Overall, the data presented in Table 10 suggest that (a) conservatism and right-wing authoritarianism appear to be additive in their effects, (b) High RWA conservatives evidence the strongest support of any group for authoritarian social policies, and (c) conservatives appeared to demonstrate increased support for authoritarian social policies following mortality salience (even at moderate levels of RWA).

With respect to liberal participants in the Moderate-Low and Moderate-High RWA groups, the data appears to follow the trend of lower SPOQ scores among liberals in the mortality salience condition compared to those in the dental pain salience condition ($M_s = 58.92$ vs. 68.95 and 64.63 vs. 74.33 , respectively). That is, among moderate RWA

liberals, it appears that mortality salience resulted in lower support for authoritarian social policies compared to the control (DS) condition. Among High RWAs, liberal participants receiving the mortality salience induction demonstrated higher scores than liberal participants receiving the dental pain salience induction. However, the sample of High RWA liberals in the MS condition only included two participants; thus no conclusions can be drawn with such a small sample size. Low RWA liberal participants in both conditions demonstrated nearly identical scores on the SPOQ ($M_s = 56.75$ and 56.45 , respectively), indicating either no effect of mortality salience on liberals' support for authoritarian social policies at this level of RWA or, alternatively, a floor effect of scores on the SPOQ. The latter scenario of a floor effect may be more likely, given that liberals in both the Moderate-Low and Moderate-High RWA groups both trended towards lower support for authoritarian social policies following the mortality salience induction, as compared to the dental pain salience induction. From these findings, it might be anticipated that this trend of lower support for authoritarian social policies among liberals in the MS condition should continue as their right-wing authoritarianism decreases. Overall, the data presented in Table 10 suggests that (a) liberalism and right-wing authoritarianism appear to be inversely related and counter-balancing in their effects, (b) Low RWA liberals evidence the weakest support of any group for authoritarian social policies, and (c) liberals appear to demonstrate lower support for authoritarian social policies following mortality salience (even at moderate levels of RWA).

In sum, the statistical analyses for Experiment 1 revealed no effect of mortality salience on support for authoritarian social policies among participants at moderate levels

of right-wing authoritarianism or political orientation when these variables were examined separately. However, the data presented in Table 10 suggests that, when right-wing authoritarianism and political orientation are considered together, it may be possible to predict the effect of mortality salience on support for authoritarian social policies among moderate RWAs and/or political moderates. That is, among moderate RWAs, conservatives appeared to demonstrate increased support for authoritarian social policies and liberals appeared to demonstrate decreased support for authoritarian social policies following mortality salience. This information may be of interest to future investigators interested in the effects of mortality salience on political opinions.

Experiment 1 Discussion

Across the four levels of right-wing authoritarianism examined in this experiment, the only significant difference between the mortality salience and control (DS) conditions regarding support for authoritarian social policies occurred among High RWAs. Although the difference between SPOQ scores among High RWAs in the MS vs. DS conditions was relatively small (5.02 points), this difference represents a 6.24% increase in support for authoritarian social policies following MS (as compared to the DS control condition). In addition, among the four RWA groups, the difference between the lowest and the highest mean scores on the SPOQ was 24.48 points. Thus, a difference of 5.02 points represents 20.5% of the total range of mean scores across all groups. Further, the final version of the SPOQ used in Experiment 1 contained 16 items. The midpoint of the 9-point response scale on the SPOQ is 5. Thus, an individual scoring at the exact midpoint of the SPOQ would receive a total score of 80. Regardless of the condition in which they participated (i.e., MS or DS), Low RWAs, Moderate-Low RWAs, and

Moderate-High RWAs averaged scores on the SPOQ below the midpoint of the scale. Scores below the midpoint of the SPOQ are indicative of an overall, general opposition to the authoritarian social policies that were examined, with lower scores indicating greater opposition. The average score of High RWAs participating in the control (DS) condition was almost precisely at the midpoint of the scale ($M = 80.46$). Thus, the only participants with a mean SPOQ score indicating support for the authoritarian social policies were the High RWAs, who received the MS induction ($M = 85.48$). That is, among High RWAs, the MS induction appears to have tipped the balance from a moderate position regarding the authoritarian social policies that were examined toward support for the authoritarian social policies.

A similar pattern of results was obtained across the three levels of political orientation. The only significant difference between the mortality salience and control (DS) conditions occurred among conservative participants. The significant increase of 6.32 points on SPOQ between conservatives in the DS condition and conservatives in the MS condition represents an 8.11% increase in support for authoritarian social policies following MS. Among the three political orientation groups, the difference between the lowest and the highest mean scores on the SPOQ was 24.14 points. Thus, in this case, an increase of 6.32 points represents 26.18% of the total range of the mean scores across all groups. Further, the only political orientation group with an average SPOQ score indicating support for authoritarian social policies was the conservative group which received the MS induction ($M = 84.27$). All other groups, including the conservative group which received the DS induction ($M = 77.95$), scored below the midpoint of the scale. Therefore, among conservatives, MS appears to have tipped the balance from slight

opposition to the authoritarian social policies that were examined toward support for the policies.

Although no significant differences in SPOQ scores between MS and DS conditions were found among either Low RWAs or liberals when these variables were examined separately, when RWA level and political orientation were taken into consideration together, in general, the anticipated results were observed. That is, lower authoritarianism combined with higher liberalism in participants tended to result in lower SPOQ scores in the MS condition compared to the DS condition (see Table 10).

Although these findings are only suggestive due to the limited sample sizes, they are intriguing because they appear to align with the prediction that individuals lower in authoritarianism and/or higher in liberalism will demonstrate a decrease in support for authoritarian social policies following MS. The reason for negative results regarding Hypotheses 1.2 and 1.4 may have been due to (a) conservatives and moderates washing out the effects of MS in Low RWA groups (Hypothesis 1.2) and (b) High, Moderate-High, and Moderate-Low RWAs washing out the effects of MS in liberal groups (Hypothesis 1.4).

Experiment 1 also revealed that attachment security was not predictive of shifts in SPOQ scores following MS. In addition, although both level of RWA and political orientation were relatively strongly and significantly correlated with scores on the SPOQ, attachment security was not. Recall Lackoff's (2002) prediction that the internalized models of individuals scoring low in attachment security tend to be associated with conservative attitudes and the internalized models of individuals scoring high in attachment security tend to be associated with liberal attitudes. Although Weise et al.

(2008) were able to predict shifts in political preferences (i.e., voting intentions for George W. Bush or John Kerry) following MS based on pre-existing levels of attachment security, in the present study this variable did not predict shifts in support for authoritarian social policies. One potential explanation for the latter results is that the SPOQ did not provide individuals low or high in attachment security with an effective means to bolster their respective worldviews (namely a sense of security and tolerance/acceptance, respectively). For example, Weise et al. (2008) found that, following MS, individuals low in attachment security (who tend to be more fearful and distrusting of others) tend to gravitate towards a leader (or political party) who can provide a sense of security (e.g., George W. Bush – a conservative). Following the same logic, MS may lead individuals high in attachment security (who tend to be more tolerant and accepting of others) to gravitate towards a leader (or political party) who better embodies these characteristics (e.g., John Kerry – a liberal). Further, although some of the policies on the SPOQ may have been perceived by respondents as related to personal security (e.g., “For safety and security reasons, laws should make it easier for the authorities to monitor people’s activities on the Internet”), others policies likely were not perceived as providing security (e.g., “Taxes should be reduced, even if it means fewer public services for low income Canadians”). A similar argument can be made regarding some of the SPOQ items tapping into the liberal values of tolerance and acceptance (e.g., “Homosexual couples should be allowed by law to adopt children”), whereas others very likely did not (e.g., “Canada should spend much less money on the military”). According to Weise et al., “TMT implies that the major determinant of responses to death-related threat is what provides maximal security for the particular individual at the specific

moment.” (p. 454). Following this logic, the reason attachment security was not related to shifts in opinions on the SPOQ after MS may have been because the SPOQ did not tap strongly enough into the worldviews (e.g., need for security vs. tolerance and acceptance) necessary to provide individuals low or high in attachment security with the most effective buffer against death-related anxiety. That is, although voting for George W. Bush or John Kerry may have provided an effective buffer against death-related anxiety for individuals scoring low or high in attachment security (as shown by Weise et al., 2008), endorsing or rejecting the authoritarian social policies on the SPOQ did not provide the same buffer for such individuals.

Terror management theory research has revealed that making mortality salient can lead to shifts in support between various political candidates (e.g., Cohen et al., 2004, 2005; Kosloff et al., 2010; Landau, Solomon, et al., 2004; Weise et al., 2008). The results of Experiment 1 suggest that, in an election with two candidates or political parties expressing opposing views on the authoritarian social policies reflected in the SPOQ, making mortality salient among either High RWAs or conservatives (or potentially individuals with both of these traits) would lead to shifts in voting preferences from a candidate or party opposing the policies (or a moderate candidate or party) to a candidate or party endorsing them. The results also suggest that making mortality salient has the potential to widen the gap in opinions between opponents and supporters of various social policies. Thus, MS may entrench individuals who already possess strong political opinions even further in their beliefs, making it more difficult for compromise or finding middle ground on important political issues. The findings of Experiment 1 suggest that MS could potentially lead political candidates, elected officials, political parties, and/or

voters to dig in their heels on various divisive issues (e.g., crime legislation, homosexual rights, financial reform, environmental legislation), allowing for little headway or compromise. Divisive issues are frequently debated during elections and often receive a great deal of media attention. However, as previously discussed, if the news media is increasing mortality salience among media consumers through a focus on issues that are framed as being potentially threatening, then the news media may actually be contributing to this climate of political stalemate. Further, if the corporate news media in particular (for its own purposes) is magnifying the potential threat of a situation to a degree that is disproportionate to the actual threat, it is failing to provide society with objective journalism, which is arguably the fundamental purpose of a free press. Finally, the news media may be contributing to support for authoritarian social policies that further marginalize already disadvantaged members of society. Considering these potential effects, it could be argued that, when this occurs, the news media may actually be harmful to a well-functioning democracy. The implications of such media and potential ways to address it are discussed further in the General Discussion section of this thesis.

Experiment 2 was designed to address the question of whether MS would affect actual levels of right-wing authoritarianism in participants (not simply the political opinions they would support) and to predict the direction in which any such shifts might occur, based upon the characteristics and personality traits of the individuals receiving the MS induction.

Experiment 2

If MS can influence the strength and direction of people's opinion on social policies based on their level of authoritarianism, then it is also possible that participants' level of right-wing authoritarianism can be influenced by MS. That is, MS may cause some people to more strongly endorse authoritarian attitudes and others to more weakly endorse authoritarian attitudes. Thus, the second study was designed to determine the extent to which people's level of right-wing authoritarianism (as measured by the RWA Scale) is affected by MS. Since authoritarian beliefs are fundamental to the worldview of individuals scoring high in RWA, these individuals may theoretically score higher on the RWA Scale following MS, as this measure provides them with the opportunity to defend or bolster their worldview. Conversely, the RWA Scale may also provide individuals low in authoritarianism with the opportunity to defend or bolster their beliefs, as tolerance is likely to be a fundamental worldview of low RWAs. Such findings would demonstrate that pre-existing right-wing authoritarianism can be either heightened or reduced by mortality salience. Given the heightened prejudice and discrimination towards minorities or disadvantaged members of society that are associated with higher scores on the RWA Scale, these findings would be important from a social justice perspective.

Although Altemeyer (2006) contends that people who submit to established authorities can have either right (conservative) or left (liberal) political leanings, research has found that, in North America, right-wing authoritarians overwhelmingly tend to have a conservative political orientation. Eckhardt (1991) analyzed the literature on authoritarianism, conservatism, dogmatism, militarism, and religiosity. He concluded that because these dimensions are so consistently correlated, they should be considered

different aspects of the same multifaceted construct, or “different parts of the same forest” (p. 121). Thus, as in Experiment 1, both attachment security and political orientation were also measured and included in the analysis as predictors of shifts in right-wing authoritarianism.

A study similar to Experiment 2 was conducted by Castano et al. (2011), who sought to test whether the predictions of the Motivated Social Cognition framework (MSC; Jost et al., 2003a) or those of TMT would hold when mortality is made salient among liberal participants. One facet of the MSC framework theorizes that people adopt certain beliefs because they meet some underlying psychological needs (Jost et al., 2003a). The proponents of MSC argue that conservative ideology is more adept than other ideologies at alleviating the fear of death due to the sense of security that conservative social policies tend to provide. They argue that conservative ideology offers stability to the world whereas liberal ideology is more amenable to change and, therefore, less stable and secure. Thus, MSC would predict shifts towards conservative responses (in both conservative and liberal individuals) following MS. In contrast, TMT would predict shifts in the direction of one’s predominant ideology (conservative or liberal) following MS. In Castano et al.’s (2011) study, participants indicated their political orientation, completed the RWA Scale (Altemeyer, 1998), completed a mortality salience induction procedure (or control condition), and then repeated the RWA Scale after a short delay (with the explanation that their original RWA Scale data had been lost through computer error). The participants were 21 liberal undergraduate students (11 in the MS condition and 10 in the control condition). Consistent with the predictions set out for the present study, Castano et al. found that, following the mortality salience procedure,

participants demonstrated significantly lower scores on the RWA Scale. No significant differences were found between scores in the first and second administration of the RWA Scale in the control group. This study was one of several studies which, together, were presented by Castano et al. (2011) as support for the predictions of TMT over those of MSC, as they demonstrated liberal shifts in attitudes in response to MS.

Although the above results are enlightening, the present study served to further advance the findings of Castano et al. (2011) in several ways. First, the sample size was significantly greater in the present study, adding statistical power to the study. Second, the present study included both liberal and conservative participants, with distinct predictions for each group. Although it is unlikely, the results of Castano et al. leave open the possibility that all participants (both liberal and conservative) might demonstrate reduced scores on the RWA Scale following MS. By testing both liberal and conservative participants, the present study addressed this possibility. Third, the RWA Scale used in the present study is the most recent version of that scale (Altemeyer, 2006). Fourth, Castano et al. modified the response scale for the second administration of the RWA Scale (i.e., from a Likert-type scale to a continuum) with the intention of preventing participants from precisely recalling their responses on the first administration. However, Altemeyer (2006; personal communication, November 24, 2011) warned against any modifications to the response scale as the RWA Scale has not been empirically evaluated using alternative response scales. Therefore, the present study utilized identical versions of the RWA Scale during both administrations. However, the administrations were separated by two weeks to reduce the likelihood of participants precisely recalling their responses on the first administration.

Hypotheses for Experiment 2

As with Experiment 1, the first set of hypotheses follow the reasoning that: (a) authoritarian beliefs are fundamental to the worldview of individuals high in right-wing authoritarianism, thus support for statements that emphasize these beliefs (i.e., items on the RWA Scale) should be strengthened following MS; and (b) authoritarian beliefs are antithetical to the worldview of individuals scoring low in RWA, thus support for statements that emphasize these beliefs should decrease following MS. Following this logic, four hypotheses are advanced:

Hypothesis 2.1

Among individuals high in authoritarianism, those receiving the MS induction will demonstrate a significant increase in right-wing authoritarianism between the first and second administrations of the RWA Scale.

Hypothesis 2.2

Among individuals low in authoritarianism, those receiving the MS induction will demonstrate a significant decrease in right-wing authoritarianism between the first and second administrations of the RWA Scale.

Hypothesis 2.3

Among individuals high in authoritarianism, those receiving the MS induction will demonstrate significantly higher right-wing authoritarianism than those receiving the dental pain salience induction (as measured by scores on the second administration of the RWA Scale).

Hypothesis 2.4

Among individuals low in authoritarianism, those receiving the MS induction will demonstrate significantly lower right-wing authoritarianism than those receiving the dental pain salience induction (as measured by scores on the second administration of the RWA Scale).

No hypotheses were made for individuals moderate in authoritarianism because it is unclear the extent to which authoritarian beliefs would be agreeable or disagreeable to such individuals. Therefore, the direction of any differences between the MS and DS conditions would be difficult to predict.

The next set of hypotheses relate once again to Altemeyer's (2006) report that politically conservative individuals tend to score higher on the RWA Scale than politically liberal individuals. In addition, recall Eckhardt's (1991) contention that authoritarianism, conservatism, and several other concepts are part of the same construct. Thus, the possibility exists that political orientation will also predict shifts in RWA Scale scores following MS. Following this logic, another four hypotheses were formed.

Hypothesis 2.5

Among individuals who self-identify as conservative, those receiving the MS induction will demonstrate a significant increase in right-wing authoritarianism between the first and second administrations of the RWA Scale.

Hypothesis 2.6

Among individuals who self-identify as liberal, those receiving the MS induction will demonstrate a significant decrease in right-wing authoritarianism between the first and second administrations of the RWA Scale.

Hypothesis 2.7

Among individuals who self-identify as conservative, those receiving the MS induction will demonstrate significantly higher right-wing authoritarianism than those receiving the dental pain salience induction (as measured by scores on the second administration of the RWA Scale).

Hypothesis 2.8

Among individuals who self-identify as liberal, those receiving the MS induction will demonstrate significantly lower right-wing authoritarianism than those receiving the dental pain salience induction (as measured by scores on the second administration of the RWA Scale).

No hypotheses were made for individuals moderate in political orientation because it is unclear the extent to which authoritarian beliefs would be agreeable or disagreeable to such individuals. Therefore, the direction of any differences between the MS and DS conditions would be difficult to predict.

The final set of hypotheses are based on the premises that: (a) politically conservative individuals tend to demonstrate higher scores on the RWA Scale than politically liberal individuals (Altemeyer, 2006); and (b) individuals scoring low in attachment security may demonstrate conservative shifts in attitudes following MS, whereas individuals scoring high in attachment security may demonstrate liberal shifts in attitudes following MS (Weise et al., 2008). Given these premises, MS may lead to shifts in authoritarianism based on pre-existing level of attachment security. Four hypotheses were formed from these premises:

Hypothesis 2.9

Among individuals low in attachment security, those receiving the MS induction will demonstrate a significant increase in right-wing authoritarianism between the first and second administrations of the RWA Scale.

Hypothesis 2.10

Among individuals high in attachment security, those receiving the MS induction will demonstrate a significant decrease in right-wing authoritarianism between the first and second administrations of the RWA Scale.

Hypothesis 2.11

Among individuals low in attachment security, those receiving the MS induction will demonstrate significantly higher right-wing authoritarianism than those receiving the dental pain salience induction (as measured by scores on the second administration of the RWA Scale).

Hypothesis 2.12

Among individuals high in attachment security, those receiving the MS induction will demonstrate significantly lower right-wing authoritarianism than those receiving the dental pain salience induction (as measured by scores on the second administration of the RWA Scale).

*Method for Experiment 2**Ethics Approval*

Ethics approval for Experiment 2 was obtained following the same procedure as in Experiment 1.

Participants

Four hundred and seventy-six introductory psychology students at the University of Manitoba were recruited to participate in Experiment 2. All participants were recruited through the Department of Psychology's online Subject Pool in exchange for partial course credit. The recruitment notice for Experiment 2 is presented in Appendix F. As with Experiment 1, all participants were required to be Canadian citizens or permanent residents. Data from 60 participants were excluded from the analysis because these participants either attended only the first of two data collection sessions or they misplaced the study ID card which was used to connect the data from the two data collection sessions (described below in the procedure section). Data from two participants were excluded because they did not meet the citizenship or permanent resident requirement, leaving a total of 414 participants.

With respect to social-demographic characteristics, participants in Experiment 2 included 119 males and 295 females. The mean age was 19.5 years ($SD = 3.9$). The ethnicity and religion of participants in Experiment 2 are presented in Table 11. With respect to political orientation, 74 participants indicated a conservative political orientation, 259 indicated a moderate political orientation, 76 indicated a liberal political orientation, and 5 individuals did not respond to this item.

Table 11

Ethnicity and Religion of Participants in Experiment 2

Ethnicity	<i>N</i>	% of Sample	Religion	<i>N</i>	% of Sample
White/European	192	46.4	Christian	259	62.6
Filipino	89	21.5	Muslim	14	3.4
Black	31	7.5	Buddhist	11	2.7
Chinese	19	4.6	Jewish	5	1.2
South Asian (e.g., Indian)	18	4.3	Hindu	4	1.0
Aboriginal	12	2.9	Other	28	6.8
Arab/West Asian (e.g., Iranian)	10	2.4	None	92	22.2
Métis	10	2.4	Did not respond	1	0.2
South East Asian (e.g., Vietnamese)	8	1.9			
Korean	7	1.7			
Latin American	3	0.7			
Other	15	3.6			

Materials

The Social Desirability Scale (Crowne & Marlowe, 1960) was, once again, used in Experiment 2 as a filler item (i.e., to help obscure the purpose of the study). The Ten Item Personality Inventory (Gosling et al., 2003) was used to explore whether any of the Big Five personality traits were associated with shifts in authoritarianism following MS. The security subscale of the Relationship Scales Questionnaire (Griffin & Bartholomew, 1994) was used to measure attachment security. The Right-Wing Authoritarianism Scale (Altemeyer, 2006) was used to measure right-wing authoritarianism. The Participant Information Questionnaire (identical to that used in Experiment 1) was used to measure social-demographic characteristics, political orientation, and strength of religious beliefs of participants. The mortality salience and dental pain salience induction questions from Experiment 1 were used for the same purpose in Experiment 2 (e.g., Greenberg et al., 1992). The PANAS-X was again utilized as a delay and distraction, and to confirm that there were no significant post-manipulation affective differences between the MS and DS groups. An additional task was added to Experiment 2 to increase the distraction time slightly, as some participants were able to complete the delay and distraction tasks relatively quickly in Experiment 1 (see Pyszczynski et al., 1999). Delays of 7-20 minutes have been found to produce greater effects of mortality salience than delays of less than 7 minutes or no delays (see Burke, Martens, & Faucher, 2010). The additional distraction task was a short, innocuous literary passage (i.e., a 3-paragraph excerpt from “The Growing Stone,” a short story from the collection *Exile and the Kingdom* by Albert Camus [1957]) for the participants to read, followed by a question asking participants to rate the overall descriptive qualities of the story on a 9-point scale and a question asking

them to indicate whether they felt that the author of the story was male or female. This literary passage was obtained from the Terror Management Theory website (Cox & Arndt, 2006) and a passage from this story was used for the same purpose (i.e., as a delay and distraction) by Greenberg et al. (1994). The word search puzzle used in Experiment 1 was once again utilized as a delay and distraction task in Experiment 2.

Procedure

In Experiment 2, participants completed two phases of data collection, which were held two weeks apart. However, to ensure anonymity of the responses collected in the first data collection session (Phase 1), and to connect this data with the data collected in the second session (Phase 2), at the beginning of Phase 1 participants were given a business card with an individualized study ID number. This number was also written on the Phase 1 questionnaire package of each participant. Participants were asked to return to Phase 2 with their study ID number and to write that number on the Phase 2 questionnaire package, thus maintaining their anonymity while allowing the two sets of responses to be connected via the study ID number.

In Phase 1, participants completed the questionnaire package in groups of up to 25 students, under the same experimental conditions described in Experiment 1. Participants were asked to complete the questionnaire package in order and to avoid reading ahead. The purpose of Phase 1 was to measure participants' political orientation, attachment security, strength of religious beliefs, Big Five personality traits, and pre-manipulation level of right-wing authoritarianism. In addition, the same demographic information was collected from participants as in Experiment 1. Specifically, the questionnaire package in Phase 1 contained (in the following order): the Social Desirability Scale, the Ten Item

Personality Inventory, the Relationship Scales Questionnaire, the Right-Wing Authoritarianism Scale, and the Participant Information Questionnaire. Participants completed the questionnaire packages and returned them to the experimenter in sealed envelopes. However, they were not debriefed following Phase 1 to avoid disclosing the purpose of the study.

The procedure for Phase 2 closely approximated that of Phase 1. Phase 2 took place two weeks after Phase 1. The experimental conditions were the same for both data collection phases. Prior to beginning Phase 2, participants were informed that some of the questionnaires they were to complete in Phase 2 may be the same or similar to the questionnaires they completed in Phase 1. Participants were asked to respond to the questionnaires in Phase 2 based on how they presently felt, not according to their memory of how they previously answered the items. This procedure for the re-administration of the RWA Scale was suggested by B. Altemeyer in a personal communication (November 24, 2011). Although the primary variable of interest in Phase 2 was the post-manipulation level of right-wing authoritarianism, the content and order of the questionnaire package in Phase 2 was intended to be as similar as possible to that administered in Phase 1 to prevent participants from discerning the variables under investigation. Thus, the questionnaire package contained the same measures as were administered in Phase 1 (with the exception of the PIQ). In addition to these measures, the Phase 2 questionnaire package included either the mortality salience or dental salience induction questions and the delay and distraction tasks. The questionnaire package in Phase 2 contained (in the following order): the Social Desirability Scale, the Ten Item Personality Inventory, the Relationship Scales Questionnaire, the mortality

salience or dental pain salience induction questions, the PANAS-X, the short literary passage and corresponding questions, the word search puzzle, and the Right-Wing Authoritarianism Scale (to measure participants' post-manipulation level of right-wing authoritarianism). The order of the questionnaire package in Experiment 2 was consistent for all participants for the same reasons as were discussed in Experiment 1. As in Experiment 1, participants were randomly assigned to receive either the MS or DS induction questions and the procedure for random assignment was identical to that described in Experiment 1. Participants completed the questionnaire packages, returned them to the experimenter in sealed envelopes, and were debriefed about the nature and purpose of the study. As in Experiment 1, debriefing was accomplished by having participants read a written description of the experiment prior to leaving the experimental room (see Appendix G).

Results for Experiment 2

The dependent variable in Experiment 2 was the post-manipulation level of right-wing authoritarianism (Post-RWA), represented by the RWA Scale score obtained in Phase 2. Scores on several of the independent variables (i.e., pre-manipulation level of RWA [Pre-RWA], political orientation, strength of religious beliefs) were only measured in Phase 1. Scores on other independent variables were collected in both Phase 1 and Phase 2 (i.e., attachment security, Big Five personality traits) in order to disguise the purpose of the study. However, to avoid any possible confounds during the second administration of the same scales, only the independent variable data collected during Phase 1 were entered into the analysis. Thus, in the following description of the results of

Experiment 2, it can be assumed that any discussion of an independent variable refers to the score that was obtained in Phase 1, unless explicitly stated otherwise.

Missing Data

Missing data in Experiment 2 was handled in the same manner as in Experiment 1. Once again, prior to the experiment, the criterion was set that no more than 10% of the data could be missing from the RWA Scale, the RSQ, or the PANAS-X for the scores to be included in the analysis. Two participants did not complete enough items on the RSQ to satisfy this requirement. Therefore, the data from these participants was not included in the analysis of the RSQ. There was no missing data on the TIPI. Five participants did not respond to the political orientation measure on the PIQ. Therefore, their data was not included in the analysis of political orientation.

Descriptive Statistics

Descriptive statistics for the measures used in Experiment 2 are presented in Table 12.

Correlations Between Independent and Dependent Variables

As in Experiment 1, an exploratory analysis was undertaken to investigate the Pearson correlations between all of the independent variables measured in Phase 1 and the dependent variable (i.e., Post-RWA). These correlations are presented in Table 13.

Table 12

Means and Standard Deviations for the Measures used in Experiment 2 by Experimental Condition

Measure	MS		DS	
	Mean	Std. Dev.	Mean	Std. Dev.
Pre-Manipulation RWA	79.27	27.2	78.05	28.4
TIPI Extroversion	8.55	3.0	8.63	2.7
TIPI Agreeableness	9.73	2.3	9.85	2.3
TIPI Conscientiousness	11.13	2.3	10.40	2.6
TIPI Emotional Stability	9.21	2.8	9.26	2.9
TIPI Openness to Experience	10.50	2.3	10.57	2.1
RSQ Attachment Security	16.26	3.2	16.20	3.2
PIQ Strength of Religious Beliefs	4.38	2.5	4.50	2.4
PIQ Political Orientation	4.96	1.6	5.10	1.7
Post-Manipulation RWA	77.47	28.2	77.21	29.6

Table 13

*Correlations Between Independent Variables and Post-Manipulation Right-Wing
Authoritarianism (Post-RWA)*

Independent Variable	Post-RWA
	<i>r</i>
Pre-RWA	.93**
Strength of Religious Beliefs	-.48**
Political Orientation	-.36**
Extroversion	-.12*
Openness to Experience	-.11*
Conscientiousness	.03
Agreeableness	.02
Emotional Stability	.01
Attachment Security	.01

* $p < .05$

** $p < .01$

This analysis revealed, as expected, a highly positive correlation between Post-RWA and Pre-RWA. A highly negative correlation was also found between Post-RWA and strength of religious beliefs (note that lower scores on the strength of religious beliefs measure corresponded with stronger religious beliefs and higher scores corresponded with weaker religious beliefs). In other words, stronger religious beliefs were associated with higher post-manipulation right-wing authoritarianism. Post-RWA and political orientation were also negatively correlated (note that lower scores on the political orientation measure corresponded with conservatism and higher scores corresponded with liberalism). Thus, a conservative political orientation was associated with higher post-manipulation right-wing authoritarianism and a liberal political orientation was associated with lower post-manipulation right-wing authoritarianism. Post-RWA was negatively correlated with Extroversion, although less decisively so, indicating that having a more extroverted personality was associated with lower post-manipulation level of right-wing authoritarianism. Finally, Post-RWA was similarly negatively correlated with Openness to Experience, indicating that being more open to new experiences was associated with lower post-manipulation right-wing authoritarianism. The correlations between Post-RWA and attachment security, emotional stability, agreeableness, and conscientiousness were not significant.

A table showing correlations among all of the variables in Experiment 2 is presented, for consideration, in Appendix H.

Regression Analysis

A stepwise linear regression was conducted to determine which of the independent variables were significant predictors of post-manipulation right-wing

authoritarianism. All of the independent variables were entered into the regression. The analysis revealed that only Pre-RWA and political orientation were significant predictors of Post-RWA ($R^2 = .85$, $F = 1037.19$, $p < .001$). Together, Pre-RWA and political orientation accounted for 85% of the variance in Post-RWA. Inclusion of any additional variables did not significantly contribute to the statistical model. Therefore, only Pre-RWA and political orientation warranted further evaluation as independent variables predicting changes in post-manipulation right-wing authoritarianism. Attachment security was neither significantly correlated with Post-RWA, nor did it account for a significant amount of the variance in Post-RWA. However, once again, specific predictions were made regarding attachment security (i.e., Hypotheses 2.9, 2.10, 2.11, and 2.12), these hypotheses were tested specifically for the sake of completeness.

Gender

A 2 (experimental condition [MS vs. DS]) by 2 (gender [male vs. female]) by 4 (RWA group [Low vs. Moderate-Low vs. Moderate-High vs. High]) by 3 (political orientation [liberal vs. moderate vs. conservative]) by 2 (attachment security group [Low AS vs. High AS]) analysis of variance, with Post-RWA score as the dependent variable, was conducted to determine whether or not data for males and female participants should be examined separately. Neither the main effect of gender, nor any of the interactions between gender and the other independent variables, reached statistical significance. Therefore, gender was not examined further as a variable of interest in Experiment 2.

Affect

A manipulation check was undertaken to ensure that the post-manipulation affect of participants receiving the MS induction did not differ significantly from those

receiving the DS induction. As in Experiment 1, this check was performed to ensure that any post-manipulation differences between MS and DS groups could not be attributed to differences in affect between the two groups. A series of independent samples t-tests was conducted on the 13 subscales of the PANAS-X. As in Experiment 1, none of the comparisons reached statistical significance.

Pre- and Post-Manipulation Right-Wing Authoritarianism by RWA Group and Experimental Condition

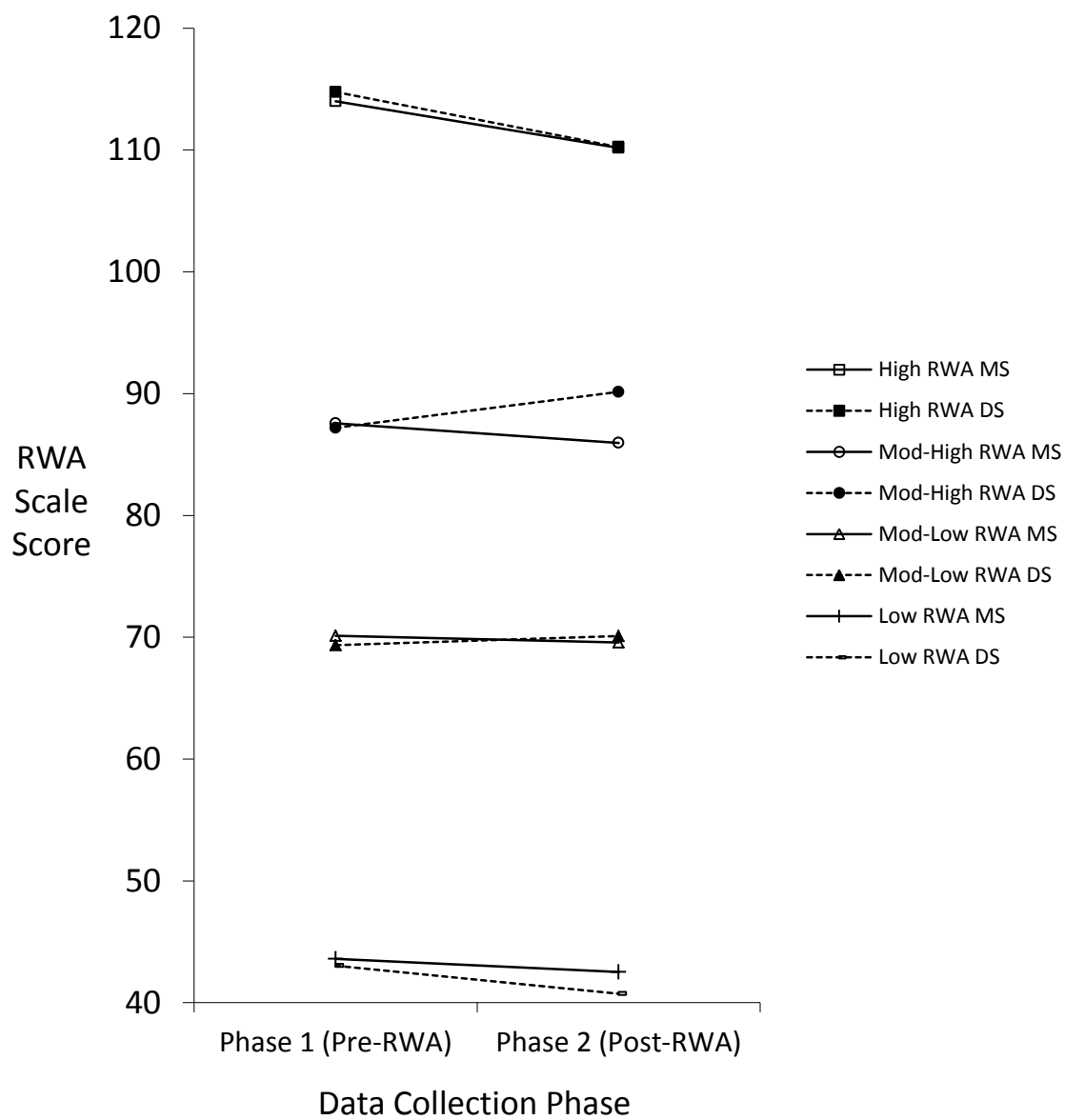
As in Experiment 1, the scores obtained on the RWA Scale (pre-manipulation) were divided into quartiles to identify four groups representing different levels of right-wing authoritarianism in Experiment 2 participants. From lowest to highest level of right-wing authoritarianism, the groups were labeled Low RWAs, Moderate-Low RWAs, Moderate-High RWAs, and High RWAs. Pre- and post-manipulation right-wing authoritarianism by RWA group (Low RWA, Moderate-Low RWA, Moderate-High RWA, or High RWA) and experimental condition (MS or DS) are presented in Table 14. These data are represented graphically in Figure 4.

Table 14

Pre-Manipulation Right-Wing Authoritarianism (Pre-RWA) and Post-Manipulation Right-Wing Authoritarianism (Post-RWA) Means and Standard Deviations by RWA Group and Experimental Condition

RWA Group	Condition	N	Pre-RWA		Post-RWA	
			Mean	Std. Dev.	Mean	Std. Dev.
Low RWA	MS	58	43.60	9.8	42.50	13.2
	DS	47	43.04	11.6	40.74	13.3
Moderate-Low RWA	MS	51	70.12	4.6	69.57	12.5
	DS	49	69.35	5.1	70.10	13.2
Moderate-High RWA	MS	63	87.56	5.5	85.95	11.5
	DS	42	87.19	5.7	90.14	10.3
High RWA	MS	58	114.00	12.7	110.17	16.3
	DS	46	114.76	16.4	110.24	19.6

Figure 4: Pre-manipulation right-wing authoritarianism (Pre-RWA) and post-manipulation right-wing authoritarianism (Post-RWA) means by RWA group and experimental condition.



A 2 (experimental condition [MS vs. DS]) by 4 (RWA group [Low RWA vs. Moderate-Low RWA vs. Moderate High RWA vs. High RWA]) analysis of variance, with pre-manipulation RWA Scale score as the dependent variable, was conducted to ensure that pre-manipulation RWA did not differ significantly between experimental conditions (MS vs. DS), within the various RWA groups. The main effect of condition and the interaction effect of condition by RWA group were not significant, indicating as anticipated that, within the four RWA groups, the random assignment of participants to the MS and DS conditions did not lead to significant differences regarding RWA. In contrast, the main effect of RWA group was significant ($F = 969.95, p < .001$), indicating as anticipated that there were significant differences in right-wing authoritarianism between the RWA groups. A series of independent samples t-tests confirmed that each RWA group was significantly different from each other RWA group in the expected manner.

Pre- and Post-Manipulation Right-Wing Authoritarianism by RWA Group and Experimental Condition (Hypothesis 2.1 and 2.2)

Hypotheses 2.1 and 2.2 were evaluated using paired samples t-tests (see Table 15). With regard to Hypothesis 2.1, among High RWAs in the mortality salience condition, the difference between pre-manipulation (Phase 1) and post-manipulation (Phase 2) right-wing authoritarianism was significant (see Table 15). However, the observed difference was in the opposite direction of what was predicted. That is, High RWAs in the MS condition demonstrated a decrease in right-wing authoritarianism from Phase 1 to Phase 2. A significant difference between pre- and post-manipulation right-wing authoritarianism was also found among High RWAs in the dental pain salience

(control) condition. As with High RWAs in the MS condition, right-wing authoritarianism decreased from Phase 1 to Phase 2 among High RWAs in the DS condition. Thus, regardless of the experimental condition, High RWAs decreased their endorsement of authoritarian beliefs on the RWA Scale. Given that this reduction in right-wing authoritarianism occurred among participants in both the MS and DS conditions, it cannot be attributed to mortality salience. Therefore, Hypothesis 2.1, which predicted that MS would lead to an increase in right-wing authoritarianism among High RWAs, was not supported. Potential explanations for this unanticipated finding are presented in the discussion section for Experiment 2.

Table 15

*Paired Samples T-Tests Comparing Pre- and Post-Manipulation Right-Wing
Authoritarianism by RWA Group and Experimental Condition*

RWA Group	Condition	Variable	Mean	<i>t</i>	<i>df</i>
Low RWA	MS	Pre-RWA	43.60	.81	57
		Post-RWA	42.50		
	DS	Pre-RWA	43.04	2.15	46
		Post-RWA	40.74		
Moderate- Low RWA	MS	Pre-RWA	70.12	.33	50
		Post-RWA	69.57		
	DS	Pre-RWA	69.35	-.42	48
		Post-RWA	70.10		
Moderate- High RWA	MS	Pre-RWA	87.56	1.23	62
		Post-RWA	85.95		
	DS	Pre-RWA	87.19	-2.11	41
		Post-RWA	90.14		
High RWA	MS	Pre-RWA	114.00	2.46*	57
		Post-RWA	110.17		
	DS	Pre-RWA	114.76	2.61*	45
		Post-RWA	110.24		

* $p < .025$

With regard to Hypothesis 2.2, among Low RWAs in both the MS and DS conditions, the difference between pre- and post-manipulation right wing authoritarianism was not significant (see Table 15). Again, these findings demonstrate that there was no effect of mortality salience on right-wing authoritarianism among Low RWAs. Thus, Hypothesis 2.2, which predicted that MS would lead to a reduction in right-wing authoritarianism among Low RWAs, was not supported.

Although no specific hypotheses were made for Moderate-High and Moderate-Low RWAs, the differences between MS and DS conditions were examined within these groups. No significant differences were found between pre- and post-manipulation right-wing authoritarianism of Moderate-High or Moderate-Low RWAs in either the MS or DS conditions. These findings indicate that MS had no significant impact on right-wing authoritarianism among individuals moderate in RWA.

Post-Manipulation Right-Wing Authoritarianism by RWA Group and Experimental Condition (Hypothesis 2.3 and 2.4)

Hypotheses 2.3 and 2.4 were evaluated using independent samples t-tests (see Table 14, Figure 4, and Table 16). With regard to Hypothesis 2.3, among High RWAs, the difference in post-manipulation right-wing authoritarianism between the MS and DS conditions was not significant. That is, mortality salience did not lead to higher agreement with items on the RWA Scale, relative to the dental pain salience (control) condition. Thus, Hypothesis 2.3 was not supported.

Table 16

*Independent Samples T-Tests Comparing Post-Manipulation Right-Wing**Authoritarianism by RWA Group and Experimental Condition*

RWA Group	Condition	Post-RWA Mean	<i>t</i>	<i>df</i>
Low RWA	MS	42.52	.68	103
	DS	40.74		
Moderate-Low RWA	MS	69.57	-.21	98
	DS	70.10		
Moderate-High RWA	MS	85.95	-1.90	103
	DS	90.14		
High RWA	MS	110.17	-.02	102
	DS	110.24		

Note. None of the comparisons in Table 16 were significant.

With regard to Hypothesis 2.4, among Low RWAs, the difference in post-manipulation right-wing authoritarianism between the MS and DS groups was also not significant. That is, mortality salience did not lead to lower agreement with items on the RWA Scale, relative to the dental pain salience (control) condition. Thus, Hypothesis 2.4 was not supported.

As anticipated, there were no significant differences in post-manipulation right-wing authoritarianism between individuals in the MS and DS conditions among Moderate-Low or Moderate-High RWAs. That is, once again, mortality salience did not appear to affect right-wing authoritarianism among moderate RWAs.

Pre- and Post-Manipulation Right-Wing Authoritarianism by Political Orientation and Experimental Condition

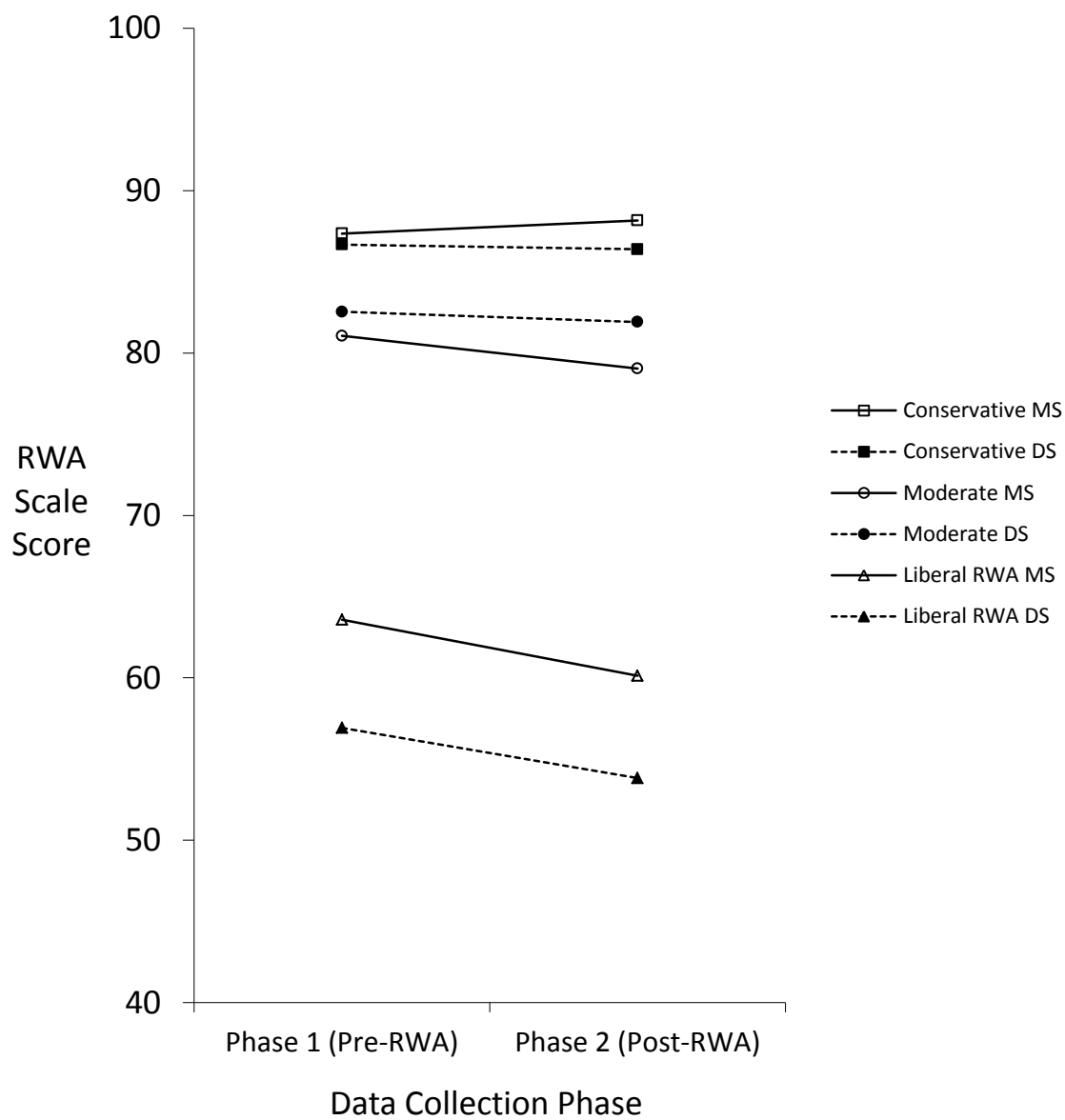
Three political orientation groups (conservatives, moderates, and liberals) were created by the same method as in Experiment 1 utilizing scores on the political orientation measure of the PIQ. Pre- and post-manipulation right-wing authoritarianism by political orientation (conservative, moderate, or liberal) and experimental condition (MS or DS) are presented in Table 17. These data are represented graphically in Figure 5.

Table 17

Pre-Manipulation Right-Wing Authoritarianism (Pre-RWA) and Post-Manipulation Right-Wing Authoritarianism (Post-RWA) Means and Standard Deviations by Political Orientation and Experimental Condition

Political Orientation	Condition	N	Pre-RWA		Post-RWA	
			Mean	Std. Dev.	Mean	Std. Dev.
Liberal	MS	40	63.58	32.8	60.13	32.6
	DS	36	56.92	28.4	53.83	29.5
Moderate	MS	145	81.06	22.9	79.04	23.6
	DS	114	82.54	25.3	81.91	25.0
Conservative	MS	43	87.35	30.5	88.16	31.9
	DS	31	86.68	29.4	86.39	33.0

Figure 5. Pre-manipulation right-wing authoritarianism (Pre-RWA) and post-manipulation right-wing authoritarianism (Post-RWA) means by political orientation and experimental condition.



A 2 (experimental condition [MS vs. DS]) by 3 (political orientation [conservative vs. moderate vs. liberal]) analysis of variance, with pre-manipulation right-wing authoritarianism as the dependent variable, was conducted to ensure that pre-manipulation right-wing authoritarianism did not differ significantly between experimental conditions (MS vs. DS), within the various political orientation groups. The main effect of condition and the interaction effect of condition by political orientation were not significant, indicating as anticipated that, within the three political orientation groups, the random assignment of participants to the MS and DS conditions did not lead to significant differences regarding RWA. In contrast, the main effect of political orientation was significant ($F = 23.68, p < .001$), indicating as anticipated that there were significant differences in RWA between the political orientation groups. A series of independent samples t-tests confirmed that each political orientation group was significantly different from each other political orientation group in the expected manner.

Pre- and Post-Manipulation Right-Wing Authoritarianism by Political Orientation and Experimental Condition (Hypothesis 2.5 and 2.6)

Hypotheses 2.5 and 2.6 were evaluated using paired samples t-tests (see Table 18). With regard to Hypothesis 2.5, among conservatives in the mortality salience condition, the difference between pre- and post-manipulation right-wing authoritarianism was not significant (see Table 18). That is, conservatives in the MS condition did not demonstrate a significant increase in right-wing authoritarianism between Phase 1 and Phase 2, as was predicted in Hypothesis 2.5. Thus, Hypothesis 2.5 was not supported. Among conservatives in the dental pain salience (control) condition, the difference

between Pre-RWA and Post-RWA was also not significant, indicating no difference in right-wing authoritarianism between Phase 1 and Phase 2.

With regard to Hypothesis 2.6, among liberals in the mortality salience condition, the difference between pre- and post-manipulation right-wing authoritarianism was not significant. That is, liberals in the MS condition did not demonstrate a significant decrease in right-wing authoritarianism between Phase 1 and Phase 2, as was predicted in Hypothesis 2.6. Thus, Hypothesis 2.6 was not supported. Among liberals in the dental pain salience (control) condition, the difference between pre- and post-manipulation right-wing authoritarianism was also not significant, indicating no difference in right-wing authoritarianism between Phase 1 and Phase 2.

Table 18

*Paired Samples T-Tests Comparing Pre- and Post-Manipulation Right-Wing
Authoritarianism by Political Orientation and Experimental Condition*

Political Orientation	Condition	Variable	Mean	<i>t</i>	<i>df</i>
Liberal	MS	Pre-RWA	63.58	1.71	39
		Post-RWA	60.13		
	DS	Pre-RWA	56.92	2.31	35
		Post-RWA	53.83		
Moderate	MS	Pre-RWA	81.06	2.43*	144
		Post-RWA	79.04		
	DS	Pre-RWA	82.54	.59	113
		Post-RWA	81.91		
Conservative	MS	Pre-RWA	87.35	-.42	42
		Post-RWA	88.16		
	DS	Pre-RWA	86.68	.16	30
		Post-RWA	86.39		

* $p < .025$

Although no predictions were made for political moderates, the difference between MS and DS conditions was examined within this group. The difference between pre- and post-manipulation right-wing authoritarianism among political moderates in the mortality salience condition was significant, indicating that MS led to a decrease in RWA among political moderates. This finding was unanticipated and is discussed further in the discussion section for Experiment 2. The difference between pre- and post-manipulation right-wing authoritarianism among political moderates in the dental pain salience (control) condition was not significant.

Post-Manipulation Right-Wing Authoritarianism by Political Orientation and Experimental Condition (Hypothesis 2.7 and 2.8)

Hypotheses 2.7 and 2.8 were evaluated using independent samples t-tests (see Table 17, Figure 5, and Table 19). With regard to Hypothesis 2.7, among conservatives, the difference in post-manipulation right-wing authoritarianism between MS and DS groups was not significant. That is, mortality salience did not lead to significantly higher right-wing authoritarianism among conservatives, relative to the dental pain salience (control) condition. Thus, Hypothesis 2.7 was not supported.

With regard to Hypothesis 2.8, among liberals, the difference in post-manipulation right-wing authoritarianism between MS and DS groups was also not significant. That is, mortality salience did not lead to lower right-wing authoritarianism among liberals, relative to the dental pain salience (control) condition. Thus, Hypothesis 2.8 was not supported.

Table 19

Independent Samples T-Tests Comparing Post-Manipulation Right-Wing Authoritarianism by Political Orientation and Experimental Condition

Political Orientation	Condition	Post-RWA Mean	<i>t</i>	<i>df</i>
Liberal	MS	60.13	.88	74
	DS	53.83		
Moderate	MS	79.04	-.95	257
	DS	81.91		
Conservative	MS	88.16	.23	72
	DS	86.39		

Note. None of the comparisons in Table 19 were significant.

As anticipated, there were no significant differences among political moderates in post-manipulation right-wing authoritarianism the MS and DS conditions. That is, once again, mortality salience did not appear to affect the level of right-wing authoritarianism of political moderates compared to the dental pain salience (control) condition.

Pre- and Post-Manipulation Right-Wing Authoritarianism by Attachment Security Group and Experimental Condition

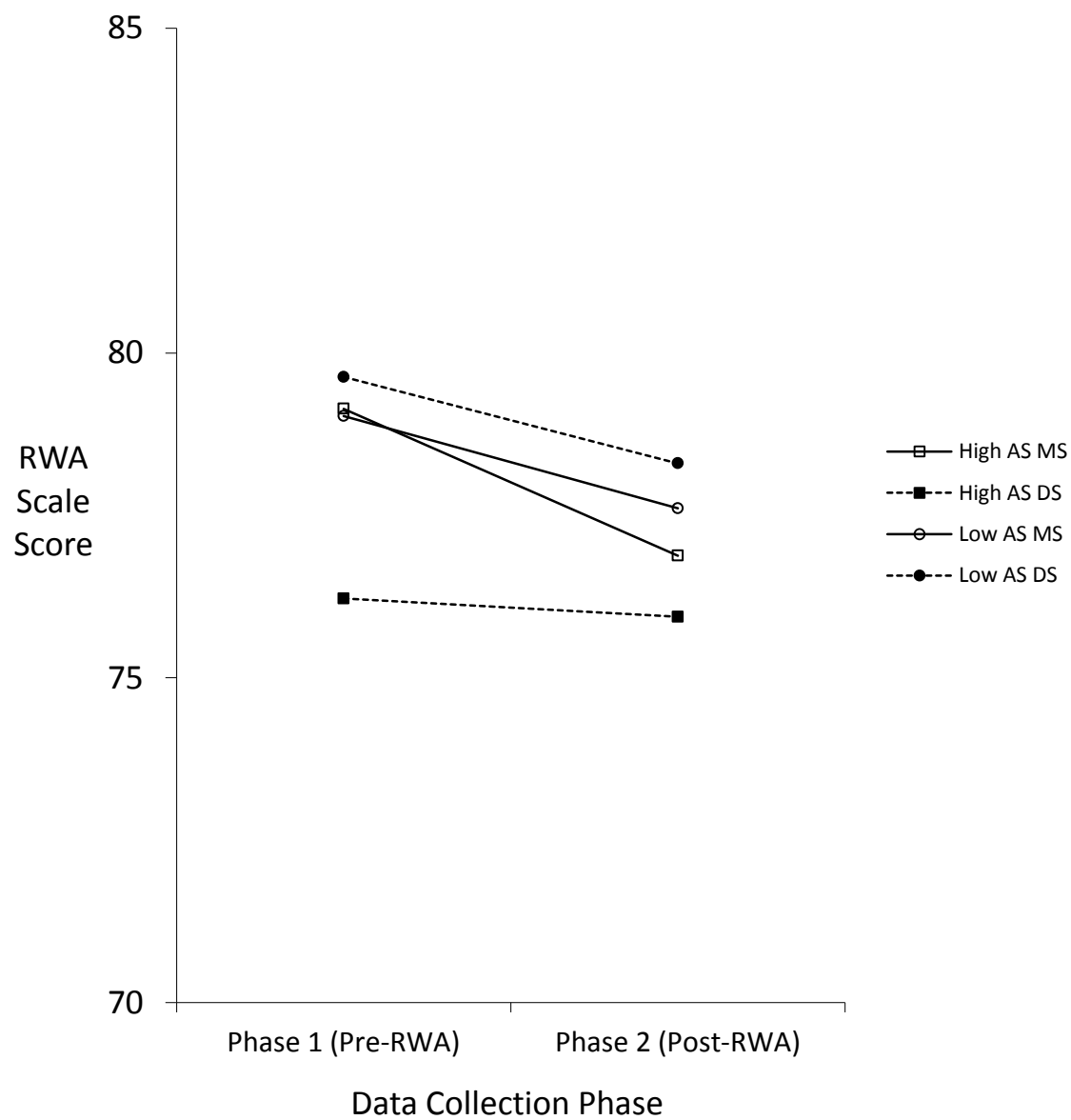
As in Experiment 1, two Attachment Security groups (High AS and Low AS) were created by a median split of scores on the security subscale of the Relationship Scales Questionnaire. Pre- and post-manipulation right-wing authoritarianism by Attachment Security group and experimental condition (MS or DS) are presented in Table 20. These data are represented graphically in Figure 6.

Table 20

Pre-Manipulation Right-Wing Authoritarianism (Pre-RWA) and Post-Manipulation Right-Wing Authoritarianism (Post-RWA) Means and Standard Deviations by Attachment Security (AS) Group and Experimental Condition

Attachment Security (AS) Group	Condition	N	Pre-RWA		Post-RWA	
			Mean	Std. Dev.	Mean	Std. Dev.
High AS	MS	113	79.14	27.2	76.88	27.9
	DS	85	76.22	29.2	75.94	29.5
Low AS	MS	115	79.03	27.5	77.61	28.6
	DS	99	79.63	27.8	78.30	28.8

Figure 6. Pre-manipulation right-wing authoritarianism (Pre-RWA) and post-manipulation right-wing authoritarianism (Post-RWA) means by attachment security (AS) group and experimental condition.



A 2 (experimental condition [MS vs. DS]) by 2 (Attachment Security group [High AS vs. Low AS]) analysis of variance, with pre-manipulation right-wing authoritarianism as the dependent variable, was conducted to ensure that pre-manipulation right-wing authoritarianism did not differ significantly between experimental conditions (MS vs. DS), within the various Attachment Security groups. The main effect of condition and the interaction effect of condition by Attachment Security group were not significant, indicating as anticipated that, within the two Attachment Security groups, the random assignment of participants to the MS and DS conditions did not lead to significant differences regarding RWA. The main effect of Attachment Security group was also not significant, indicating that there were no significant differences in pre-manipulation right-wing authoritarianism between the Attachment Security groups. As previously reported, the Pearson correlation of $-.004$ between Pre-RWA and attachment security (see Appendix H) was not significant. Therefore, it is not surprising that the analysis of variance did not show any difference in pre-manipulation right-wing authoritarianism between the two Attachment Security groups.

Pre- and Post-Manipulation Right-Wing Authoritarianism by Attachment Security Group and Experimental Condition (Hypothesis 2.9 and 2.10)

Hypotheses 2.9 and 2.10 were evaluated using paired samples t-tests (see Table 21).

Table 21

*Paired Samples T-Tests Comparing Pre- and Post-Manipulation Right-Wing
Authoritarianism by Attachment Security Group and Experimental Condition*

Attachment Security (AS) Group	Condition	Variable	Mean	<i>t</i>	<i>df</i>
High AS	MS	Pre-RWA	79.14	2.20*	112
		Post-RWA	76.88		
	DS	Pre-RWA	76.22	.24	84
		Post-RWA	75.94		
Low AS	MS	Pre-RWA	79.03	1.40	114
		Post-RWA	77.61		
	DS	Pre-RWA	79.63	1.20	98
		Post-RWA	78.30		

* $p = .03$

With regard to Hypothesis 2.9, among individuals low in attachment security (Low AS) in the MS condition, the difference between the pre- and post-manipulation right-wing authoritarianism was not significant (see Table 21). That is, individuals low in attachment security in the mortality salience condition did not demonstrate increased right-wing authoritarianism from Phase 1 to Phase 2. Thus, Hypothesis 2.9 was not supported. Similarly, no significant difference between pre- and post-manipulation right-wing authoritarianism was found among individuals low in attachment security in the dental pain salience (control) condition.

With regard to Hypothesis 2.10, among individuals high in attachment security (High AS) in the MS condition, the difference between pre- and post-manipulation right-wing authoritarianism approached the $p < .025$ criterion set for t-tests (see Table 21). This finding suggests that mortality salience may have led to decreased right-wing authoritarianism among individuals high in attachment security. Although Hypothesis 2.10 was not quite supported, the above finding is addressed in the discussion section of Experiment 2. Among individuals high in attachment security in the dental pain salience (control) condition, the difference between pre- and post-manipulation right-wing authoritarianism was not significant.

Post-Manipulation Right-Wing Authoritarianism by Attachment Security Group and Experimental Condition (Hypothesis 2.11 and 2.12)

Hypotheses 2.11 and 2.12 were evaluated using independent samples t-tests (see Table 20, Figure 6, and Table 22).

Table 22

*Independent Samples T-Tests Comparing Post-Manipulation Right-Wing
Authoritarianism by Attachment Security Group and Experimental Condition*

Attachment Security (AS) Group	Condition	Post-RWA Mean	<i>t</i>	<i>df</i>
High AS	MS	76.88	.23	196
	DS	75.94		
Low AS	MS	77.61	-.17	212
	DS	78.30		

Note. None of the comparisons in Table 22 were significant.

With regard to Hypothesis 2.11, among individuals low in attachment security, the difference in post-manipulation right-wing authoritarianism between the MS and DS conditions was not significant. That is, mortality salience did not lead to a significantly higher level of right-wing authoritarianism among individuals low in attachment security, relative to the dental pain salience (control) condition. Thus, Hypothesis 2.11 was not supported.

With regard to Hypothesis 2.12, among individuals high in attachment security, the difference in post-manipulation right-wing authoritarianism between the MS and DS conditions was not significant. That is, mortality salience did not lead to significantly a significantly lower level of right-wing authoritarianism among individuals high in attachment security, relative to the dental pain salience (control) condition. Thus, Hypothesis 2.12 was not supported.

Pre- and Post-Manipulation Right-Wing Authoritarianism by RWA Group, Political Orientation, and Experimental Condition

As with Experiment 1, analysis of the interaction between RWA group (four levels), political orientation (three levels), and condition (two levels) was not planned for Experiment 2 (again due to the difficulty in obtaining the necessary sample size to ensure adequate statistical power). However, once again, the data from the above groups in Experiment 2 is presented for consideration (see Table 23). Given that attachment security was not correlated with RWA or political orientation and did not account for a significant amount of variance in the regression analysis, attachment security was not included in Table 23.

Table 23

Pre-Manipulation Right-Wing Authoritarianism (Pre-RWA) and Post-Manipulation Right-Wing Authoritarianism (Post-RWA) Means and Standard Deviations by RWA Group, Political Orientation, and Experimental Condition

RWA Group	Political Orientation	Condition	N	Pre-RWA		Post-RWA	
				Mean	Std. Dev.	Mean	Std. Dev.
Low RWA	Conservative	MS	8	49.63	4.6	52.50	14.6
		DS	5	48.20	7.4	43.60	9.5
	Moderate	MS	28	46.04	8.7	43.82	11.2
		DS	21	48.62	9.3	48.24	11.6
	Liberal	MS	22	38.32	10.3	37.23	12.9
		DS	21	36.24	11.2	32.57	11.1
Moderate-Low RWA	Conservative	MS	11	68.91	4.8	68.64	10.1
		DS	9	67.11	4.6	68.78	10.0
	Moderate	MS	35	70.60	4.3	71.20	10.4
		DS	31	70.32	4.7	71.06	14.4
	Liberal	MS	5	69.40	6.4	60.20	25.7
		DS	7	70.14	5.8	68.00	14.4

Table 23 (continued)

RWA Group	Political Orientation	Condition	N	Pre-RWA		Post-RWA	
				Mean	Std. Dev.	Mean	Std. Dev.
Moderate-High RWA	Conservative	MS	10	85.00	6.5	86.10	12.7
		DS	7	90.86	6.2	88.71	13.6
	Moderate	MS	45	88.18	5.4	86.64	11.2
		DS	30	85.40	4.9	89.23	8.5
	Liberal	MS	6	86.17	4.8	82.17	13.8
		DS	4	92.75	4.5	93.00	11.9
High RWA	Conservative	MS	14	125.07	15.4	125.36	19.5
		DS	10	120.60	17.6	122.00	25.1
	Moderate	MS	37	108.78	8.9	103.86	11.9
		DS	32	113.97	16.4	107.66	17.5
	Liberal	MS	7	119.43	7.5	113.14	6.2
		DS	4	106.50	11.1	101.50	6.6

In Experiment 2, the data presented by combining RWA and political orientation is not as revealing of potential trends worthy of further investigation, as was the case in Experiment 1. That is, clear trends are not observable regarding the combination of pre-manipulation right-wing authoritarianism and political orientation in predicting post-manipulation right-wing authoritarianism. Therefore, consistent with the lack of empirical support for Hypothesis 2.1 through 2.8, the data in Table 23 appears to suggest that mortality salience does not predictably influence right-wing authoritarianism when political orientation and baseline level of RWA are taken into consideration.

Experiment 2 Discussion

Several possibilities exist for the lack of support for the hypotheses in Experiment 2. The first explanation is that, perhaps, the length of time (i.e., two weeks) between administrations of the Pre- and Post-RWA Scales interfered with the effects of MS on RWA Scale scores. According to Altemeyer (1996), the test-retest reliability for the 1996 version of the RWA Scale is approximately .95 after one week, .85 after twenty-eight weeks, and .75 after four years. Recall that Castano et al. (2011) administered the RWA Scale (in two different formats) to participants within the same data collection session. This procedure arguably reduced the potential impact of test-retest unreliability while also reducing the likelihood that participants would simply recall the responses they had made on the first administration of the RWA Scale when they completed the second (different format) administration of the scale. On the other hand, Castano et al.'s procedure caused concern regarding the validity of the second administration by utilizing a new response scale which had not been examined empirically. Following Altemeyer's recommendation, in the present study the response scale was not altered and the time

between administrations was increased to two weeks to help prevent participants from simply reproducing their previous responses during the second administration of the RWA Scale. The Pearson correlations between pre-manipulation and post-manipulation RWA for the MS and DS groups were .92 and .93, respectively. Although test-retest reliability for the RWA Scale was relatively high, it is possible that subtle shifts in right-wing authoritarianism resulting from mortality salience were obscured by decreased reliability of the RWA Scale.

A second possibility for the failure to confirm any of the Experiment 2 hypotheses is that mortality salience does not have a significant impact on the level of right-wing authoritarianism among the various subgroups of participants. If the lack of significant findings in Experiment 2 is, in fact, due this possibility, the question must be raised as to why MS impacted opinions on authoritarian social policies in Experiment 1. One possible explanation for mortality salience impacting opinions on authoritarian social policies but not right-wing authoritarianism directly has to do with the constructs measured by the Social Policy Opinion Questionnaire and the RWA Scale. The SPOQ was designed to assess the strength of participants' agreement with authoritarian social policies. The RWA Scale, on the other hand, measures a personality construct, which is arguably more ingrained and less flexible. Thus, mortality salience may have a greater impact on support for authoritarian social policies than on actual level of right-wing authoritarianism.

Another possibility for the significant findings in Experiment 1 but not in Experiment 2 is that endorsing or rejecting items on the SPOQ may have provided some individuals (e.g., High RWAs and political conservatives) with a more effective means of bolstering their worldviews than did endorsing or rejecting items on the RWA Scale.

Given that individuals high in attachment security demonstrated a nearly significant reduction in right-wing authoritarianism following mortality salience, this latter possibility may be more likely. That is, whereas the SPOQ may have provided a more effective means of bolstering worldviews for High RWAs and conservatives, the RWA Scale may have provided a more effective means of bolstering worldviews among individuals high in attachment security. High RWAs and conservatives tend to hold strong beliefs in tradition and the established authority in their lives (Altemeyer, 1981, 1998, 2006). Under conditions of mortality salience, endorsing specific policies that preserve this tradition and the established authority in society would arguably be appealing to these individuals. Each of the items on the SPOQ involves a specific policy relating to one or more of the elements of right-wing authoritarianism (i.e., authoritarian aggression, authoritarian submission, and conventionalism). The items on the RWA Scale, on the other hand, while relating to the elements of right-wing authoritarianism, arguably, do not present participants with as effective a means of preserving or defending traditions or authority in society as do items on the SPOQ. For example, both the SPOQ and the RWA Scale contain items relating to homosexuality. However, the items on the SPOQ involve specific policies that, if they are accepted or rejected, would have a direct impact on traditional worldview violators in society (e.g., “Canada should repeal the laws allowing same-sex couples to get married.”; “Homosexual couples should be allowed by law to adopt children.”). In contrast, the items relating to homosexuality on the RWA Scale allow participants to express their agreement or disagreement with traditional worldview violators in general, but do not necessarily provide participants with a means of preserving traditional society (e.g., “Gays and lesbians are just as healthy and moral as

anybody else.”; “Homosexuals and feminists should be praised for being brave enough to defy ‘traditional family values.’”). Therefore, responding to items on the SPOQ may have provided High RWAs and conservatives with the sense that they were defending society from violators of tradition and empowering the established authority in society (i.e., government) to do so through legal means.

With respect to the nearly significant reduction in RWA among individuals high in attachment security following mortality salience, it is possible that the RWA Scale provided such individuals with a more effective means of bolstering the value of tolerance than did the SPOQ. Recall that tolerance has been argued to be an important aspect of the worldview of individuals high in attachment security (e.g., Weise et al., 2008; also see Lakoff, 2002). Following this logic, numerous items on the RWA Scale allow participants to directly express tolerance for different individuals (e.g., “There is no ‘ONE right way’ to live life; everybody has to create their own way.”; “Everyone should have their own lifestyle, religious beliefs, and sexual preferences, even if it makes them different from everyone else.”). Although several items on the SPOQ may be associated with the value of tolerance (e.g., “Canada should admit far more new immigrants into the country.”; “Speaking English or French should be a requirement for immigration to Canada.”), arguably, these items are more indirectly related to tolerance than items on the RWA Scale. That is, the items related to tolerance on the RWA Scale appear to explicitly express the notion that differences in lifestyle, religious beliefs, and sexual preferences are acceptable. In contrast, the items related to tolerance on the SPOQ more implicitly endorse tolerance for differences among individuals in society. Therefore, the RWA

Scale may provide a more effective means of bolstering the value of tolerance than the SPOQ following mortality salience.

With respect to the lack of support for Hypotheses 2.9 and 2.11 (regarding individuals low in attachment security), a similar logic may apply to that presented in the discussion for Experiment 1. The items on the RWA Scale were designed to reflect one or more of the three components of right-wing authoritarianism (i.e., authoritarian aggression, authoritarian submission, and conventionalism). As with the SPOQ, the RWA Scale was not specifically designed to tap into constructs such as personal security. Therefore, it is unlikely that endorsing or rejecting the items on the RWA Scale would have provided participants low in attachment security with an effective buffer against death-related anxiety.

Another unanticipated finding in Experiment 2 was the significant drop in right-wing authoritarianism between Phase 1 and Phase 2 among High RWA participants in both the mortality salience and dental pain salience conditions. There are several possible explanations for this finding. One possibility is that High RWAs recognized that their initial responses on the RWA Scale may have been perceived as harsh or extreme and, consequently, they may have tempered their opinions on the second administration in an effort to make them appear less extreme. A second possibility is simply a regression to the mean. That is, more extreme scores on the initial administration of the RWA Scale may have regressed towards the mean on subsequent administrations of the scale. However, this regression towards the mean was not found among Low RWAs between Phase 1 and Phase 2. That is, individuals scoring at the lowest end of the RWA Scale during Phase 1 did not demonstrate higher scores (i.e., a regression towards the mean) on

the RWA Scale during Phase 2. From the data, it is not entirely clear whether either of these possible explanations can account for the drop in level of RWA found among High RWAs but, given the lack of a regression towards the mean among Low RWAs, the former explanation (regarding High RWAs reconsidering harsh opinions) may be more likely.

Yet another unanticipated result in Experiment 2 was the finding of a reduction in level of right-wing authoritarianism between Phase 1 and Phase 2 among political moderates in the mortality salience condition (but not in the dental pain salience condition). This result was predicted (but not obtained) for politically liberal participants (Hypothesis 2.6), but no prediction was made for political moderates. One possible explanation for this finding is that the individuals identifying as political moderates in Experiment 2 placed a high degree of importance on the value of tolerance and the RWA Scale provided them with an opportunity to bolster this worldview following mortality salience. This explanation is consistent with the finding of a nearly statistically significant reduction in RWA among individuals high in attachment security (Hypothesis 2.10) who also, arguably, place a high degree of importance on the value of tolerance. Although, if this is the case, it would be anticipated that liberals (who also, arguably, place a high value on tolerance) would demonstrate reductions in RWA after MS (as was predicted in Hypotheses 2.6 and 2.8). This result was found by Castano et al. (2011), but was not replicated in the present study. It is possible that the statistical power created by the larger sample size among political moderates as compared to liberals (259 moderates vs. 76 liberals, respectively) allowed for more subtle shifts in right-wing authoritarianism

to be detected. Unfortunately, the results of neither Experiment 1 nor 2 address this question. Thus, future investigations are needed to clarify this issue.

General Discussion

In Experiment 1, mortality salience led to greater support for authoritarian social policies among high right-wing authoritarians and political conservatives. Mortality salience did not influence support for authoritarian social policies among any other group of participants. In Experiment 2, mortality salience led to a reduction in right-wing authoritarianism among political moderates and a nearly significant reduction in right-wing authoritarianism among individuals high in attachment security. Mortality salience did not influence RWA among any other group of participants in Experiment 2. This pattern of results appears to suggest that, in response to mortality salience, (a) the Social Policy Opinion Questionnaire provided an effective means of bolstering the worldview of high right-wing authoritarians and political conservatives and (b) the RWA Scale provided an effective means of bolstering the worldview of political moderates and, perhaps, of individuals high in attachment security. Overall, the findings of Experiments 1 and 2 add to the growing body of literature demonstrating the impact of mortality salience on peoples' opinions and behaviour. Although mortality salience has occasionally resulted in positive effects (e.g., increased donations to a charity that is compatible with one's worldview; Jonas et al., 2002), a relatively large proportion of studies (including the present thesis) have demonstrated that making mortality salient can have negative impacts (e.g., increased prejudice, stereotyping, discrimination, and/or conflict). Examples include greater derogation of Jewish people by Christians (Greenberg et al, 1990), objectification of women by both men and women (Grabe, Cook, Routledge,

Anderson, & Arndt, 2005), and derogation of conservative worldview violators (Greenberg et al., 1990), as well as aggression towards them (McGregor et al., 1998; for a review, see Greenberg et al., 2009). In the current context, Experiment 1 demonstrated that mortality salience increased support for authoritarian social policies that may serve to marginalize disadvantaged members of society in Canada. Such policies are harmful to society from the perspective of equality or social justice (Fondacaro, & Weinberg, 2002; Prilleltensky, 2001). For example, implementation of authoritarian social policies (i.e., policies that emphasize authoritarian aggression, authoritarian submission, and conventionalism) may lead to the rights of some individuals (typically the established majority in society) being given precedence over the rights of others (e.g., minority members of society). The remainder of this thesis is dedicated to a discussion of future directions related to research, the media, and society at large. Particular emphasis is placed on the research, findings, and predictions of terror management theory which demonstrates that reminders of mortality can have harmful societal consequences.

Future Directions in Research

Political Orientation and Right-Wing Authoritarianism

Findings from this thesis suggest that both right-wing authoritarianism and political orientation may be important predictors of the strength and direction of shifts in opinion on authoritarian social policies following mortality salience. Further, the data presented in this thesis (including the preliminary data presented in Table 10) suggests that, in future analyses of shifts in political opinion following mortality salience, it may be beneficial to measure both the level of RWA and political orientation of participants, particularly when the political opinions under investigation relate to one or more of

Altemeyer's (1981, 2006) dimensions of right-wing authoritarianism (i.e., authoritarian aggression, authoritarian submission, and/or conventionalism). That is, considering both of these variables together may allow for more precise predictions than would be the case if only one of them was considered.

News Content as a Mortality Salience Induction

Although it has been suggested that events in the news media which heighten mortality salience (e.g., newspaper articles of catastrophes) might increase in-group solidarity, out-group derogation, prejudice, and discrimination (Arndt, Cook, Routledge, 2004; Greenberg et al., 1990), to date there are few if any empirical studies that directly support this proposition. That is, exposure to actual news media content that could be perceived by participants as threatening or fear-inducing (e.g., a new terrorism threat) has not been employed as a mortality salience induction. However, previous terror management theory research appears to support the possibility that news content could induce mortality salience. For example, recall that Landau, Solomon, et al. (2004) found that reminders of 9/11 (a) increased death-thought accessibility and (b) increased support for George W. Bush and his policies. Further, Vail III, Arndt, Motyl, and Pyszczynski (2012) found that showing participants images of destroyed buildings and terrorist attacks (a) increased death-thought accessibility, (b) increased dogmatism (i.e., certainty in one's beliefs as absolutely correct), and (c) support for military action against Iran. Thus, it appears plausible that death-related content in the news media could have similar effects.

A necessary factor to consider when examining the effects of mortality salience is to ensure that mortality has been made salient for each participant in a study. Although accomplishing this has proven to be relatively straightforward by the methods that have

been employed in previous TMT research (e.g., using a questionnaire that directly asks participants to contemplate their own mortality), it would be challenging to use actual news content to induce MS in an experimental setting. This would require knowing the degree to which any given news story caused diverse individuals to contemplate their own mortality. That is, while a particular news story may induce mortality salience in some individuals, the same story may not induce mortality salience in other individuals. Therefore, in such a study, it would be important to ascertain that the experimental (MS) group differed from the control group, as intended, with regard to death-thought accessibility (DTA). This could be accomplished by measuring DTA in all participants and ensuring that DTA is higher among the experimental group (e.g., those exposed to threatening news content) than among the control group. Replicating Experiment 1 of the present study using the mortality salience induction described above would provide evidence for the notion that exposure to threatening or fear-inducing news content can increase support for authoritarian social policies.

Regarding identifying news content that is most likely to be personally relevant for a large number of individuals, Marshall et al.'s (2007) analysis of risk appraisal may offer some insight. In discussing relative risk appraisal, Marshall et al. explain that when individuals determine their level of personal risk in a given situation, it is not a rational calculation. The researchers suggest that, when risks are being evaluated for personal threat, those that are perceived (rightly or wrongly) to occur at a lower-frequency, are unfamiliar, and are frightening, are most likely to cause individuals to overestimate their risk of being personally harmed. Marshall et al. describe *Dread Risk* as “the catastrophic, uncontrollable, and inequitable [i.e., unjust] aspects of hazards” (p. 307; e.g., nuclear

weapons, nerve gas accidents). They describe *Unknown Risk* as including “characteristics such as being unobservable, not knowing when one is exposed, and not knowing the mechanism of potential injury” (p. 307; e.g., genetically modified food, microwave ovens, and water fluoridation in the 1980s). Marshall et al. suggest that the combination of Dread Risk and Unknown Risk greatly increases the chances that a risk will be perceived as being personally harmful. For example, they suggest that, following the events of 9/11, terrorism fears (which score high on both Dread Risk and Unknown Risk) would likely have been perceived as being personally threatening for many individuals. In devising a study with the goal of increasing personal relevance of a risk, it would be important to consider Marshall et al.’s analysis of perceived risk.

Political Orientation, the Brain, and Death-Thought Accessibility.

Kanai, Feilden, Firth, and Rees (2011) examined the gray matter volume of the brains of young adults using structural MRI. They found structural differences between the brains of self-identified conservative and liberal participants. Specifically, Kanai et al. found that the brains of liberal participants tended to have increased gray matter volume in the anterior cingulate cortex, which they claim may be associated with greater tolerance of uncertainty, thus resulting in greater acceptance of liberal views. Kanai et al. also found that the brains of conservative participants tended to have increased volume in the right amygdala, which has been found to be associated with emotional responses and fear (van der Plas, Boes, Wemmie, Tranel, & Nopoulos, 2010), which they claim may result in greater acceptance of conservative views. Kanai et al. note that previous research has found that conservatives tend to react more aggressively to threatening situations than liberals (Jost et al., 2003a) and to perceive ambiguous facial expressions as more

threatening than liberals (Vigil, 2010). Kanai et al. (2011) also note that research has found a positive association between amygdala size and fear. In other words, individuals with larger amygdalae have been found to be more fearful than individuals with smaller amygdalae (van der Plas et al., 2010). Taking these findings into consideration, Kanai et al. (2011) suggest that the relationship between right amygdala volume and political orientation, combined with the findings of increased aggression and sensitivity in response to threat among conservatives, appears to indicate an association between brain structure and political orientation. However, the researchers state that their findings do not determine the direction of this association (i.e., whether brain structure determines political orientation or vice versa). Together, the above findings strongly support the proposition that (a) unique responses to mortality salience occur among conservatives and liberals, (b) conservatives tend to be more fearful in general, (c) liberals tend to be more tolerant of uncertainty, and (d) brain structures may be associated with these tendencies. Therefore, it is possible that the accessibility of death-related thoughts is different among conservatives and liberals. Tolerance of uncertainty among liberals may be associated with lower DTA. Similarly, tendencies towards fearfulness among conservatives may be associated with higher DTA. Thus, future investigations could potentially test these propositions. Perhaps DTA is more easily aroused in conservatives than in liberals, or perhaps baseline levels of DTA are higher among conservatives than liberals. Also, given the high degree of correlation between political orientation and right-wing authoritarianism, future investigations should measure RWA in addition to political orientation when examining both brain structure and death-thought accessibility.

Terror Management Theory vs. Motivated Social Cognition

Although it was not the purpose of this thesis to address the different predictions made by proponents of the Motivated Social Cognition (MSC) framework (e.g., Jost et al., 2003a) and proponents of TMT, the present findings do shed some light on the issues that are debated between the two camps. Neither the findings of Experiment 1 nor the findings of Experiment 2 appear to confirm the predictions that follow from Jost et al.'s (2003a) reasoning. Recall that the MSC framework predicts that when presented with crisis and instability, conservative, system-justifying beliefs and ideals provide individuals with an effective sense of stability and security. Therefore, predictions for the present research that are based upon MSC would suggest similar conservative shifts in opinion among liberal, moderate, and conservative participants following mortality salience. Although conservative participants in Experiment 1 demonstrated conservative shifts in opinion following MS, liberal participants did not. Further, liberal participants also did not demonstrate such shifts in opinion in Experiment 2. In fact, although Hypothesis 1.2 was not confirmed (i.e., reduced support for authoritarian social policies among liberal participants), close examination of the data that was collected in Experiment 1 (considering both level of RWA and political orientation together; see Table 10) appears to demonstrate lower support for authoritarian social policies (i.e., a liberal shift) among liberal participants following mortality salience (although these findings are not conclusive). Further, the finding of lower right-wing authoritarianism (arguably a liberal shift) following MS among individuals high in attachment security supports the predictions of TMT over those of MSC (although this finding must be interpreted with caution as it only approached statistical significance). Finally, in

Experiment 2, political moderates demonstrated a significant reduction in right-wing authoritarianism following mortality salience. Overall, the data from the current research appears to support the predictions of Terror Management Theory over those of the Motivated Social Cognition framework with respect to the direction of shifts in opinion following MS. That is, the data appears to demonstrate either no shifts among participants or shifts toward more liberal worldviews among participants following MS (i.e., the TMT prediction), rather than shifts towards more conservative worldviews among participants following MS (i.e., the MSC prediction). Although a thorough discussion of conservative vs. liberal shifts in attitudes following mortality salience is beyond the scope of this thesis, Burke, Kosloff, and Landau (2013) provide a review of the effects of mortality salience on political attitudes, taking into consideration research that supports both the predictions of TMT and those of the MSC framework.

Future Directions in Media Reform

It has been argued throughout this thesis that sensationalism in the news media and the trend towards presenting threatening, fear-provoking news content stems in part from the evolution of media organizations into massive, broad-reaching, wealthy, and powerful media corporations with an agenda to maximize profit and an apparent willingness to do so at the expense of high quality, investigative journalism (i.e., public service journalism). Numerous societal problems with the current media system have been identified. For example, limited access to high quality journalism has been argued to be detrimental to a well-functioning democracy (Bagdikian, 1983, 2004; Herman & Chomsky, 2002; McChesney, 2000, 2007). In addition, sensationalistic (i.e., personally threatening) news content has been found to increase anxiety and fear in news consumers

(e.g., see Healy, Aylward, Bourne, & Beer, 2009; King & Hayslip, 2001; Lemal & Van den Bulck, 2009; Romer, Jamieson, & Aday, 2003; Smith & Moyer-Gusé, 2006; Van den Bulck & Custers, 2009). One of the concerns reinforced by the present thesis is that social policies which serve to marginalize disadvantaged citizens (i.e., authoritarian social policies) may have a greater chance of being implemented if the population is frequently bombarded with threatening and fear-provoking news because it may increase mortality salience among consumers (Experiment 1). Cohen and Solomon (2011) reviewed the impact of mortality salience on support for political candidates and their policies. They concluded that resisting efforts to arouse mortality salience (or to use naturally occurring reminders of mortality) for political gain is of utmost importance for democratic society.

The problems associated with corporate news media are complex and interwoven. Therefore, remedying these problems will likely require a comprehensive and multifaceted approach. In an analysis of the current state of the media in the United States and around the world, McChesney (2000) recommends a number of changes which he argues are necessary to structurally reform the media for the betterment of society. His recommendations for media reform are aimed at reducing the influence of the profit motive on decisions regarding news content. Although McChesney argues that media reform will lead to higher quality journalism and, thus, be beneficial for democracy, reducing the profit motive in news media may also reduce sensationalism and, ultimately, decrease public exposure to reminders of mortality. Arguably, such a reduction in reminders of mortality may lead to reduced support for policies that marginalize disadvantaged citizens (i.e., authoritarian social policies).

Reducing reminders of mortality in the news may be particularly effective at reducing support for authoritarian social policies because, when the news is being presented to the public, political opinions and social policies are being discussed, problems are being framed for the public and, consequently, public opinion may be formulated and/or swayed (Altheide, 1997, 2002, 2006; Altheide & Michalowski, 1999; Bagdikian, 1983, 2004; Entman, 1989, 2004; Herman & Chomsky, 2002; McChesney, 2000, 2007). Although a thorough analysis of media reform is beyond the scope of this thesis, McChesney's (2000) recommendations for media reform are discussed briefly in conjunction with several other strategies to promote more responsible, high quality journalism over sensationalistic, fear-inducing news. These strategies are presented for consideration as potential ways to reduce the impact that mortality salience may have on political attitudes and decisions. Additional research is necessary to determine the extent to which these strategies are able to accomplish this objective.

Regarding media reform, McChesney (2000) recommends: (a) promoting and supporting non-profit, non-commercial, independent journalistic institutions and media organizations that provide alternative perspectives to corporate news in less sensationalistic ways; (b) funding public news media with sufficient financial resources to engage in investigative journalism, which is often too costly a task for non-profit, non-commercial media organizations; (c) regulating commercial media by developing and enforcing public service standards (e.g., time dedicated to public service obligations, such as children's programming and news/public affairs programs) and giving control of this content to the creators (e.g., artists, children's educators, journalists), rather than corporate executives and media owners; and (d) developing and enforcing media

ownership regulations that encourage a more competitive marketplace by breaking up the largest media corporations and preventing corporations from controlling both the creation and distribution of media content. It should be noted that publically funded journalism is not at all akin to a state-controlled media. That is, McChesney (2000) advocates for public funds to be allocated to a public news media system with the provisions that: (a) the funding is guaranteed and not subject to reductions or elimination by the government in power at any given time; and (b) editorial control over the news content that is produced is independent of government intervention. Arguably, McChesney's recommendations could reduce the amount of sensationalistic, fear-inducing news content to which people are exposed by ensuring that there are many viable, easily-accessible, non-commercial sources of news.

In addition to the above recommendations for media reform, the United Nations Special Rapporteur on the promotion and protection of the right to freedom of opinion and expression outlined recommendations to promote and protect the right to freedom of expression on the Internet (La Rue, 2011). Arguably, allowing corporations to control access to the Internet, regulate download speeds, and create tiered levels of service would be antithetical to innovation, creativity, and freedom of expression (Bagdikian, 2004; McChesney, 2007). La Rue (2011) recommended that as few restrictions as possible be placed on the flow of information on the Internet. Although a free, open, and neutral Internet does not prevent media giants from expanding broadly across it (e.g., through partnerships between Internet media giants, as well as mergers and acquisitions of Internet media giants), net neutrality would ensure that any individual or organization, regardless of size, has equal access to an open forum to express ideas. This is crucial for

non-commercial news media organizations that are dependent on a low-cost medium (such as the Internet) to distribute their content (Bagdikian, 2004; McChesney, 2000, 2007). As with the promotion of public broadcasting and non-profit media, a free and open Internet increases the likelihood that non-commercial news media organizations have a greater share of the market and it encourages competition among news media providers.

Finally, after recognizing the corruption of journalistic integrity that is arguably prevalent today, George Monbiot of the Guardian newspaper has called for a Hippocratic oath, of sorts, for journalists (Monbiot, 2011, July 11). He argues that, as a means of protecting democracy in society, the primary role of journalists should be to hold those in power to account and to report instances of misuse of that power. Monbiot recommends that journalists take an oath (similar to that taken by medical doctors) committing themselves to hold power to account, to stand up to the interests of the business they work for and the advertisers that fund them, and to refuse to accept money (or other incentives) to support or promote a particular point of view. Monbiot argues that the public can promote adherence to such an oath by making a choice to support journalists and media organizations that adhere to such a commitment and to be wary of or avoid those that do not. Such public pressure might serve to establish widespread adherence to a journalistic oath, as well as lead to improved standards and integrity in journalism. Further to the recommendations made by Monbiot, a journalistic oath might include a commitment by journalists and editors to present information as objectively as possible and to make a concerted effort to avoid framing news stories to advance an agenda (e.g., political, economic, personal, etc.). Commitment to a journalistic oath might result in an

increase in public service journalism and a reduction in sensationalistic journalism, potentially leading to fewer reminders of mortality in the news media.

Unfortunately, journalists are not immune to the effects of mortality salience. Cuillier (2012) found that reminding journalists of their mortality resulted in the use of more biased information in their news stories. Specifically, when college journalists were exposed to mortality salience, they included 66% more negative facts about a rival university than did college journalists who were not reminded of their mortality. An implication of Cuillier's (2012) study is that journalists who are reminded of mortality in their work (e.g., those tasked with reporting on fatal accidents, terror attacks, health risks, violent crime, etc.) may be more likely to bias their writing towards their own cultural worldviews. With regard to the findings of the present investigation, it may be the case that journalists who hold pre-existing attitudes that are supportive of authoritarian social policies may be more likely to present news content related to these issues in a biased manner when they are reminded of their mortality.

Media is a global enterprise and the media that is produced in the United States is widely available and, arguably, influential to Canadians (Skinner, Compton, & Gasher, 2005). Therefore, media reform in the United States would likely have a significant impact on Canadian media consumers. Further, the media system in Canada faces similar challenges as the media system in the United States. Media ownership in Canada is concentrated among a relatively few corporations. For example, in the late 1990s, six chains controlled approximately 95% of the newspapers in Canada (Soderlund & Romanow, 2005; also see Skinner & Gasher, 2005). Also, public broadcasting in Canada faces cuts and threats of elimination of funding. For example, Canadian Members of

Parliament have called for proposals to defund or sell the Canadian Broadcasting Corporation, which is the major publically-funded source of journalism in Canada (e.g., “CBC Cuts,” 2012). Concentration of media ownership, and defunding or eliminating the limited public broadcasting that is available in Canada are, arguably, steps in the direction towards media that is dominated by wealthy and powerful corporations driven by the profit motive (Skinner, Compton, & Gasher, 2005; Soderlund & Romanow, 2005).

A recent study by Cuillier, Duell, and Joireman (2010) suggests that, under conditions of mortality salience, certain individuals may actually become less amenable to the proposed strategies for media reform described above. Cuillier et al. (2010) found that, among individuals who placed a high value on national security, those exposed to mortality salience demonstrated lower support for a ‘watchdog press’ than those who were not primed to think about death. That is, such individuals became less supportive of journalists who question/criticize the government (e.g., criticism of the president of the United States during times of war), when they were reminded of their mortality. Given that High RWAs (Altemeyer, 1981, 1996, 2006) and political conservatives (Jost et al., 2003a; Lakoff, 2002; Weise et al., 2008) have been found to place a high value on security, it is possible that these individuals may also decrease their support for media reform that results in greater scrutiny of government following mortality salience. Interestingly, it could be argued that the for-profit news media may actually be contributing to reduced support for media reform through increased sensationalism and reminders of mortality in the news.

Future Directions in Social Change

The above recommendations for media reform may serve to reduce some of the potentially harmful societal effects of sensationalism in the news media (by reducing reminders of mortality) and to improve the democratic function of journalism by lessening the impact of the for-profit, commercial media system. However, even with such changes to the media, reminders of mortality cannot be avoided altogether. Further, many individuals will still respond to reminders of mortality (in the media or elsewhere) with increased support for social policies that marginalize disadvantaged members of society. Thus, although sensationalism in the news media may contribute to support for authoritarian social policies, addressing the problems associated with the corporate media system is only one way of reducing the undesirable effects of mortality salience in society. Reducing the likelihood that reminders of mortality will result in prejudice, discrimination, and conflict may require significant societal changes. The following discussion provides ideas that may encourage such change, taking into consideration the theory and research behind TMT. It is acknowledged that the strategies described below are based upon a theoretical understanding of TMT and would, therefore, require further empirical investigation. Thus, they are presented for future consideration, scientific examination, and critique.

Promoting the Value of Tolerance from an Early Age

TMT research has demonstrated that when individuals place a high value on tolerance, it can become an effective buffer against death-related anxiety. Further, among such individuals, tolerance towards others can increase when mortality is made salient (e.g., Greenberg, Simon, et al., 1992). Thus, promoting tolerance and institutionalizing

values associated with tolerance at a societal level potentially could counterbalance the negative effects associated with mortality salience among less tolerant individuals (e.g., prejudice, discrimination, marginalization, and conflict). This approach might involve instilling a fundamental system of beliefs accepting diversity and promoting tolerance of others from an early age. There are a number of ways in which tolerance could be promoted throughout society. For example, it might involve national and/or international recognition of the benefits associated with tolerance of diversity and a concerted effort to incorporate such values into national and international policies. The impetus for such a shift in policies might develop through citizens recognizing the importance of tolerance and selecting leaders who commit to promoting tolerance. The values of tolerance and diversity can also be promoted through a socially conscious media that showcases the societal and economic benefits of reduced conflict among diverse groups. Tolerance and diversity can be further incorporated into the education system by exposing children to a wide range of cultures, ideas, experiences, and values. Promoting tolerance can also take place in the family, where values are taught both explicitly and implicitly (e.g., through the examples set by family members). In conjunction with promoting tolerance as a value, collaboration among people from different ethnic, religious, and cultural groups around common concerns may reduce the wariness or fear that can be associated with the unfamiliar or unknown (Rappaport, Swift, & Hess, 1984). Further, increased collaboration among nations might serve as a model from which myths and misconceptions about others could be dispelled and common goals could be achieved.

Although the findings of a link between brain structure and political orientation presented by Kanai et al. (2011) indicate that some individuals may have structures that

predispose them towards fear of the unknown (thereby restricting tolerance), whereas others may have structures that predispose them towards tolerance of uncertainty, many human tendencies are expressed because of an interplay between both biological and environmental factors. That is, both biology and environment may determine how an individual will respond to a given situation (e.g., the diathesis-stress model of mental illness; Ingram & Luxton, 2005). Therefore, despite the possibility that the human brain may be genetically predisposed towards greater or lesser fear of uncertainty (resulting in varying levels of tolerance), promoting the value of tolerance and exposing people to a diverse range of cultures, ideas, and experiences from a young age may serve to reduce the effects of a biological predisposition towards fearfulness. When, inevitably, mortality is made salient, increased tolerance may potentially be an effective buffer against death-related anxiety among individuals who are biologically predisposed towards fearfulness, if their life experiences involve positive examples of tolerance and diversity.

Encouraging Rational Thinking

TMT research has demonstrated that worldview defense following mortality salience can be attenuated by having participants engage in rational thinking. For example, Simon, Greenberg, Harmon-Jones, Solomon, Pyszczynski, Arndt, et al. (1997; Study 2) had American university students read pro- and anti-American essays. Then they evaluated the authors and the essays following either a mortality salience induction or parallel questions on watching television (replicating Greenberg, Simon, et al.'s [1992] study). However, in Simon et al.'s (1997) study, instructions for completing the MS induction or television control condition were changed to either induce an experiential-mode or a rational-mode in participants. The experiential-mode instructions were

intended to encourage participants to respond in a relatively effortless manner with little conscious thought. Participants were given the following instructions: “On the following page are two open-ended questions, please respond to them with your first, natural response. We are just looking for people's gut-level reactions to these questions.” (p. 1137). In contrast, the rational-mode instructions were designed to encourage participants to respond after deliberate, effortful, and conscious thought. In the rational-mode condition, participants were given the following instructions:

On the following page are two open-ended questions, please carefully consider your answers to them before responding. We would like you to be as rational and analytic as possible in responding to these questions. Please be careful and thorough when considering your responses to the questions. (p. 1137).

Simon et al. found that participants in the MS condition who were given the experiential-mode instructions responded with typical worldview defense (i.e., more negative evaluations of the anti-American author and essay and more favourable evaluations of the pro-American author and essay, as compared to participants in the control condition). However, the researchers found no difference between the evaluations of the authors and essays among MS participants and control participants in the rational-mode condition. That is, encouraging participants to think rationally in the context of mortality salience attenuated its effects. Simon et al. concluded that thinking rationally may diffuse the threatening nature of thinking about death. That is, thinking rationally about death may “provide the psychological distance necessary to contemplate death-related thoughts with relative equanimity [i.e., mental calmness].” (p. 1144).

Taking into consideration Simon et al.'s (1997) findings, Cohen and Solomon (2012) suggest that encouraging people to engage in rational thinking when voting (e.g., comparing and contrasting the policies and positions of each candidate) might mitigate the effects of mortality salience on preferences for political candidates. The researchers indicate that such a strategy could potentially result in more democratic electoral outcomes. Following a similar logic, encouraging people to make rational, analytical decisions when forming political opinions (e.g., regarding social policies) might result in a reduction in some of the negative effects of mortality salience. It is possible that, following MS, the increase in support for authoritarian social policies among high right-wing authoritarians and political conservatives in Experiment 1 could have been mitigated if these participants were asked to think rationally prior to providing their opinions. Although further research is needed to confirm such predictions, if they are indeed accurate, effort by the news media to encourage rational thinking among consumers, particularly prior to news content that arouses death-related thoughts, could be an effective buffer against the negative effects of reminders of mortality in the news.

Limitations

A potential limitation of this thesis is that, in both Experiments 1 and 2, attachment security was measured in the same data collection session as the MS manipulation and the dependent variables. In Weise et al.'s (2008) study, which found a relationship between attachment security and preferences for political candidates (Study 1), attachment security was measured two weeks prior to the experiment proper in an introductory psychology mass data collection session. Further, Weise et al. found that, following mortality salience, asking participants to think about an accepting, non-

evaluating person in their lives (i.e., priming a secure attachment relationship), led to less support for violent approaches to solving terrorism (i.e., reduced worldview defense; Study 2). Thus, the possibility exists that administering the Relationship Scales Questionnaire in the present studies during the same data collection session as the mortality salience manipulation may have primed thoughts of certain types of relationships in participants (ranging from very secure to very insecure), which may have had an impact on the effects of mortality salience. However, there are several reasons why this is not likely to have been the case. First, Weise et al. (2008) administered their attachment security prime after the MS manipulation, whereas in the present context, the RSQ was administered prior to the MS manipulation. There is no research demonstrating that an attachment security prime administered prior to a MS manipulation can attenuate the effects of mortality salience. Second, previous TMT research has administered questionnaires prior to the MS manipulation in the same data collection session and reported no concerns with this procedure. Further, filler questionnaires used in previous TMT research (e.g., the Social Desirability Scale [Crowne & Marlowe, 1960]; the Neuroticism Scale of the Eysenck Personality Inventory [Eysenck & Eysenck, 1964]) contain items that could potentially evoke thoughts of secure or insecure attachment relationships. For example, the Social Desirability Scale contains items such as: “I have never intensely disliked anyone,” “There have been times when I felt like rebelling against people in authority even though I knew they were right,” and “I have almost never felt the urge to tell someone off.” The Neuroticism Scale of the Eysenck Personality Inventory contains items such as: “Do you often need understanding friends to cheer you up,” “Are you easily hurt when people find fault with you or your work,”

and “Are you troubled by feelings of inferiority.” Arguably, such items could prime thoughts of secure or insecure attachment relationships in participants. However, even though these measures have been employed as filler questionnaires and administered prior to the MS manipulation, the effects of mortality salience have been consistently obtained (see Greenberg et al., 1992; Kosloff et al., 2010). Finally, in Weise et al.’s (2008) study, which primed thoughts of secure attachment relationships, the researchers asked participants to think about a specific person who embodied the qualities of a secure attachment relationship. Arguably, if the RSQ were to be utilized as an attachment security prime, it would require participants to think of specific people who embody secure or insecure attachment relationships. It is unclear whether completing the RSQ would have such an effect on respondents. However, despite this reasoning, the possibility cannot be completely ruled out that the RSQ caused an inadvertent attachment relationship prime which affected the mortality salience manipulation. Therefore, further experimentation would be required to address this possibility.

A second potential limitation of this thesis is that, although the Big Five personality traits were not found to be independent variables predicting change in authoritarian opinions on social policies (Experiment 1) and authoritarian attitudes in general (Experiment 2), the sample size was not large enough to examine these personality variables within each of the various levels of right-wing authoritarianism and/or political orientation. For example, it is theoretically possible that High RWAs who are also high or low in one or more of the various personality constructs would demonstrate a differential response to mortality salience, as compared to similar individuals in the control condition. Although there does not appear to be any previous

research indicating that such differential responses to MS should be observed among these potential groups of participants, the present research was not able to test this possibility. Further research with a significantly larger sample size would be necessary to do so.

Another potential limitation of this thesis is that it is not possible to predict how long-lasting the effects of mortality salience may be on attitudes towards authoritarian social policies and authoritarian attitudes in general. For example, although attitudes supporting authoritarian social policies were bolstered among High RWAs and political conservatives following mortality salience in Experiment 1, such attitudes may return to baseline levels once individuals' worldviews are successfully defended. Therefore, increasing support for authoritarian social policies may be a temporary strategy to defend against death-related concerns when death-thought accessibility is high. A similar limitation may apply to all TMT research. For instance, it is unclear whether shifts in voting intentions observed following mortality salience (e.g., from John Kerry to George W. Bush; Landau et al., 2004) resulted in actual changes in voting at the polls on the day of the election. However, there are several reasons why the effects observed in the present thesis, and TMT research in general, remain relevant. It has been argued throughout this thesis that reminders of mortality are ubiquitous (both in the news media and in daily life). Thus, there are many instances in which worldviews (e.g., authoritarian attitudes) may be bolstered and defended. Further, it has been argued that social policies are frequently discussed and debated in the news media and that these are times when attitudes towards such social policies are being formulated, influenced, and solidified.

Therefore, if reminders of mortality occur precisely at such times, stronger support for authoritarian social policies may result.

Concluding Remarks

There are many variables that, together, influence political attitudes and support for social policies. These include, but are not limited to: (a) biological factors, such as genetic traits and brain structures that predispose people to react differently to fear (e.g., Hatemi, McDermott, Eaves, Kendler, & Neale, 2013; Kanai et al., 2011); (b) situational factors, such as terrorism threats (e.g., Echebarria-Echabe & Fernández-Guede, 2006; Landau et al., 2004; Willer, 2004); (c) ideological beliefs, such as political liberalism and conservatism (e.g., Jost et al., 2003a, 2003b, 2006; Knight, 1990, 1999); (d) dispositional factors, such as personality traits that develop from a combination of genetics and environmental experiences (e.g., Gosling, Rentfrow, & Swann, 2003; Hirsh, DeYoung, Xiaowen, & Peterson, 2010; McCrae, 1996); and (e) the manner in which information is presented by the media (Altheide, 1997, 2002, 2006; Altheide & Michalowski, 1999; Bagdikian, 1983, 2004; Entman, 1989, 2004; Herman & Chomsky, 2002; McChesney, 2000, 2007). The results of this thesis add to the terror management theory literature showing that existential concerns can influence political attitudes and may also influence the degree to which other variables (such as those described above) impact political decisions. Further research into terror management theory processes is certainly justified, given the potential impact that mortality salience may have on elections, social policy decisions, democratic processes, and society at large.

“Liberties are not given, they are taken.” – Aldous Huxley

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Appendix A

Social Policy Opinion Questionnaire

Please indicate the degree to which you agree or disagree with the following statements.

- 1 = Very Strongly Agree
- 2 = Strongly Agree
- 3 = Moderately Agree
- 4 = Slightly Agree
- 5 = Neutral/No Opinion
- 6 = Slightly Disagree
- 7 = Moderately Disagree
- 8 = Strongly Disagree
- 9 = Very Strongly Disagree

1. Aboriginal self-government should be permitted. The Canadian government should have far less control over Aboriginal policies.
2. Violent young offenders should be sentenced as adults.*
3. Canada should increase its military support to foreign conflicts (e.g., Afghanistan).*
4. Canada should repeal the laws allowing same-sex couples to get married.*
5. Police in Canada should never be permitted to use force against protesters (e.g., tear gas, pepper spray, tasers).
6. For safety and security reasons, laws should make it easier for the authorities to monitor people's activities on the Internet.*
7. Canada should attempt to rehabilitate criminals, especially those with mental illnesses and those who were abused in the past.
8. Canada should impose longer mandatory minimum prison sentences for criminal offenders.*
9. Canada should spend much less money on the military.

10. Speaking English or French should be a requirement for immigration to Canada.*
11. Canada should admit far more new immigrants into the country.
12. The federal budget deficit should be reduced, even if it means fewer public services for low income Canadians.*
13. Homosexual couples should be allowed by law to adopt children.
14. Environmental regulations should be stricter, even if it leads to consumers having to pay higher prices.
15. Possession of marijuana should be decriminalized.
16. Canada should oppose the death penalty, even for the most severe criminals.
17. The government should make it more difficult for a woman to get an abortion.*
18. If Quebec chooses to separate from Canada, the rest of the country should cut off all political and economic ties with the Quebec.*
19. Taxes should be reduced, even if it means fewer public services for low income Canadians.*

Note: A * indicates that agreement signifies an authoritarian stance on an issue, whereas the absence of a * indicates that disagreement signifies an authoritarian stance on an issue.

Appendix B

PSYC 1200 Recruitment Statement

Study Name: Personality and Social Policies

Principal Investigator: Chris Tysiaczny, Ph.D. Candidate, Psychology
umtysiac@cc.umanitoba.ca

Research Supervisor: Dr. Bruce Tefft, Associate Professor, Psychology
474-8259 / tefft@cc.umanitoba.ca

Brief Abstract: A study examining how various personality traits may influence people's opinions on current events and social policies.

Detailed Description: This study is being conducted as a Ph.D. Thesis by Chris Tysiaczny under the supervision of Dr. Bruce Tefft. It requires you to participate in one data collection session. You may select a time that is convenient for you. During the data collection session, you will be asked to complete a number of questionnaires about yourself, your opinions on various social policies, your demographic information (e.g., age, sex, ethnicity), and your beliefs on various topics such as religion and political orientation. The session will take approximately 45 minutes to complete and you will receive 2 experimental credits towards your research participation requirement. Some participants may experience minor discomfort after reading and answering some of the questions in this study, but we do not expect these effects to occur in every participant or to be very long lasting.

Eligibility Requirements: Must be a Canadian Citizen or Permanent Resident.

Pre-Test Restrictions: None

Duration: 1 data collection session lasting approximately 1 hour.

Credits: 2 credits

Appendix C

Participant Information Questionnaire

1. Age: _____

2. Sex (circle one): Male Female

3. Please indicate how you would best describe your ethnic or cultural background by checking one of the general categories presented below:

- Aboriginal/First Nations
 Arab/West Asian (e.g., Armenian, Egyptian, Iranian, Lebanese, Moroccan)
 Black
 Chinese
 Filipino
 Japanese
 Korean
 Latin American
 Métis
 South Asian (e.g., East Indian, Pakistani, Punjabi, Sri Lankan)
 South East Asian (e.g., Cambodian, Indonesian, Laotian, Vietnamese)
 White/European (e.g., English, French, Scottish, Irish)
 Other (please specify: _____)

4. Please indicate your religious beliefs by checking one of the general categories below:

- Christian
 Muslim
 Jewish
 Buddhist
 Hindu
 Not Religious
 Other (please specify: _____)

5. How religious are you?

(1 = very religious; 3 = somewhat religious; 5 = neutral; 7 = somewhat non-religious; 9 = very non-religious).

1 2 3 4 5 6 7 8 9

6. How would you describe your political orientation?

Please circle your choice on the scale below and use the following numbers as guidelines:

(1 = very conservative; 3 = somewhat conservative; 5 = moderate; 7 = somewhat liberal; 9 = very liberal).

1 2 3 4 5 6 7 8 9

Appendix D

Study Debriefing Sheet

This study is concerned with the relationship between personality characteristics and opinions on various social policies relevant to Canada. Previous studies have found that when you ask participants to think about their mortality it can lead to them to more strongly endorse statements that are consistent with their beliefs and to more strongly oppose statements that are inconsistent with their beliefs.

How was this tested?

In this study, you were asked to respond to several questionnaires that measured personality traits such as (a) attachment security (e.g., how comfortable people feel in close relationships), (b) right wing authoritarianism (e.g., peoples' beliefs about authorities and willingness to abide by the rules and guidance of authorities), and (c) political orientation (liberal vs. conservative). Next, you were either asked to complete questionnaires designed to make you think about your mortality or about experiencing dental pain. Finally, you were asked to provide your opinion on various current events and social policies relevant to Canada.

Hypotheses and main questions:

We expect to find that, among people who were asked to think about their mortality, those who have low levels of attachment security, high right wing authoritarianism, and/or who are politically conservative will demonstrate greater support for the authoritarian social policies than participants with high levels of attachment security, low right wing authoritarianism, and/or who are politically liberal. The strength of opinions on the social policies is not expected to be different among participants who were asked to think about the topic of dental pain.

Why is this important to study?

The findings of this study are important for understanding how the news media may be affecting the strength of peoples' opinions on certain social policies by focusing heavily on news content that makes people think about our mortality (e.g., violent crime, terrorism, health concerns). The results of this study may be used to promote more responsible journalism.

Deception:

It is important for the study that participants not know precisely why they are being asked to think about their mortality or about dental pain. In order to avoid this, you were told that one questionnaire you completed was a recently developed personality assessment when, in fact, it was simply designed to get you to think about your mortality or about dental pain. In addition, the literary passage you read and the questions you answered

about it were only used to add a short delay between the completion of two questionnaires. This passage was not actually a personality measure.

These deceptions were necessary to achieve a scientifically valid test of the hypotheses. Nonetheless, I apologize for having to deceive you. However, you may feel that you no longer wish to have your questionnaire data included in the analysis. If you would like to have your questionnaire excluded from the analysis and destroyed by shredding (within 24 hours), please inform the experimenter now, as your results will soon be compiled with the results of every other participant and will no longer be identifiable.

What if I want to know more?

If you are interested in learning more about this type of study, you can consult:

Burke, B. L., Martens, A., & Faucher, E. H. (2010). Two decades of terror management theory: A meta-analysis of mortality salience research. *Personality and Social Psychology Review, 14*, 155-195.

For questions about this study, you may contact Chris Tysiaczny at 227-5853 or umtysiac@cc.umanitoba.ca. You may also contact Dr. Bruce Tefft at 474-8259 or tefft@cc.umanitoba.ca.

Please do not disclose research procedures and hypotheses to anyone who might participate in this study between now and the end of the data collection (May 2012), as such prior knowledge could affect the results of the study.

Thank you again for your participation!

Appendix E

Correlations Among the Variables in Experiment 1

	RWA	EX	AG	CO	ES	OE	AS	SR	PO	SPOQ
RWA	1	-.05	.01	.03	-.02	-.19**	-.01	-.44**	-.40**	.64**
EX	-.05	1	.09	.03	.12**	.36**	.30**	-.01	.03	.03
AG	.01	.09	1	.15**	.19**	.11*	.20**	-.04	.01	-.03
CO	.03	.03	.15**	1	.30**	.11*	.20**	-.08	-.08	.10*
ES	-.02	.12**	.19**	.30	1	.02	.38**	.07	-.08	.06
OE	-.19**	.36**	.11*	.11*	.02	1	.17**	.00	.18**	-.15**
AS	-.01	.30**	.20**	.20**	.38**	.17**	1	.01	-.07	.07
SR	-.44**	-.01	-.04	-.08	.07	.00	.01	1	.19**	-.30**
PO	-.40**	.03	.01	-.08	-.08	.18**	-.07	.19**	1	-.49**
SPOQ	.64**	.03	-.03	.10*	.06	-.15**	.07	-.30**	-.49**	1

* $p < .05$ ** $p < .01$

Note. Names of the variables are as follows: Right-Wing Authoritarianism (RWA), Extroversion (EX), Agreeableness (AG), Conscientiousness (CO), Emotional Stability (ES), Openness to Experience (OE), Attachment Security (AS), Strength of Religious Beliefs (SR), Political Orientation (PO), Social Policy Opinion Questionnaire (SPOQ).

Appendix F

PSYC 1200 Recruitment Statement

Study Name: Personality and Social Policies

Principal Investigator: Chris Tysiaczny, M.A., Ph.D. Candidate, Department of Psychology. Email: umtysiac@cc.umanitoba.ca; Phone 227-5853.

Research Supervisor: Dr. Bruce Tefft, Associate Professor, Department of Psychology. Email: tefft@cc.umanitoba.ca; Phone: 474-8259

Brief Abstract: A study examining how various personality traits may influence people's opinions on current events and social policies in Canada.

Detailed Description: This study is being conducted as a Ph.D. Thesis by Chris Tysiaczny under the supervision of Dr. Bruce Tefft. It requires you to participate in two data collection sessions on campus, either individually or in a group from which your responses will be kept confidential. During the data collection sessions, administered by the Principal Investigator, you will be asked to complete a number of questionnaires about your personality, your opinions on various social policies, your social-demographic characteristics (e.g., age, sex, ethnicity), and your beliefs on various topics, such as religion and political orientation. Each session will take approximately 20-30 minutes to complete and you will receive one experimental credit towards your research participation requirement for each data collection session you complete (up to two credits total). If you agree to participate in this study, it is anticipated that you will complete both data collection sessions. However, if you only complete the first session, you will receive one experimental credit for your participation. Some participants may experience minor distress from answering some of the more controversial questions, but we do not expect this distress to be more than you would experience in any discussion of current events and social policies.

Eligibility Requirements: Must be a Canadian Citizen or Permanent Resident.

Pre-Test Restrictions: None

Duration: Two in-person data collection session lasting approximately 20-30 minutes each.

Credits: One credit for each session.

Appendix G

Study Debriefing Sheet

This study is concerned with the relationship between personality characteristics and the strength of peoples' opinions on various topics. Previous studies have found that when you ask participants to think about their mortality it can lead to them to more strongly endorse statements that are consistent with their beliefs and to more strongly oppose statements that are inconsistent with their beliefs.

How was this tested?

In the first data collection session of this study, you were asked to respond to several questionnaires that measured personality traits such as (a) attachment security (e.g., how comfortable people feel in close relationships), (b) right wing authoritarianism (e.g., peoples' beliefs about authorities and willingness to abide by the rules and guidance of authorities), and (c) political orientation (liberal vs. conservative). In the second data collection session, you were either asked to complete a new set of questionnaires (some of them for a second time), in addition to being asked to complete a questionnaire designed to make you think about your mortality or about experiencing dental pain. Finally, you were asked to complete a questionnaire measuring right wing authoritarianism for a second time.

Hypotheses and main questions:

We expect to find that, among people who were asked to think about their mortality, those who have low levels of attachment security, high right wing authoritarianism, and/or who are politically conservative will demonstrate an increase in scores on the measure of right wing authoritarianism on the second administration. In contrast, those who have high levels of attachment security, low right wing authoritarianism, and/or who are politically liberal are expected to demonstrate a decrease in scores on the measure of right wing authoritarianism on the second administration. The scores on the measure of right wing authoritarianism are not expected to be different among participants who were asked to think about the topic of dental pain.

Why is this important to study?

The findings of this study are important for understanding how the news media may be affecting the strength of peoples' opinions on certain social policies by focusing heavily on news content that makes people think about our mortality (e.g., violent crime, terrorism, health concerns). The results of this study may be used to promote more responsible journalism.

Deception:

It is important for the study that participants not know precisely why they are being asked to think about their mortality or about dental pain. In order to avoid this, you were told that one questionnaire you completed was a recently developed personality assessment when, in fact, it was simply designed to get you to think about your mortality or about dental pain. In addition, the literary passage you read and the questions you answered about it were only used to add a short delay between the completion of two questionnaires. This passage was not actually a personality measure.

These deceptions were necessary to achieve a scientifically valid test of the hypotheses. Nonetheless, I apologize for having to deceive you. However, you may feel that you no longer wish to have your questionnaire data included in the analysis. If you would like to have your questionnaire excluded from the analysis and destroyed by shredding (within 24 hours), please inform the experimenter now, as your results will soon be compiled with the results of every other participant and will no longer be identifiable.

What if I want to know more?

If you are interested in learning more about this type of study, you can consult:

Burke, B. L., Martens, A., & Faucher, E. H. (2010). Two decades of terror management theory: A meta-analysis of mortality salience research. *Personality and Social Psychology Review, 14*, 155-195.

For questions about this study, you may contact Chris Tysiaczny at 227-5853 or umtysiac@cc.umanitoba.ca. You may also contact Dr. Bruce Tefft at 474-8259 or tefft@cc.umanitoba.ca.

Please do not disclose research procedures and hypotheses to anyone who might participate in this study between now and the end of the data collection (September 2012) as such prior knowledge could affect the results of the study.

Thank you again for your participation!

Appendix H

Correlations Among the Variables in Experiment 2

	Pre-RWA	EX	AG	CO	ES	OE	AS	SR	PO	Post-RWA
Pre-RWA	1	-.13**	.02	.05	.02	-.09	-.004	-.48**	-.33**	.93**
EX	-.13**	1	.03	.06	.10*	.29**	.35**	.02	-.06	-.12*
AG	.02	.03	1	.06	.20**	.17**	.12*	-.09	.04	.02
CO	.05	.06	.06	1	.18**	.06	.14**	-.01	-.15**	.03
ES	.02	.10*	.20**	.18**	1	.14**	.30**	-.08	-.03	.01
OE	-.09	.29**	.17**	.06	.14**	1	.16**	.01	.07	-.11*
AS	-.004	.35**	.12*	.14**	.30**	.16**	1	-.04	-.01	.01
SR	-.48**	.02	-.09	-.01	-.08	.01	-.04	1	.18**	-.48**
PO	-.33**	-.06	.04	-.15**	-.03	.07	-.01	.18**	1	-.36**
Post-RWA	.93**	-.12*	.02	.03	.01	-.11*	.01	-.48**	-.36**	1

* $p < .05$ ** $p < .01$

Note. Names of the variables are as follows: Pre-Manipulation Right-Wing Authoritarianism (Pre-RWA), Extroversion (EX), Agreeableness (AG), Conscientiousness (CO), Emotional Stability (ES), Openness to Experience (OE), Attachment Security (AS), Strength of Religious Beliefs (SR), Political Orientation (PO), Post-Manipulation Right-Wing Authoritarianism (Post-RWA).