DEROGATING OTHERS IN THE FACE OF DEATH: APPLICATIONS OF THE MORTALITY SALIENCE HYPOTHESIS OF TERROR MANAGEMENT THEORY

by

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Abstract

One goal in life is survival even when faced with the certainty of death. To defend against the fear of eventual death, individuals are strongly motivated to maintain faith in cultural worldviews, or beliefs about the nature of their reality. Terror Management Theory (TMT) argues that cultural worldviews act to protect individuals from the terror that is brought on by the knowledge of their own mortality. Cultural worldviews provide structure, order, and significance to an individual's reality insulating them from the inevitability of death. Validation of these cultural worldviews by others increases their level of effectiveness as a buffer against the anxiety caused by the reality of death. However, when others disagree with an individual's notion of reality, their faith in these concepts becomes threatened, and their ability to cope with the anxiety of impending death is weakened. This research examined one of the four responses to a threatened worldview – derogation against those who hold conflicting cultural worldviews. Specifically, this research examined how reminders of impending death (i.e., mortality salience) influenced the derogation of others in both healthcare and criminal justice domains. It was hypothesized that reminders of death would lead to greater derogation of others in both of these domains; in general, results did not support these hypotheses. Further the established effect in the literature regarding the influence of traditional mortality salience manipulations on the derogation of others was not replicated in this research. Two novel mortality salience manipulations were created and tested as alternatives to the traditional methods; only one of which showed a promising effect (i.e., AgingBooth software). This research contributes to our understanding of the mortality salience hypothesis and the need to continue to develop and test mortality salience manipulations as alternatives to traditional methods in a variety of domains.

Preface

The University of British Columbia's Okanagan Behavioural Research Ethics Board granted ethics approval for this research on May 16th, 2016. The ethics approval certificate number for this research is H15-03444. As of the date of this submission, the data included in this dissertation has not been published.

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Dedication

I dedicate this work to Sandra Hutchinson. Mom – from late night chats to early morning rides in the #88 – words cannot express how thankful I am for everything you have done for me. You mean the world to me and I am so fortunate to have you in my life. Thank you, thank you, thank you! This one is for you Woodstock; we did it! ☺ - Snoops

Chapter 1: Introduction

1.1 Overview of TMT: The What and The Why

Researchers Greenberg, Solomon, and Pyszczynski (1997) suggest that there are two desires in life: the desire to maintain a favourable self-image (i.e., egotism or a need for self-esteem) and the desire to promote the beliefs and values of one's own culture. Inspired by the work of Ernest Becker (1962, 1973, 1975), Greenberg et al. (1997) developed a theory explaining: a) why individuals need to maintain high levels of self-esteem and faith in their understanding of the world, and b) how this need influences human behaviour. The resulting theory, Terror Management Theory (TMT), incorporates human capacity for self-awareness with an instinct for self-preservation in an attempt to explain human behaviour (Burke, Martens, & Faucher, 2010; Greenberg et al., 1997).

As Greenberg et al. (1997) and Pyszczynski, Solomon, and Greenberg (2015) note, humans have unique capabilities wherein they can delay behaviour, contemplate both past and future behaviour, and manifest those contemplations into reality. Furthermore, and most salient to TMT, humans possess the capacity for self-awareness (Duval & Wickland, 1972; Mead, 1934). This self-awareness is both awe-inspiring and terror-inducing. Humans are inspired by the knowledge that they are alive and capable of controlling many external aspects of their reality (Maslow, 1968), but awareness of vulnerabilities and a knowledge of an inevitable and unpredictable death is terrifying (Becker, 1973). As Greenberg et al. (1997) suggest, awareness of mortality conflicts with the instinctual drive for self-preservation and creates paralyzing terror (i.e., death-related anxiety). To alleviate the terror induced by reminders of death, humans create cultural worldviews that provide meaning and structure to their world. Individuals cling to these cultural worldviews whenever they are threatened by the reality of death.

Cultural worldviews are beliefs about the nature of reality that are shared by a group of individuals (Greenberg et al., 1997). These beliefs help to reduce the anxiety and terror brought on by the fear of death by not only providing structure, order, and meaning to the world, but also by offering a promised transcendence to those who uphold the standards and values of that worldview. To defend against death anxiety, individuals must believe that some aspect of their selves will be immortal, that is, will continue after death (Burke et al., 2010). This immortality is expressed either literally or symbolically. As Greenberg et al. (1997) and Burke et al. (2010) note, literal immortality focuses on spiritual immortality (i.e., an afterlife), while symbolic immortality focuses on the more tangible components of one's existence (e.g., children, money, culturally valued achievements) (Martin, 1999). A cultural-anxiety buffer combines the belief in the validity of the cultural worldview with the belief that one is meeting or exceeding the standards and values of that cultural worldview (Burke et al., 2010). The latter forms the foundation for self-esteem.

Self-esteem is culturally constructed and is the belief that one is a valued member of a given culture (Greenberg et al., 1997). It is important to note, however, that behaviours may seem acceptable and self-esteem producing in one culture, but may not be in another culture. In this way, the standards by which individuals evaluate themselves (i.e., their self-esteem) are culturally determined. As Solomon, Greenberg, and Pyszczynski (1991) observe, individuals maintain their self-esteem by engaging in behaviours that support their cultural values and by responding defensively when the group's collective self-esteem is threatened.

Researchers assume that self-esteem is a basic human need (Greenberg et al., 1997) that helps individuals combat death-related anxiety. It has been argued that humans acquire such constructs (i.e., self-esteem and death-related anxiety) early in life (Becker, 1962;

Bowlby, 1969; Horney, 1937; Mead, 1934; Sullivan, 1953; Yalom, 1980). For example, research suggests that humans develop standards and values through childhood interactions with their caregivers (Pyszczynski et al., 2015). Specifically, children learn through parental interactions that living up to certain moral and cultural standards leads to positive outcomes such as feelings of comfort, safety, and security. They also learn that failing to live up to these standards leads to undesirable outcomes such as anxiety and insecurity (Pyszczynski et al., 2015; Sullivan, 1953). Children cling to standards and values in the hopes that adherence will lead to positive outcomes, including death transcendence (Goldschmidt, 1990; Pyszczynski et al., 2015). Thus, to combat anxiety, especially death-related anxiety, children grow to associate their self-esteem with the values and standards of a given culture and strive to maintain faith in their worldviews.

Unfortunately, self-esteem is only an efficient way of dealing with anxiety to the extent that one's faith in their cultural worldview is sustained (Greenberg et al., 1997, Pyszczynski et al., 2015). When others cause an individual to question their cultural worldview or advocate a different worldview, this threatens the legitimacy of that individual's worldview and undermines its protective benefits. Cultural worldviews are symbolic cultural constructions that are subject to question because of individual differences. As Landau, Sullivan, & King (2010) discuss, individual differences in personality can impact the development of cultural worldviews and the formulation of self-esteem. That is, individuals can differ in how they respond to reminders of death; specifically, which cultural worldviews they identify with to boost their self-esteem and combat death-related anxiety. Greenberg et al. (1997) argue that one reason why individuals cannot peacefully coexist, and why prejudice can occur, is because cultural worldviews are continuously susceptible to

challenges by others who have different worldviews. Encounters with those who share or agree with one's conceptions of reality (as determined by their cultural worldviews), however, helps to sustain one's faith in one's worldviews which strengthens its protective benefits (Greenberg et al., 1997; Pyszczynski et al., 2015).

When death-related thoughts enter consciousness, individuals use direct responses (i.e., proximal defences) to avert the threat and remove the anxiety and terror from current awareness (Greenberg et al., 1997; Pyszczynski et al., 2015). This process involves either distracting oneself from the problem through avoidant thinking (Houston & Holmes, 1974), redefining the situation to minimize the severity of the threat (Bennett & Holmes, 1975; Holmes & Houston, 1974; Lazarus, 1966), denying vulnerability to the threat (Greenberg et al., 1993; Jemmott, Ditto, Croyle, 1986; Quattrone & Tversky, 1984), or applying the temporal remoteness (i.e., not me, not now) approach. These direct psychological defences are activated when thoughts of death enter consciousness. Once these thoughts have been dealt with directly, and they are out of our focal attention (but arguably still accessible), TMT processes (i.e., distal defences) come into effect. Individuals deal with the residual anxiety that death-related thoughts cause by bolstering faith in their cultural worldviews and responding to threat from others through, for example, derogation.

As Berger and Luckmann (1966) discuss, there are several ways that individuals can respond to the threat of differing worldviews. Expanding on Berger and Luckmann's work, TMT sets forth that individuals can respond to threats from others by either derogating, assimilating, accommodating, or annihilating the alternative worldview. Derogating others, the most common way to respond to a threat, involves dismissing alternative views whereas an assimilation response involves attempting to convince others who hold alternative

worldviews to adopt an individual's own perspective. Accommodation occurs when individuals incorporate the alternative worldview (or aspects of the worldview) into their dominant worldview, as opposed to annihilation, which entirely removes the alternative worldview from consideration. Each of these responses aims to reduce the threat of alternative worldviews and restore the anxiety-buffering function of the dominant cultural worldview. Ultimately, these responses, including derogation, allow individuals to restore faith in their cultural worldviews and reduce the terror caused by the awareness of death.

Overall, TMT explains the paradoxical issue humanity faces of longing for self-preservation while coping with the reality of inevitable death (Burke et al., 2010, Greenberg et al., 1997, Pyszczynski et al., 2015). The cultural-anxiety buffer helps individuals manage their anxiety via faith in a meaningful conception of reality (i.e., the cultural worldview) and the belief that they are meeting the standards of value as defined by their worldviews (i.e., self-esteem) (Burke et al., 2010; Pyszczynski et al., 2015). Individuals respond to death-related thoughts through proximal methods of denial or rationalization. They deal with any residual death-anxiety by using distal defences that derogate, accommodate, assimilate, or annihilate cultural worldviews that differ from their own. Derogation, and these other distal defences, only occur when individuals are no longer consciously aware of death-related thoughts (Pyszczynski et al., 2015). The present research examined the use of distal rather than proximal defences in managing death-related anxiety and examined derogation as a response to worldview threat.

1.2 Testing TMT: Three Hypotheses

Assessments of TMT have focused on three hypotheses: the anxiety-buffer hypothesis, the mortality salience hypothesis, and the death-thought accessibility hypothesis. The anxiety-buffer hypothesis theorizes that if a psychological structure protects against

anxiety, then boosting that structure should reduce anxiety in response to threats (Greenberg et al., 1997). Studies of this hypothesis have examined self-esteem as an anxiety-buffering structure and have confirmed an inverse relationship where boosts to self-esteem lead to decreases in anxiety (Greenberg, Pyszczynski, & Solomon, 1986), and threats to self-esteem lead to increases in anxiety (Burish & Houston, 1979). Importantly, these findings extend beyond self-esteem-related threats to include those threats stemming from the thought of death (Pyszczynski et al., 2015).

The mortality salience hypothesis suggests that reminding individuals of their own death increases their need for protection from death-related anxiety. Increased commitment to cultural worldviews and self-esteem provides this protection (Pyszczynski et al., 2015). The mortality salience hypothesis states that reminding individuals of their own death should cause them to cling to their cultural worldviews, thereby responding positively to those who validate their worldviews and negatively to those who threaten their worldviews (Greenberg et al., 1997; Pyszczynski et al., 2015).

The third hypothesis of TMT, the death-thought accessibility hypothesis, suggests that any threats to an individual's anxiety-buffering system should increase the accessibility of death-related thoughts (Pyszczynski et al., 2015). The dual-defence model proposes that individuals respond to death-related thoughts by using both proximal and distal defences. As Greenberg, Arndt, Simon, Pyszczynski, and Solomon (2000) discuss, conscious contemplation of death thoughts leads to suppression of these thoughts (i.e., proximal defence), and thus, leaves death thoughts highly accessible in the unconscious (and ready for distal defences). Thoughts of death may become highly accessible in consciousness again once this suppression activity ceases. The researchers believe that the defence of worldviews,

or use of distal defences, stems from the presence of highly accessible death-related thoughts in the unconscious. Researchers have examined the relationship between death-thought accessibility (DTA) and the mortality salience hypothesis. Research has confirmed that DTA mediates the relationship between mortality salience and the defence of cultural worldviews (Das, Bushman, Bezemer, Kerkhof, & Cermeulen, 2009). Nevertheless, research has avoided concurrently testing both DTA and worldview defence (through mortality salience) for fear of contaminating control participants by overly priming death-related thoughts (Pyszczynski et al., 2015).

1.2.1 The Mortality Salience Hypothesis: Rationale for Use and Overview

This dissertation examines the mortality salience hypothesis as opposed to the anxiety-buffer or death-thought accessibility hypotheses. Research testing the mortality salience hypothesis involves presenting individuals with reminders of their own death, also known as giving participants a mortality salience induction (Greenberg et al., 1997, Pyszczynski et al., 2015). Typically, this involves asking participants to imagine what would happen to themselves when they physically die and the emotions that the thought of their own death arouses in themselves. It has also involved asking participants to envision themselves walking by a funeral home, cemetery, etc. The key is to induce mortality salience in a participant in the most realistic way possible. Mortality salience studies also incorporate the use of control conditions where mortality salience is not induced in participants (see Arndt, Greenberg, & Cook, 2002; Butsch, Crawford, Erickson, & Green, 2006; Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994). These mortality salience control conditions typically involve asking participants to answer the same questions as the mortality salience induction conditions, but with all reference to death removed. It is common in these mortality salience control conditions to use dental pain. Specifically, participants in the mortality

salience control conditions are asked to imagine what would happen to themselves when they physically experience dental pain and the emotions that the thought of dental pain arouses in themselves (Arndt et al., 2002; Butsch et al., 2006; Greenberg et al., 1994). Mortality salience studies have traditionally informed participants that the study is investigating the relationship between personality traits and interpersonal judgments. In truth, mortality salience studies examine how participants respond to either violations or validations of their cultural worldviews when they are either reminded or not reminded of their own death (Greenberg et al., 1997).

The first studies of the mortality salience hypothesis involved setting bond values for an alleged prostitute (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). The researchers hypothesized that the participants would find prostitution, a moral transgression, to be morally threatening to their cultural worldviews when their death was made salient and would set higher bond values. Rosenblatt et al. (1989) argued that negative judgments would occur because moral transgressions, like prostitution, threaten a participant's cultural worldview for morality. The researchers argued that threats to worldviews cause participants to question the validity of their own worldview which can lead to negative judgments of the transgressor (Rosenblatt et al., 1989). The results of their studies confirmed their hypothesis; participants, regardless of their gender, set higher bond values for the alleged prostitute in the mortality salience condition rather than in the control condition (M = \$455 vs. \$50).

Mortality salience research has also confirmed that individuals express a tendency to dislike those who are different, even when the difference poses no actual threat (Byrne, 1971; Greenberg et al., 1997). Research has also found that when individuals are reminded of their own death, they derogate outgroup members more than individuals who have not been

reminded of their own death (Greenberg et al., 1990). Work by Jussim, Coleman, and Lerch (1987) further supports this finding. After a mortality salience induction, White participants preferred Black targets who conformed to White stereotypes for Blacks, rather than counter-stereotypic Black targets. In this case, Black targets conforming to the White stereotype for Blacks helped to validate the White participant's cultural worldview and reduced death-related anxiety. To reiterate, derogation only occurred when White participants reminded of their own death were presented with Black targets who did not meet their cultural expectations for the Black stereotype (i.e., violated their worldview). That is, derogation only occurred with the Black counter-stereotypic targets, not the Black stereotypic targets.

Overall, the mortality salience hypothesis of TMT makes four assumptions. First, reminding individuals of their own death generates anxiety. Second, individuals protect against death-related anxiety by clinging to their cultural worldviews (i.e., culture) and their values of the self (i.e., self-esteem). Third, derogating individuals with different worldviews acts to reduce death-related anxiety. And fourth, as compared to those who are not reminded of their own death, reminding individuals of their own death leads to more negative judgments of moral transgressors and outgroup members. The present dissertation builds on these assumptions to examine how reminders of death impact judgments of others in both healthcare and criminal justice domains.

1.3 The Social Categorization of Ingroups and Outgroups

Social categorization is the process by which individuals perceive and classify others as either belonging to their group (i.e., ingroup) or not belonging to their group (i.e., outgroup) based on certain characteristics (e.g., age, race, gender etc.). There are an infinite number of categories to which individuals can belong (or not belong); therefore, group membership (i.e., ingroup or outgroup) is context-specific. For example, White males and

White females can be outgroups of each other in terms of gender, but can be ingroups with each other in terms of race (i.e., shared identity of being White). Therefore, how ingroup and outgroup members are defined in a situation (e.g., age, race, gender, occupation, nationality etc.) can have great implications on the outcomes in that situation. Indeed, research has shown that individuals favour their context-specific ingroup (i.e., ingroup favouritism) and derogate their context-specific outgroup (Tajfel, Billig, Bundy, & Flament, 1971). Researchers have the capability of controlling the presence of any ingroup and outgroup effects (i.e., favouritism or derogation) merely by controlling what identity is triggered for participants (i.e., age, race, gender, etc.) in their studies.

Establishing context-specific ingroups/outgroups has great implications for research. When an individual categorizes another individual as an ingroup or outgroup member (i.e., assigning group membership) this has an impact on their evaluations of that individual. A large body of research has shown that ingroup members are more positively evaluated and receive more positive outcomes than outgroup members (see Dovidio & Gaertner, 1993; Tajfel & Turner, 1979). Further, research has concluded that even legal decision-making is subject to ingroup/outgroup effects; a bias exists where there is a tendency for individuals to recommend less punishment for those they perceive as sharing a social identity (i.e., their ingroup) versus those individuals they perceive as not sharing a social identity (i.e., their outgroup) in a given context (e.g., Baldus, Woodworth, & Pulaski, 1990; Eberhardt, Davies, Purdie-Vaughns, & Johnson, 2006; Halabi, Statman, & Dovidio, 2015). Two studies of this dissertation research incorporated the findings of the mortality salience hypothesis with the findings of ingroup/outgroup research to examine the impact on the judgments of others in a criminal justice domain.

1.4 Overview of Dissertation Studies

Traditional mortality salience inductions ask participants to think about what happens to themselves physically when they die and the emotions that the thought of death arouses in themselves (see Appendix A). Asking participants to think about what happens to their body when they die, however, is a very direct and personal process subject to many confounding biases (e.g., religiosity, belief in an afterlife, belief in reincarnation). Therefore, one of the theoretical goals of this research was to design novel mortality salience manipulations that could offer a more objective and less blatant way of inducing mortality salience. Two novel mortality salience inductions were created for this research – Death Clock and AgingBooth software (see Appendix B). The first mortality salience manipulation, Death Clock, involved asking participants to complete a health-related questionnaire. The questions on the questionnaire were similar to those seen on life insurance websites and pertained to personal (e.g., weight, height, history of illness/disease etc.) and environmental (e.g., exposure to environmental risk factors) aspects of a participant's life. After completing the questionnaire, the computer provided participants with either a threatening or non-threatening age at which they would die (i.e., novel MS induction: Death Clock age of 57 or novel MS attenuation: Death Clock age of 97). The second mortality salience manipulation, AgingBooth software, induced mortality salience by transforming the photograph of the participant into a representation of how their face may look in 45 years through the addition of grey hair, wrinkles, and sags in the cheeks (PiVi & Co, 2016). In all three studies, the novel mortality salience manipulations (i.e., Death Clock and AgingBooth software) were tested alongside the traditional mortality salience induction manipulation (i.e., death-related thoughts and emotions) used by Rosenblatt and colleagues (1989), and the traditional mortality salience control manipulation (i.e., dental pain-related thoughts and emotions) used by Arndt and

colleagues (2002), Butsch and colleagues (2006), and Greenberg and colleagues (1994), to determine the effectiveness of the new manipulations (i.e., Death Clock and AgingBooth software) on the derogation of others. This research was theoretically motivated to introduce novel mortality salience manipulations that may prove just as effective as traditional mortality salience manipulations, but with the added benefit of not being as directly influenced by confounding biases such as religiosity or beliefs in an afterlife or reincarnation.

The first study of this research takes the mortality salience hypothesis in a new direction to examine the impact of mortality salience on judgments for those who actively undertake self-destructive behaviours. Instead of asking participants to read about a moral transgressor, as seen in traditional mortality salience research, this first study asked participants to read a medical file vignette about a patient, Patient X. This medical file vignette described Patient X as requiring a lung transplant as a result of a medical condition, emphysema. In one condition, Patient X's emphysema was attributed solely to their smoking, while in the other condition, Patient X's emphysema was attributed solely to genetic factors outside of Patient X's control. Terror management researchers are motivated to understand how individuals cope with the need for self-preservation in the face of inevitable death. I aimed to show in this research that reminders of death exacerbate the level of derogation a participant shows towards Patient X when they were told that Patient X's medical condition is directly related to their self-destructive behaviour (i.e., smoking). To the best of my knowledge, this study was the first to examine how mortality salience impacts how people treat other individuals who actively engage in self-destructive behaviours.

The remaining two studies expand on the moral transgression findings of Rosenblatt et al. (1989), the mortality salience-related outgroup member findings of Greenberg et al.

(1990), and the criminal ingroup/outgroup findings of Baldus et al., (1990), Eberhardt et al., (2006), and Halabi et al., (2015) to test the limits of the mortality salience hypothesis in a criminal justice domain. Recall, Rosenblatt et al.'s (1989) studies involved randomly assigning participants to either a mortality salience or no mortality salience condition, and then asking participants to set bond values for an alleged prostitute. The researchers argued that the reason why participants in the mortality salience condition set higher bond values for the alleged prostitute than participants in the no mortality salience condition was that the act of prostitution was a violation to the participants' cultural worldview of morality. That is, participants in the mortality salience condition derogated the prostitute more to deal with death-related anxiety and the violation to their cultural worldview. Both male and female participants were asked to set bond values for the prostitute, which would have created ingroup and outgroup conditions in terms of gender; however, no gender differences were observed for Rosenblatt et al.'s (1989) study. Since a difference in sentencing outcomes was observed between the mortality salience induction and the mortality salience control conditions, but there was no gender effect (i.e., no ingroup/outgroup effect), it is reasonable to assume that the differences in sentencing outcomes were caused by the mortality salience manipulation (i.e., induction vs. control) and the violation of the worldview for morality (i.e., the crime). By controlling for gender and crime in Studies 2 and 3 of this research I could examine how the establishment of ingroups/outgroups in terms of race further impacts judgments of the suspect when individuals are reminded of their own death. This research hypothesized that adding a racial component (i.e., creating an ingroup/outgroup effect) would exacerbate the level of derogation participants would show towards the suspect when they were reminded of their own death.

Chapter 2: Detailed Review of Dissertation Studies

The following section describes the methodology and the results of the three studies of this dissertation.

2.1 Study 1 - Mortality Salience & Healthcare Coverage (Death Clock)

This study utilized a new mortality salience manipulation, Death Clock, in a healthcare-related domain. This new mortality salience manipulation involved asking participants a series of questions about their health and lifestyle similar to that seen on life expectancy questionnaires or life insurance websites. Once the participant completed the questions regarding their health and lifestyle, the computer generated either a threatening or non-threating estimate of the age at which they would die (i.e., 57 years or 97 years respectively; see Appendix B). To the best of my knowledge, this is the first time that this type of mortality salience manipulation (i.e., Death Clock) had been used in TMT research. Since Death Clock is a novel manipulation, it was tested alongside the traditional mortality salience induction and the traditional mortality salience control manipulations (see Appendix A) to examine its effectiveness as a mortality salience manipulation.

2.1.1 Methodology

This study recruited both male and female participants from the Department of Psychology's Sona research subject pool. There were no restrictions as to who may participate and participants received 1.0 credit for their participation in the study. After consenting to participate in the study, participants were randomly assigned to one of four conditions: 1) traditional mortality salience (MS) induction, 2) traditional MS control, 3) novel MS induction: Death Clock age of 57, or 4) novel MS attenuation: Death Clock age of 97. In the traditional mortality salience induction condition participants were asked to

describe what they believed would physically happen to themselves when they die, and the emotions that the thought of death aroused, while in the traditional mortality salience control condition participants were asked the same questions about what they believed they would experience but in terms of dental pain (see Appendix A). In the two Death Clock conditions, participants were told that their life expectancy age was either 57 years (i.e., MS induced) or 97 years (i.e., MS attenuated) (see Appendix B). Any mortality salience manipulation is likely to induce negative mood; therefore, participants completed the Positive and Negative Affect Schedule (PANAS) following exposure to their randomly assigned mortality salience manipulation (Watson, Clark, & Tellegen, 1988; see Appendix L). Using the negative items of the PANAS as a covariate in the analyses controlled for the influence of mood on my dependent measures. In other words, controlling for the impact of mortality salience on mood allowed for me to directly assess the impact of the reminder of death on participants' judgments of others.

After completing the mortality salience portion of the study, participants were randomly assigned to one of two medical file vignettes. These vignettes described a patient, Patient X, as in critical need of a lung transplant from either behaviourally- or genetically-caused emphysema (see Appendices C & D). In the behaviourally-caused condition, Patient X developed emphysema from smoking, while in the genetically-caused condition Patient X developed emphysema from a genetic predisposition. Prior to reading the medical file vignette participants were given information pertaining to the healthcare system and insurance coverage in Canada (i.e., Medicare) (see Appendix E), as well as the cost of transplant surgeries and transplant survivorship rates in Canada (see Appendix F). Participants were asked to pick a number between one and six representing the different

possible medical file vignettes they could be exposed to; in reality, participants were randomly assigned to one of two medical file vignettes irrespective of their choice (i.e., behaviourally-caused emphysema or genetically-caused emphysema).

After reading the medical file vignette, participants made two judgments about Patient X, specifically: "What percentage of the total transplant surgery costs should Canadian Medicare cover for Patient X?" (0%-100%) and "How personally responsible is Patient X for his/her need for a transplant?" (0%-100%) (see Appendix K). Participants then completed a measure of individual differences, the 11-item Health Locus of Control (HLC) scale (Wallston, Wallston, Kaplan, & Maides, 1976), which examined attitudes towards personal responsibility for health outcomes (see Appendix L). Participants then completed a demographics section and were debriefed and thanked for participating.

2.1.2 Results

Design. This study represented a 4 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control/novel MS induction/novel MS attenuation) x 2 (Cause of Emphysema: behavioural/genetic) design, which required 160 participants for sufficient power (i.e., 20 participants per cell).

Participants. This study recruited participants via the Sona Online Recruitment System at UBC (Okanagan). Participants received 1.0 course credit compensation for their participation. In order for their data to be included in the analyses, participants had to pass a series of manipulation checks. These manipulation checks confirmed if participants were paying attention to the study by asking questions related to information that was provided to participants throughout the study (see Appendix K). In total, 195 participants passed the manipulation checks, and therefore, their data was included in the analyses for this study.

The participants ranged in age from 17 to 66 years of age (M = 20.33, SD = 4.38) and predominately identified as female (Males: N = 52, Females: N = 142, Other (Fluid): N = 1). The participants self-identified as either Black (N = 2), Latino/Latina (N = 2), Asian (N = 22), White (N = 144), or "Other" (N = 25). In the case of an "Other" designation, participants provided a description of their race/ethnicity. Please note, the low and unequal ratios of males to females, and Blacks, Latinos/Latinas, Asians, or "Others" to Whites, prevented comparative analyses of participant gender and race.

General analyses and results. A series of two-way between-subjects ANCOVAs were conducted for this study. The following sections outline the results of these ANCOVAs for each of the respective measures. Scores from the 10 negative items of the PANAS and total scores from the HLC scale were used as covariates in all the below ANCOVAs; however, these covariates were not significant for the dependent measure (see Tables 2-6 [DV #1] nor the manipulation check (see Table 8 [Manipulation Check #1]) in Study 1.

DV #1: Medicare Coverage. A two-way ANCOVA, 4 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control/novel MS induction/novel MS attenuation) x 2 (Cause of Emphysema: behavioural/genetic), was conducted to examine the effect of the mortality salience manipulation and the cause of emphysema on the percentage of transplant surgery costs that should be covered by Medicare. The interaction between the mortality salience manipulation and the cause of emphysema on Medicare coverage was not significant, $F(3, 184) = 1.11$, $p = .345$, $\eta_p^2 = .018$, nor was the main effect of the mortality salience manipulation on Medicare coverage, $F(3, 184) = .971$, $p = .408$, $\eta_p^2 = .016$. There was, however, a significant main effect for the cause of emphysema (i.e., behavioural vs. genetic) on Medicare coverage, $F(1, 184) = 46.31$, $p < .001$, $\eta_p^2 = .201$ (see Tables 1 & 2 and

Figure 1). Specifically, participants in the behaviourally-caused emphysema condition indicated that 62.96% of expenses should be covered by Medicare; whereas, those in the genetically-caused emphysema condition indicated that 86.80% of expenses should be covered by Medicare (see Figure 2).

Next, I tested the impact of the traditional mortality salience manipulation (i.e., traditional MS induction vs. traditional MS control) and the cause of emphysema on Medicare coverage. A two-way ANCOVA, 2 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control) x 2 (Cause of Emphysema: behavioural/genetic), was conducted to examine the effects of the mortality salience manipulation and the cause of emphysema on the percentage of transplant surgery costs that should be covered by Medicare. The interaction between the traditional mortality salience manipulation and the cause of emphysema on Medicare coverage was not significant, $F(1, 96) = 1.84$, $p = .178$, $\eta_p^2 = .019$. The main effect for the traditional mortality salience manipulation was also not significant, $F(1, 96) = .154$, $p = .696$, $\eta_p^2 = .002$; however, the main effect for the cause of emphysema was significant, $F(1, 96) = 19.34$, $p < .001$, $\eta_p^2 = .168$ (see Table 3). Participants in the behaviourally-caused emphysema condition indicated that 67.12% of expenses should be covered by Medicare; whereas, those in the genetically-caused emphysema condition indicated that 87.42% of expenses should be covered by Medicare (see Figure 3).

Furthermore, exploratory analyses were conducted to determine whether the traditional mortality salience manipulation had the expected impact on the dependent measure (i.e., Medicare coverage). I conducted a post-hoc simple effects test on the two behavioural conditions and the two genetic conditions, however, the traditional mortality

salience manipulation did not significantly impact the participants' judgments regarding what percentage of costs should be covered by Medicare (see Table 4). These lack of findings for the traditional mortality salience manipulation were not predicted as they do not replicate previous mortality salience findings; however, it should be noted that this is a new domain for mortality salience research (i.e., healthcare-related judgments).

Turning my attention to the novel mortality salience manipulation (i.e., Death Clock), I conducted a two-way ANCOVA, 2 (Mortality Salience (MS) Manipulation: novel MS induction/novel MS attenuation) x 2 (Cause of Emphysema: behavioural/genetic), on the percentage of transplant surgery costs that should be covered by Medicare. The interaction between the novel mortality salience manipulation and the cause of emphysema on Medicare coverage was not significant, $F(1, 86) = .432$ $p = .513$, $\eta_p^2 = .005$. The main effect for the novel mortality salience manipulation was also not significant, $F(1, 86) = .469$, $p = .495$, $\eta_p^2 = .005$; whereas, the main effect for the cause of emphysema was significant, $F(1, 86) = 27.33$, $p < .001$, $\eta_p^2 = .241$ (see Table 5). Participants in the behaviourally-caused emphysema condition indicated that 58.41% of expenses should be covered by Medicare; whereas, those in the genetically-caused emphysema condition indicated that 86.50% of expenses should be covered by Medicare (see Figure 4).

To further test the capabilities of Death Clock as a new mortality salience manipulation, post-hoc simple effects tests were conducted on the two behavioural conditions and the two genetic conditions. These simple effects tests, however, revealed that my novel mortality salience manipulation did not significantly impact the participants' judgments regarding what percentage of costs should be covered by Medicare (see Table 6). The ineffectiveness of these novel mortality salience manipulations was not predicted.

Manipulation Check #1: Personal Responsibility. It should be noted that this variable was intended to act as a manipulation check to ensure the behaviourally-caused versus genetically-caused emphysema manipulation had its intended impact on perceived patient responsibility for the need of a transplant. A two-way ANCOVA, 4 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control/novel MS induction/novel MS attenuation) x 2 (Cause of Emphysema: behavioural/genetic), was conducted to determine the effect of the mortality salience manipulation and the cause of emphysema on perceived personal responsibility. The interaction between the mortality salience manipulation and the cause of emphysema on personal responsibility was not significant, $F(3, 185) = .152$, $p = .928$, $\eta_p^2 = .002$. The main effect for the mortality salience manipulation was also not significant, $F(3, 185) = .620$, $p = .603$, $\eta_p^2 = .010$; however, the main effect for cause of emphysema was significant, $F(1, 185) = 547.66$, $p < .001$, $\eta_p^2 = .747$ (see Tables 7 & 8). Participants in the behaviourally-caused emphysema condition rated Patient X as significantly more personally responsible for his/her need for a transplant ($M = 80.58$) than those in the genetically-caused emphysema condition, ($M = 5.73$). These results confirm that the behaviourally-caused versus genetically-caused emphysema manipulation had its intended effect on participants' perceived personal responsibility for Patient X.

As the above data indicates, the cause of emphysema manipulation was extremely successful, but I feel it may have been too successful in that it limited the amount of variance remaining for the mortality salience manipulation to have any impact; that is, the cause of emphysema manipulation created a ceiling/floor effect for participants' judgments of Patient X. Consequently, the only aspects carried over from Study 1 into Study 2 are the mortality

salience manipulations; the rest of the paradigm has been redesigned with the hope of it being more sensitive to these mortality salience manipulations.

2.2 Study 2 - Mortality Salience & Racial Outgroups (Death Clock)

This study used the same Death Clock mortality salience manipulation as Study 1 with no restrictions as to who may participate. Again, given that Death Clock was a novel mortality salience manipulation, it was tested alongside the same traditional mortality salience induction and the same traditional mortality salience control manipulations to examine its effectiveness as a mortality salience manipulation.

2.2.1 Methodology

This study recruited both male and female participants from the Department of Psychology's Sona research subject pool. There were no restrictions as to who may participate and participants received 1.0 credit for their participation in the study. Participants were presented with a consent form and were randomly assigned to one of the same four mortality salience conditions seen in Study 1 (see Appendices A & B respectively). Again, regardless of the mortality salience manipulation participants were randomly assigned to, participants were then asked to complete the PANAS (see Appendix L).

Once participants completed the mortality salience portion of the study, they were asked to read a news article about a crime. Depending on the participant's gender, participants were randomly assigned to read a news crime article about either a White male suspect, an Asian male suspect, a White female suspect, or an Asian female suspect (see Appendices G, H, I, & J respectively). The news crime article was identical in all four conditions apart from the name of the suspect, which varied depending on the participant's gender. The suspect, Michelle (or in the case of the male condition, Michael) Long, was a

bank manager who worked for the Royal Bank of Canada and was suspected of stealing money from a client's safety deposit box. By asking the participant's gender, I restricted the outgroup for participants to just race. That is, participants were only presented with an outgroup member in terms of race (i.e., White or Asian) and not both race and gender. To reiterate, male participants were presented with news crime articles involving only male suspects (see Appendices G & H) and female participants were presented with news crime articles involving only female suspects (see Appendices I & J). To ensure that aspects of a particular individual depicted in the photograph did not impact participants' sentencing decisions, participants were randomly assigned to one of three different White-gendered or one of three different Asian-gendered photographs. The data was then collapsed within race, as there were no significant differences between the individual photos in each racial condition.

After reading the news crime article participants were asked to make two judgments about the suspect. This study asked female participants specifically: "In your opinion, is Michelle Long guilty of the crime she is accused of committing?" (0-100%) and "Assuming Michelle Long is guilty of the crime she is accused of committing, what should be her punishment?" (in number of years sentenced to prison) (see Appendix K). The study asked male participants to make the same judgments of the suspect, but in terms of Michael Long, the male version of the suspect (see Appendix K). All participants were then asked to complete two measures of individual differences: a 15-item version of the Right-Wing Authoritarianism (RWA) scale (Zakrisson, 2005) and a shortened 7-item version of the Modern Racism (MR) scale (McConahay, 1986) (see Appendix L). Used in conjunction, total scores from the RWA scale and the MR scale form a robust measure of individual

differences in contemporary racism. These two measures were used as covariates to control for individual differences in level of racism that random assignment may have missed. After completing the measures of individual differences participants completed the same demographics section as Study 1 and were debriefed and thanked for participating.

2.2.2. Results

Design. This study represented a 4 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control/novel MS induction/novel MS attenuation) x 2 (Grouping Variable: ingroup/outgroup) design, which required 160 participants for sufficient power (i.e., 20 participants per cell).

Participants. This study recruited both male and female participants from the Department of Psychology's Sona research subject pool. There were no restrictions as to who may participate and participants received 1.0 course credit compensation for their participation. In order for their data to be included in the analyses, participants had to pass a series of manipulation checks. These manipulation checks confirmed if participants were paying attention to the study by asking questions related to information that was provided to participants throughout the study (see Appendix K). In total, 191 participants passed the manipulation checks, and therefore, their data was included in the analyses for this study. The participants ranged in age from 17 to 35 years of age (M = 19.85, SD = 2.60) and predominately identified as female (Males: N = 23, Females: N = 168, Other (Fluid): N = 0). The participants self-identified as either Black (N = 3), Latino/Latina (N = 0), Asian (N = 32), White (N = 131), or "Other" (N = 25). In the case of an "Other" designation, participants were asked to describe their race/ethnicity. Please note, the low and unequal ratios of males

to females, and Blacks, Latinos/Latinas, Asians, or "Others" to Whites, prevented comparative analyses of participant gender and race.

General analyses and results. Before any analyses were conducted, both the participant's race and the suspect's race were used to create the grouping variable consisting of two levels: ingroup or outgroup. For example, a participant who self-identified as "White" and was presented with a news crime article of a "White" suspect was coded as in the "Ingroup" condition. Conversely, a participant who self-identified as "White" and was presented with a news crime article of an "Asian" suspect was coded as in the "Outgroup" condition. Recall, participant gender provided by the participant at the beginning of the study was used to ensure that the participants only read about suspects of the same gender in the news crime article; therefore, the gender of the suspect was not a factor in the coding process. In other words, the grouping variable was not influenced by two potential sources of outgrouping (i.e., gender or race), but rather one, the race of the participant versus the race of the suspect. Participants who self-identified their race as "Other", provided a description of their race. This information was used to manually code into the grouping variable.

A series of two-way between-subjects ANCOVAs were conducted for this study. The following sections outline the results of these ANCOVAs for each of the respective dependent measures. Scores from the 10 negative items of the PANAS and total scores from the RWA scale and the MR scale were used as covariates in all the below ANCOVAs. As can be seen in Tables 10-12 [DV: #1] and Tables 14-16 [DV: #2], the only covariate to reach significance was MRTotal for the dependent measure, years sentenced to prison (see Tables 14 & 15).

DV #1: Level of Guilt. A two-way ANCOVA, 4 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control/novel MS induction/novel MS attenuation) x 2 (Grouping Variable: ingroup/outgroup), was conducted to examine the effect of the mortality salience manipulation and the grouping variable on level of guilt. The interaction between the mortality salience manipulation and the grouping variable on level of guilt was not significant, $F(3, 173) = .732$, $p = .534$, $\eta_p^2 = .013$. Further, the main effect for the mortality salience manipulation was not significant, $F(3, 173) = 1.63$, $p = .183$, $\eta_p^2 = .028$, nor was the main effect for the grouping variable, $F(1, 173) = .049$, $p = .825$, $\eta_p^2 = .000$ (see Tables 9 & 10 and Figure 5).

Next, I conducted a two-way ANCOVA, 2 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control) x 2 (Grouping Variable: ingroup/outgroup), to examine the effects of the mortality salience manipulation and the grouping variable on level of guilt. The interaction between the traditional mortality salience manipulation and the grouping variable on level of guilt was not significant, $F(1, 90) = 2.30$, $p = .133$, $\eta_p^2 = .025$; however, the main effect for the traditional mortality salience manipulation was marginally significant, $F(1, 90) = 3.96$, $p = .050$, $\eta_p^2 = .042$ (see Table 11). That is, participants who were asked to think about their own death (i.e., undergo a MS induction) rated the suspect as 79.12% guilty; whereas, participants who were in the control condition (i.e., did not undergo a MS induction) rated the suspect as 71.90% guilty (see Figure 6). The main effect for the grouping variable was not significant, $F(1, 90) = .075$, $p = .785$, $\eta_p^2 = .001$; participants rated ingroup members as 76.00% guilty and outgroup members as 75.03% guilty respectively.

To explore the effectiveness of Death Clock as a novel mortality salience manipulation in a criminal justice domain, I conducted a two-way ANCOVA, 2 (Mortality

Salience (MS) Manipulation: novel MS induction/novel MS attenuation) x 2 (Grouping Variable: ingroup/outgroup), on level of guilt. The interaction between the novel mortality salience manipulation and the grouping variable on level of guilt was not significant, $F(1, 80) = .000$, $p = .989$, $\eta_p^2 = .000$. Both the main effect of the novel mortality salience manipulation and the main effect of the grouping variable were also not significant, $F(1, 80) = .818$, $p = .368$, $\eta_p^2 = .010$ and $F(1, 80) = .001$, $p = .972$, $\eta_p^2 = .000$ respectively (see Table 12).

DV #2: Years in Prison. A two-way ANCOVA, 4 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control/novel MS induction/novel MS attenuation) x 2 (Grouping Variable: ingroup/outgroup), was conducted to determine the effect of the mortality salience manipulation and the grouping variable on number of years sentenced to prison. The interaction between the mortality salience manipulation and the grouping variable on years in prison was not significant, $F(3, 173) = 1.08$, $p = .357$, $\eta_p^2 = .018$. The main effect for the mortality salience manipulation was not significant, $F(3, 173) = 1.67$, $p = .176$, $\eta_p^2 = .028$, nor was the main effect for the grouping variable, $F(1, 173) = 3.13$, $p = .079$, $\eta_p^2 = .018$ (see Tables 13 & 14 and Figure 7).

I then conducted a two-way ANCOVA, 2 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control) x 2 (Grouping Variable: ingroup/outgroup), on number of years sentenced to prison. The interaction between the traditional mortality salience manipulation and the grouping variable on years in prison was not significant, $F(1, 89) = 3.20$, $p = .133$, $\eta_p^2 = .035$. The main effect for the traditional mortality salience manipulation was also not significant, $F(1, 89) = 2.18$, $p = .143$, $\eta_p^2 = .024$ nor was the main effect for the grouping variable, $F(1, 89) = 1.31$, $p = .255$, $\eta_p^2 = .015$ (see Table 15).

Finally, to explore the effectiveness of Death Clock as a novel mortality salience manipulation in a criminal justice domain, I conducted a two-way ANCOVA, 2 (Mortality Salience (MS) Manipulation: novel MS induction/novel MS attenuation) x 2 (Grouping Variable: ingroup/outgroup) on number of years sentenced to prison. The interaction between the novel mortality salience manipulation and the grouping variable on years in prison was not significant, $F(1, 81) = 2.92$, $p = .091$, $\eta_p^2 = .035$. Both the main effect of the novel mortality salience manipulation and the main effect of the grouping variable were also not significant, $F(1, 81) = .250$, $p = .618$, $\eta_p^2 = .003$ and $F(1, 81) = 1.11$, $p = .295$, $\eta_p^2 = .014$ respectively (see Table 16).

Overall, I was disappointed by the lack of findings for both the traditional mortality salience manipulation and the novel mortality salience manipulation on each of the dependent measures in Study 2. A marginal main effect for the traditional mortality salience manipulation on participants' ratings of guilt for the suspect was observed in this study, but was not observed for participant's ratings of number of years sentenced to prison. The results of Study 2 do not lend support to using Death Clock as a mortality salience manipulation, as its use did not translate into significant differences between the induction and attenuation conditions for participants' judgments of the suspect on each of the dependent measures. Therefore, for Study 3, a new mortality salience manipulation will be introduced (i.e., AgingBooth software). The traditional methods of mortality salience manipulation (i.e., induction and control) will be included in Study 3 given past research and the reported effect of these traditional methods on sentencing decisions.

2.3 Study 3 - Mortality Salience & Racial Outgroups (AgingBooth Software)

Under the supervision of Dr. Paul Davies, the Group Dynamics Research Lab was the first to conduct studies examining the effectiveness of a software program, AgingBooth, for use as a mortality salience manipulation. It was discovered during initial testing of the AgingBooth software, however, that male participants did not find the software as threatening as female participants. This lack of threat was determined not only by the male participants' feedback but also by the male participants' complete lack of negative mood following the mortality salience manipulation (i.e., scores on the negative items of the PANAS). For this reason, Study 3 recruited only female participants. Since AgingBooth software is a novel manipulation, it was tested alongside the traditional mortality salience induction and the traditional mortality salience control manipulation to examine its effectiveness as a mortality salience manipulation.

2.3.1 Methodology

This study recruited female participants from the Department of Psychology's Sona research subject pool. Participants received either 0.5 credits or $10 compensation for their participation in the study. After consenting to participate in the study participants were randomly assigned to one of four conditions: 1) traditional mortality salience (MS) induction, 2) traditional MS control, 3) novel MS induction (photo aged via AgingBooth), or 4) no MS induction (photo not-aged). As seen with the previous studies, in the traditional mortality salience induction condition, participants were asked to describe what they believed would physically happen to themselves when they die, and the emotions that the thought of death aroused in themselves, while in the traditional mortality salience control condition, participants were asked the same questions but in terms of dental pain (see Appendix A). In

the novel mortality salience induction condition for Study 3, however, participants had their photograph taken and then aged, while in the no mortality salience induction condition participants had their photograph taken but not aged (see Appendix B). Regardless of the mortality salience manipulation participants were assigned to, participants were then asked to complete the PANAS (see Appendix L).

After completing the mortality salience portion of the study, participants were asked to read the same news crime article from Study 2, but with one notable exception. Since only female participants were recruited for this study, only female suspects were included in the news crime articles. Including only female suspects ensured that a racial outgroup was the only outgroup participants were exposed to. That is, female participants were only presented with a racial outgroup member (i.e., White or Asian) and not both a racial and/or a gendered outgroup member. As was the case in Study 2, to ensure that aspects of a particular individual depicted in the photograph did not impact participants' sentencing decisions, female participants were randomly assigned to one of three different White female or one of three different Asian female photographs (see Appendices I & J respectively). The data was then collapsed within race, as there were no significant differences between the individual photos in each racial condition.

After reading the news crime article participants were asked to make two judgments about the suspect. As seen with Study 2, participants were asked: "In your opinion, is Michelle Long guilty of the crime she is accused of committing?" (0-100%) and "Assuming Michelle Long is guilty of the crime she is accused of committing, what should be her punishment?" (in number of years sentenced to prison) (see Appendix K). Participants then

completed the same individual differences measures (see Appendix L) and demographics section from Study 2 and were debriefed and thanked for participating.

2.3.2 Results

Design. This study represented a 4 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control/novel MS induction/no MS induction) x 2 (Grouping Variable: ingroup/outgroup) design, which required 160 participants for sufficient power (i.e., 20 participants per cell).

Participants. This study recruited female participants from the Department of Psychology's Sona research subject pool. Participants received either 0.5 credits or $10 compensation for their participation in the study. In order for their data to be included in the analyses, participants had to pass a series of manipulation checks. These manipulation checks confirmed whether participants were paying attention to the study by asking questions related to information that was provided to participants throughout the study (see Appendix K). In total, 254 participants passed the manipulation checks, and therefore, their data was included in the analyses for this study. The participants ranged in age from 16 to 55 years of age (M = 19.99, SD = 3.32) and all participants self-identified as female. The participants self-identified as either Black (N = 6), Latino/Latina (N = 4), Asian (N = 41), White (N = 185), or "Other" (N = 18). In the case of an "Other" designation, participants were asked to describe their race/ethnicity. Please note, the low and unequal ratios of Blacks, Latinos/Latinas, Asians, or "Others" to Whites, prevented comparative analyses of participant race.

General analyses and results. As was the case in Study 2, before any analyses were conducted, both the participant's race and the suspect's race were used to create the grouping variable consisting of two levels: ingroup or outgroup. For further details on this coding

process, please refer to the description in Section 2.2.2 Results – *General Analyses and Results*.

A series of two-way between-subjects ANCOVAs were conducted for this study. The following sections outline the results of these ANCOVAs for each of the respective dependent measures. Scores from the 10 negative items of the PANAS and total scores from the RWA scale and the MR scale were used as covariates in the below ANCOVAs; however, these covariates were not significant in Study 3 for any of the dependent measures (see Tables 18-22 [DV #1] and Tables 24-26 [DV #2]).

DV #1: Level of Guilt. A two-way ANCOVA, 4 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control/novel MS induction/no MS induction) x 2 (Grouping Variable: ingroup/outgroup), was conducted to examine the effect of the mortality salience manipulation and the grouping variable on level of guilt. The interaction between the mortality salience manipulation and the grouping variable on level of guilt was not significant, $F(3, 243) = 1.66$, $p = .176$, $\eta_p^2 = .020$. Further the main effect for the mortality salience manipulation was also not significant, $F(3, 243) = .800$, $p = .495$, $\eta_p^2 = .010$, nor was the main effect for the grouping variable, $F(1, 243) = 1.90$, $p = .169$, $\eta_p^2 = .008$ (see Tables 17 & 18 and Figure 8).

Next, I conducted a two-way ANCOVA, 2 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control) x 2 (Grouping Variable: ingroup/outgroup), to examine the effects of the mortality salience manipulation and the grouping variable on level of guilt. The interaction between the traditional mortality salience manipulation and the grouping variable on level of guilt was not significant, $F(1, 118) = .174$, $p = .677$, $\eta_p^2 = .001$. The main effect for the traditional mortality salience manipulation was also not

significant, $F(1, 118) = .513$, $p = .475$, $\eta_p^2 = .004$, nor was the main effect for the grouping variable, $F(1, 118) = 1.98$, $p = .162$, $\eta_p^2 = .017$ (see Table 19).

To explore the effectiveness of AgingBooth as a novel mortality salience manipulation, I conducted a two-way ANCOVA, 2 (Mortality Salience (MS) Manipulation: novel MS induction/no MS induction) x 2 (Grouping Variable: ingroup/outgroup), on level of guilt. The interaction between the novel mortality salience manipulation and the grouping variable on perceived level of guilt was significant, $F(1, 122) = 4.27$, $p = .041$, $\eta_p^2 = .034$. Both the main effect of the mortality salience manipulation and the main effect of the grouping variable were not significant, $F(1, 122) = .008$, $p = .927$, $\eta_p^2 = .000$ and $F(1, 122) = .328$, $p = .568$, $\eta_p^2 = .003$ respectively (see Table 20).

Following up on the above significant interaction, post-hoc simple effects tests on the novel mortality salience manipulation (i.e., AgingBooth software) were conducted. Specifically, aged photograph participants in the ingroup condition rated the suspect as less guilty ($M = 66.41$) than those participants in the outgroup condition ($M = 75.77$), $F(1, 62) = 3.88$, $p = .053$, $\eta_p^2 = .059$ (see Table 21 and Figure 9). In the not-aged photograph condition, however, participants' ratings in the ingroup condition did not significantly differ from participants' ratings in the outgroup condition ($M = 73.58\%$ vs. 68.08%), $F(1, 57) = 1.09$, $p = .301$, $\eta_p^2 = .019$ (see Table 22 and Figure 9).

DV #2: Years in Prison. A two-way ANCOVA, 4 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control/novel MS induction/no MS induction) x 2 (Grouping Variable: ingroup/outgroup), was conducted to determine the effect of the mortality salience manipulation and the grouping variable on number of years sentenced to prison. The interaction between the mortality salience manipulation and the

grouping variable on years in prison was not significant, $F(3, 239) = .700$, $p = .553$, $\eta_p^2 = .009$. The main effect for the mortality salience manipulation was marginally significant, $F(3, 239) = 2.40$, $p = .069$, $\eta_p^2 = .029$ (see Tables 23 & 24 and Figure 10). That is, participants who were asked to think about the experience of their own death (i.e., traditional mortality salience induction) sentenced the suspect to 7.34 years in prison; whereas, participants who were asked to think about the experience of dental pain (i.e., traditional mortality salience control) sentenced the suspect to 8.13 years in prison – a pattern not consistent with mortality salience literature. Aged photograph participants (i.e., novel mortality salience induction) sentenced the suspect to 6.88 years in prison; whereas not-aged photograph participants (i.e., no mortality salience induction) sentenced the suspect to 6.09 years in prison (see Figure 11). This latter finding is more consistent with mortality salience research in that reminders of death (i.e., mortality salience inductions) should lead to greater derogation of others than no reminders of death. The main effect for the grouping variable was not significant, $F(1, 239) = .754$, $p = 3.86$, $\eta_p^2 = .003$ (see Tables 23 & 24 and Figure 10).

Next, I conducted a two-way ANCOVA, 2 (Mortality Salience (MS) Manipulation: traditional MS induction/traditional MS control) x 2 (Grouping Variable: ingroup/outgroup) on number of years sentenced to prison. The interaction between the traditional mortality salience manipulation and the grouping variable on years in prison was not significant, $F(1, 114) = .368$, $p = .545$, $\eta_p^2 = .003$. Both the main effect of the traditional mortality salience manipulation and the main effect of the grouping variable were also not significant, $F(1, 114) = .655$, $p = .420$, $\eta_p^2 = .006$ and $F(1, 114) = 1.05$, $p = .307$, $\eta_p^2 = .009$ respectively (see Table 25).

Finally, to explore the effectiveness of AgingBooth as a novel mortality salience manipulation with criminal sentencing decisions, I conducted a two-way ANCOVA, 2 (Mortality Salience (MS) Manipulation: novel MS induction/no MS induction) x 2 (Grouping Variable: ingroup/outgroup), on number of years sentenced to prison. The interaction between the novel mortality salience manipulation and the grouping variable on years in prison was not significant, $F(1, 122) = 1.27$, $p = .262$, $\eta_p^2 = .010$. Both the main effect of the novel mortality salience manipulation and the main effect of the grouping variable were also not significant, $F(1, 122) = 1.20$, $p = .275$, $\eta_p^2 = .010$ and $F(1, 122) = .030$, $p = .863$, $\eta_p^2 = .000$ respectively (see Table 26).

Despite predominately non-significant findings, I was encouraged with the results of Study 3, and most specifically, with the observed effectiveness of the AgingBooth software as a novel mortality salience manipulation. A significant interaction was observed between the novel mortality salience manipulation and the grouping variable on level of guilt, which was an important finding, especially considering the non-significant findings of the traditional mortality salience manipulation. Further, the results are encouraging when we compare the effectiveness of the AgingBooth manipulation to the ineffectiveness of the Death Clock manipulation on the dependent measures in the same domain (i.e., criminal justice system). Past mortality salience research would suggest that mortality salience manipulations should have an impact on the level of derogation shown towards outgroup members, which was confirmed by the observed interaction and subsequent follow-ups for the novel mortality salience manipulation and the grouping variable on level of guilt.

Chapter 3: Conclusion

3.1 Discussion

A discussion of each of the three studies is warranted as the results showcase important limitations and avenues for future research. The following section, Section 3.1, outlines the key findings of each of the three studies of this dissertation; whereas, limitations and avenues for future research are discussed in Section 3.2 of this chapter.

3.1.1 Study 1 - Mortality Salience & Healthcare Coverage (Death Clock)

The aim of Study 1 was to examine how mortality salience impacts how people treat those who actively choose to engage in self-destructive behaviours. Recall, terror management literature suggests that individuals are motivated to preserve life in the face of inevitable death (Greenberg et al., 1997). Given the uncertainty of death and the ever-present need to defend against death-related anxiety, it was hypothesized that participants reminded of their own death would show the greatest derogation towards Patient X when they were told that Patient X's medical condition was directly related to their self-destructive behaviour (i.e., smoking). In other words, when participants were reminded of their own death, they were expected to deal with this death-related anxiety by derogating Patient X when it was perceived that Patient X was violating the human desire for self-preservation by engaging in a behaviour known to shorten life (i.e., smoking). Derogation was measured in this study by asking participants to indicate what percentage of Patient X's total transplant surgery costs should be covered by Medicare (i.e., DV #1).

The prediction that reminders of death would exacerbate the level of derogation a participant would show towards Patient X when they are told that Patient X's need for a transplant was directly related to their self-destructive behaviour was not supported in this study for the dependent measure (i.e., the percentage of transplant costs covered by

Medicare). Further, contrary to what would have been expected from past mortality salience research, no effect was found for the traditional mortality salience manipulations. That is, there were no differences between participants who were reminded or not reminded of their own death in terms of the level of derogation they showed towards Patient X. This finding is true for both the traditional and the novel methods of mortality salience manipulation, which was not expected by this researcher. It was expected, at the very least, that there would have a been a difference on the dependent measure for the traditional mortality salience manipulation; that is, between those reminded and those not reminded of their own death (induction vs. control). Although it was disappointing to see non-significant effects for the traditional mortality salience manipulation on the dependent measure in Study 1, it should be mentioned that the effectiveness of mortality salience manipulations in a healthcare-related domain has not been directly tested previously; consequently, this was not a failure to replicate. The ineffectiveness of Death Clock as a mortality salience manipulation is less concerning than the ineffectiveness of the traditional mortality salience manipulation given that it was a novel manipulation being for the first time tested in a new domain for mortality salience research.

Study 1 did confirm that individuals derogate those they perceive to be directly responsible for their condition more so than those not directly responsible. This main effect for the cause of emphysema was observed for the percentage of the total costs that should be covered by Medicare. In other words, whether Patient X had behaviourally- or genetically-caused emphysema significantly influenced participants' judgments of Patient X's deserved coverage of transplant costs. Participants derogated Patient X significantly more when they perceived Patient X's medical condition to be directly related to their self-destructive

behaviour (i.e., smoking) than when they perceived Patient X's medical condition to be genetically-caused; a finding consistent with past terror management literature where individuals derogate those who threaten humans' need for self-preservation and continued life. The type of mortality salience manipulation that participants were exposed to, however, did not play a role in these judgments. That is, there was no significant difference in the derogation shown towards Patient X between participants who were either reminded of their own death or not reminded of their own death via traditional (death-related thoughts/dental pain) or novel methods (i.e., Death Clock). As will be discussed later, it is difficult to assess the effectiveness of either the traditional mortality salience manipulations or the Death Clock manipulations in Study 1 given the large effect of the cause-of-emphysema manipulation.

3.1.2 Study 2 - Mortality Salience & Racial Outgroups (Death Clock)

Studies 2 and 3 looked to test the limits of the mortality salience hypothesis and drew from mortality salience research (i.e., Greenberg et al., 1990; Rosenblatt et al., 1989) and ingroup/outgroup research (i.e., Baldus et al., 1990; Eberhardt et al., 2006; Halabi et al., 2015) in a criminal justice domain. Recall, the findings of Rosenblatt et al. (1989) suggest that participants who are reminded of their own death derogate moral transgressors more than those who have not been reminded of their own death. Moral transgressions are a threat to an individual's cultural worldview for morality, and derogation of transgressors helps individuals deal with the anxiety of being reminded of their own death. Further, in terms of mortality salience, Greenberg et al. (1990) found that reminders of death lead to greater derogation of outgroup members more so than individuals who have not been reminded of their own death. Finally, ingroup/outgroup research suggests there is a difference in how individuals treat ingroup versus outgroup criminals; individuals give harsher punishments to outgroup criminals versus ingroup criminals (Baldus et al., 1990; Eberhardt et al., 2006;

Halabi et al., 2015). Given these three lines of research, Study 2 hypothesized that participants reminded of their own death would show the most derogation towards the suspect when that suspect was a racial outgroup member. In other words, the derogation expressed by the participant would be the greatest for those who were both reminded of their own death and were presented with a racial outgroup suspect. Derogation was measured in this study by asking participants to indicate the suspect's level of guilt (i.e., DV #1) and the number of years the suspect should be sentenced to prison (i.e., DV #2).

The hypothesis that reminders of death would exacerbate the level of derogation participants show towards the suspect when the suspect is a racial outgroup member was not supported in this study for either of the dependent measures. In other words, the combined influence of mortality salience (i.e., Rosenblatt et al., 1989), mortality salience in terms of outgroups (i.e., Greenberg et al., 1990), and ingroup/outgroup effects (i.e., Baldus et al., 1990; Eberhardt et al., 2006; Halabi et al., 2015) did not exacerbate the level of derogation participants showed towards the suspect. Past mortality salience research suggests that participants should differ in how they derogate others when they are reminded of their own death versus when they are not reminded of their own death, regardless of any other variables, but that difference was also not observed in this study for either the traditional or novel methods of mortality salience manipulation (i.e., the main effect for the mortality salience manipulation was not significant). The one exception to this was the observed main effect (albeit marginal) for the traditional mortality salience manipulations on level of guilt for the suspect. Specifically, participants who were reminded of their own death, rated the suspect as more guilty than those participants who were not reminded of their own death, irrespective of the grouping variable – a trend consistent with mortality salience research.

Unfortunately, no differences on the dependent measures were found for the novel mortality salience manipulation (i.e., Death Clock) in Study 2, which was disappointing.

Also of notable concern in Study 2 is the lack of effect of the grouping variable on either of the dependent measures. Past research suggests that I should have seen a main effect for the grouping variable (i.e., ingroup/outgroup) given the nature of the domain (i.e., criminal justice setting). Regardless of the vignette participants were exposed to, participants were asked to make sentencing decisions about a gender-controlled suspect. That is, crime was present across conditions and the potential outgrouping of a gendered suspect was controlled. Therefore, the only outgrouping participants were exposed to was that of race. Participants should not have been influenced by the fact that a crime had taken place, but rather, participants should have been influenced by the fact they were asked to make decisions of either a ingroup or outgroup suspect. Regardless of the mortality salience condition participants were exposed to, I should have still seen an ingroup/outgroup effect similar to that present in the literature (i.e., Baldus et al., 1990; Eberhardt et al., 2006; Halabi et al., 2015) where participants show more derogation towards outgroup criminals compared to ingroup criminals. The inability to detect a difference on the dependent measures between the ingroup and outgroup suspects in Study 2 is concerning.

3.1.3 Study 3 - Mortality Salience & Racial Outgroups (AgingBooth)

Like Study 2, this study aimed to examine how the suspect's race (i.e., the grouping variable) further impacted the judgements of the suspect when individuals were reminded of their own death. Given the ineffectiveness of the novel mortality salience manipulation (i.e., Death Clock) in Study 2, this study introduced a new manipulation, AgingBooth software. It was again hypothesized that participants reminded of their own death would show the most derogation towards the suspect when that suspect was a racial outgroup member. Derogation

was measured the same way that it was for Study 2; participants were asked to indicate the suspect's level of guilt (i.e., DV #1) and the number of years the suspect should be sentenced to prison (i.e., DV #2).

The hypothesis that reminders of death would exacerbate the level of derogation participants show towards the suspect when the suspect is a racial outgroup was confirmed in the study, but only for the novel mortality salience manipulation (i.e., AgingBooth software) and only for one of the dependent measures (i.e., DV #1: level of guilt). In other words, the novel mortality salience manipulation (i.e., AgingBooth software) in combination with the race of the suspect (i.e., grouping variable), proved to have a significant influence on the participants' perceived level of suspect guilt. Specifically, aged-photograph participants rated the racial outgroup suspect more guilty than the racial ingroup suspect; however, judgments between ingroup and outgroup suspects did not differ for the not-aged participants. In line with my hypothesis, participants who were photographically aged and were presented with a racial outgroup suspect showed the most derogation due to the combined influence of the mortality salience manipulation and the presence of a racial ingroup/outgroup suspect. The lack of an observed difference in derogation between racial ingroup and outgroup suspects for the not-aged participants, however, is not consistent with ingroup/outgroup research, which suggests that there should be greater derogation for outgroup versus ingroup criminals, regardless of any mortality salience manipulation. Even though the not-aged photograph condition acted as a mortality salience control condition, I should have still observed a difference in the level of derogation for racial ingroup versus racial outgroup participants (i.e., a main effect for the grouping variable), which should have been exacerbated by the mortality salience manipulation.

Despite the presence of an interaction between the novel mortality salience manipulation and the grouping variable on level of guilt, I remain disappointed that, in general, an effect for the traditional mortality salience manipulation was not observed. Given that I used the same traditional mortality salience manipulations as previous researchers (Greenberg et al., 1994; Rosenblatt et al., 1989) I was disappointed that a difference between the induction and control conditions was not observed for the traditional methods in this study.

3.1.4 Summary of Findings Across All Three Studies

I had hoped to find no significant differences in the mean scores on each of the dependent measures between the induction and the control/not induced conditions across methods, rather than amongst the four mortality salience conditions. In other words, I would have known I had developed an effective mortality salience manipulation if there was no difference in the mean scores on each of the dependent measures between the traditional induction and the novel induction conditions, and the traditional control and the novel control/not induced conditions respectively. This would imply that my novel methods were just as effective as the traditional methods of inducing (or not inducing) mortality salience. Given the non-significant findings, I felt it was best to assess the effectiveness of each method type independently. Therefore, I conducted a series of 2 x 2 ANCOVAs for each of the mortality salience method types to test the effectiveness of each method as a mortality salience manipulation (i.e., compare scores for the induction vs. control/not induced conditions of each method on each of the dependent measures). Unfortunately, across studies, these ANCOVAs were also primarily non-significant, which would suggest no differences between the induction and control/not induced conditions, which is not the pattern I would expect (or want) to see for mortality salience research. I would expect to see

differences in mean scores on the dependent measures for those participants who have been reminded of their own death versus those who have not – regardless of the type of mortality salience manipulation method used. This is especially true for the traditional methods of mortality salience manipulation; a difference between induction and control conditions in a criminal justice domain has already been established in the literature (i.e., Rosenblatt et al., 1989) so that same effect should have been found in these studies.

Overall, more research needs to be conducted to measure the effectiveness of both the traditional and novel methods of mortality salience manipulation in healthcare and criminal justice domains. Doing so will provide an opportunity to explore the promising trends in the data that support the use of novel mortality salience manipulations like AgingBooth software as an alternative to the traditional methods. Alternatives are especially important given the found ineffectiveness of the traditional method as a mortality salience manipulation in this dissertation. As will be discussed in the Limitations section, the results do not support the use of Death Clock as an alternative to traditional methods in healthcare or criminal justice domains but does support the continued testing of the AgingBooth software.

3.2 Limitations & Areas of Future Research

As noted in Section 2.1.2, a significant main effect for the cause of emphysema was observed in Study 1, but unfortunately, this large main effect was likely due to experimenter error in the design of the vignettes. In an attempt to create well-defined vignettes that either showcased behaviourally- or genetically-caused emphysema, the results suggest that the vignettes were too strongly worded, and did not leave much room for interpretation for the participants. The strength of the main effect for the cause of emphysema could have clouded how effective the traditional and novel methods were at inducing (or not inducing) mortality salience in a healthcare-related domain. That is, with such a powerful main effect for the

cause of emphysema I may have created a floor/ceiling effect that permitted no variance for my mortality salience manipulations to have their effect.

The lack of effect of the novel method, Death Clock, across all of the dependent measures in Studies 1 and 2 raises concerns as to its applicability as a mortality salience manipulation. While the aim of Death Clock was to generate a realistic death-related age for my participants, the length of time required to generate the age, and the type of questions included, could be improved. It is possible that some participants may not have believed the system was capable of collating the data and generating the life expectancy age in such a short period of time (i.e., under one minute). Further, the questions asked, while drawn from a sample of life insurance questions, may not have been the types of questions participants believed to be related to life expectancy. For example, participants may not have associated environmental hazards such as mold or poor water quality as indicative of a shortened life expectancy. In terms of the given life expectancy age, it is possible that the life expectancy age of 57 may not have seemed realistic or believable enough for some of the participants. The believability of the generated age may also have been impacted had the participants responded in a way they believed should have given them a shortened life expectancy (i.e., 57 years), but random assignment placed them in a lengthened life expectancy condition (i.e., 97 years). In other words, if a participant responded in a way that they believed would have resulted in a shortened life expectancy, but instead, they received a longer life expectancy, they may have questioned the validity of the measure. Random assignment of the Death Clock ages (i.e., 57 or 97 years), while necessary for internal validity, may have reduced the believability of the given age for some of my participants, and may have impacted my

findings. If Death Clock were to be used in future mortality salience research, these limitations must be addressed.

The use of the AgingBooth software as a mortality salience manipulation is also not without its limitations. As previously discussed, initial testing of the AgingBooth software revealed that male participants did not find the software as threatening as female participants. This lack of threat was determined not only by the male participants' feedback but also by the male participants' complete lack of negative mood following the mortality salience manipulation (i.e., scores on the negative items of the PANAS). While a gender difference is not typically expected in terms of mortality salience research (see Burke et al., 2010), it is still important that research develop mortality salience manipulations that can be used across gender. The inability to reliably use AgingBooth software with both male and female participants is a limitation of using this manipulation in mortality salience research.

A further limitation of using the AgingBooth software as a mortality salience manipulation is the implication of participants having their photograph taken. My research findings may have been impacted merely by participants' having their photograph taken rather than by the mortality salience manipulation of having the photograph aged or not-aged. All participants had their photograph taken (i.e., there was no control condition where participants did not have their photograph taken), but female participants may have been especially vulnerable to the effects of having the photograph taken more so than male participants. Researchers Twigg (2004) and Woodward (1999) both discuss the paradox of ageing that women experience where women are both invisible as they age (i.e., no longer seen for their physical appearance), but are also hypervisible in that their appearance is all that is seen and evaluated. Further, in society, physical signs of ageing like wrinkles or

greying do not mean the same across genders. For men, these physical signs represent wisdom or status, but for women, these signs do not (Chonody & Teater, 2016). Researchers argue it is the social standards for physical appearance that have created unrealistic expectations and stigmas of women in terms of the ageing process (Braithwaite, 2002; Chonody & Teater, 2016; Hatch, 2005). Recall, my initial findings from testing the AgingBooth software with male participants indicated a lack of negative mood following the mortality salience manipulation (i.e., scores on the negative items of the PANAS). Those findings provide support for the role that gender differences may play when photographs are used in mortality salience research.

It is also important to consider that the novel mortality salience inductions (i.e., Death Clock and AgingBooth software) may not have had the intended effect of inducing mortality salience for my participants. It was an oversight not to have assessed whether the novel mortality salience inductions made the concept of death salient for participants. Specifically, I could have implicitly tested to see if my novel inductions were resonating with participants, prior to implementing the inductions for use in my dissertation studies. In fact, Greenberg, Pyszczynski, & Solomon (2008) provide materials (i.e., death-related word fragment puzzles/word searches) that could have been adapted for these pilot study purposes. Confirmation that the novel methods of inducing mortality salience were resonating with my demographic of study – psychology students at UBC Okanagan – could have helped to ensure I built appropriate novel mortality salience inductions. Related to this, given the lack of an observed effect for the traditional mortality salience manipulations, future research should examine how the traditional methods resonate with this specific population as the results may help to explain my failure to replicate the established mortality salience effect in

my studies. Perhaps there is something unique about psychology students at UBC Okanagan that is effecting how they are impacted by the mechanisms of terror management theory and/or the ability of the mortality salience manipulations to influence their judgments of others.

With respect to the grouping variable in Studies 2 and 3, it is possible that the reason I did not find an effect was due to the demographics of my sample. There is a tendency for participants to respond in a way that will be viewed favourably by others (i.e., social desirability responding). My sample consisted of psychology students at UBC Okanagan who may have responded in a way more socially acceptable than they would have if I had implicitly measured their level of derogation for either Patient X (i.e., Study 1) or the suspect (i.e., Studies 2 and 3). Further, in all conditions in Studies 2 and 3, the suspect is a criminal, which arguably should be an outgroup for participants, so participants may not have responded to the additional outgroup of race once they initially responded to the threat of criminality. That is assuming, however, that participants believed the crime to be seriousness enough for the suspect to be viewed as an outgroup member in terms of crime. Unfortunately, I did not include questions related to how serious or heinous the crime was, but if I had, I would have been able to better assess the compounded effect of a moral transgressor (i.e., a suspect) and an outgroup member in terms of race on the derogation of others. Without knowing for certain if all participants viewed the crime to be a serious moral transgression, I cannot confidently say whether there is (or is not) a compounded effect of crime and race on the derogation of others. That is, it is possible that my results may have been influenced by the reality that some participants may have only responded to the threat

of a racial ingroup/outgroup member and did not perceive the suspect to also be an outgroup member in terms of crime (i.e., one threat: race vs. two threats: race + crime).

A final limitation of this research is the lack of effect that the traditional mortality salience manipulation had on judgments of others across all of my studies. I included the traditional mortality salience manipulation in my studies, not to test its effectiveness, but rather as a comparative tool to evaluate the effectiveness of the novel mortality salience manipulations I created (i.e., Death Clock and AgingBooth software). As justification for using the traditional mortality salience manipulations as a comparative tool, I looked at a meta-analytic review conducted by Burke and colleagues in 2010. This review analyzed 164 articles containing 277 experiments that tested the mortality salience hypothesis. The researchers found a moderate to strong effect for mortality salience ($r^2 = 0.35$) in their review, wherein reminders of death led to more positive responses towards those who validated the participant's worldview, and more negative responses towards those who threatened or challenged the participant's worldview (Burke et al., 2010). As a researcher, it is troubling that I was unable to replicate such a well-established finding in the literature.

The meta-analysis conducted by Burke et al. (2010) established the parameters for an ideal mortality salience experiment. As the researchers note, this involves recruiting male and female American college students with an average age of 22 years. These participants complete a series of filler tasks and the mortality salience manipulation of either answering two short essay questions related to death or two short essay questions related to dental pain. This is then followed by another delay task (lasting on average 2-6 minutes) wherein participants complete the PANAS or solve a puzzle. Then, after the completion of these tasks, participants are given the dependent variable measure of either attitudes towards an

essay or an author who disagreed with their worldview (Burke et al., 2010). While the researchers acknowledge the above represents a prototypical mortality salience experiment, it does bring forth concern as to how specific the conditions need to be for there to be a mortality salience effect. Arguably, the stricter the parameters, the less meaningful the theory. The theoretical motivation of my research was to better understand the mechanisms behind how reminders of death impact the derogation of others. If, however, the effects of mortality salience on the derogation of others can only be observed under specific conditions, then it becomes difficult for me to make generalized statements for human behaviour.

This dissertation provides exciting avenues for future research. Improvements in research design for Study 1 would allow researchers to better test the effectiveness of the traditional and novel methods of mortality salience manipulation in a healthcare-related domain. It would be pragmatic to make changes to the research design first (i.e., improve the wording in the vignettes) and then test the traditional methods to see if mortality salience can impact judgments of others in a healthcare-related domain to the same extent it can, according to past literature, in a criminal justice domain. Once it has been determined that mortality salience effects can be seen in a healthcare-related domain, then novel mortality salience manipulations can be introduced. The trending nature of AgingBooth software as an effective mortality salience manipulation in Study 3, warrants its inclusion in a study design like Study 1. Indeed, prior research has shown that age progression interventions can cause an increase in negative attitudes and a decrease in behavioural intentions in terms of physical health (Grogan et al., 2011; Hysert, Mirand, Giovino, Cummings, & Kuo, 2003). This prior research did not use AgingBooth software, but it did use a similar age progression intervention, Oldify (Apptly LLC, 2014) to measure ageist attitudes (Rittenour & Cohen,

2016). The researchers demonstrated, using their age progression intervention, the impact of ageing on negative affect and anxiety. Arguably, AgingBooth software could display similar findings when administered in a healthcare-related domain.

As discussed, it would also be prudent for future research to focus on developing novel mortality salience manipulations that can be used for both genders. While the data may have supported the effectiveness of AgingBooth software as a mortality salience manipulation, the inability for it to be used across genders greatly limits its effectiveness. Future research could work to correct the limitations of Death Clock, whose effect did not appear to differ across gender, or to pilot new mortality salience manipulations in criminal justice domains where effects have already been established (i.e., Rosenblatt et al., 1989).

Finally, I believe it is necessary for future research to focus on testing the effectiveness of the traditional mortality salience manipulations in a criminal justice domain. I cannot directly equate the work of Rosenblatt et al. (1989) to the current dissertation, given that the outgrouping effect in their work involved crime and gender, rather than crime and race. No gender differences were found in Rosenblatt et al.'s (1989) work, however, so it was the effect of the mortality salience manipulation that led to differences in sentencing outcomes. It is reasonable then to assume that, at the very least, an effect for the traditional mortality salience manipulation should have been found in my research as I controlled for the effect of the suspect's gender. I did include a potential outgroup for participants, the suspect's race, but there should have still been a significant difference on the dependent measures between participants who were (and were not) reminded of their own death, regardless of the race of the suspect. I think it is crucial that future research attempt to replicate the Rosenblatt et al. (1989) study to better understand the conditions where

traditional mortality salience manipulations generate effects. This information will allow researchers to develop new mortality salience manipulations as alternatives to the traditional methods.

3. 3 Implications of This Research

There are three main implications of this research. First, this research offered two new mortality salience manipulations that with further improvement and testing could prove effective in inducing (or not inducing) the fear of death (i.e., Death Clock and AgingBooth software). There are a limited number of mortality salience manipulations in the TMT literature, so the introduction of two new manipulations increases the variety of manipulations that could be employed to induce (or not induce) the fear of death. In other words, researchers could use novel manipulations as alternatives to the methods traditionally used (i.e., write about what you think happens to yourself physically when you die [experience dental pain] and describe the emotions that the thought of death [dental pain] arouses in yourself). Doing so would afford researchers with the opportunity to better understand the relationship between the mortality salience hypothesis and a variety of dependent measures.

As previously discussed, traditional mortality salience inductions are subject to many confounding biases (e.g., religiosity, belief in an afterlife, belief in reincarnation). The goal of any mortality salience manipulation is to induce (or not induce) the fear of death in the most realistic way possible, and based on my research, the AgingBooth software accomplishes this goal, albeit with its effects limited by gender. A real benefit to using the AgingBooth software as a mortality salience manipulation is that it minimizes how much participants are directly primed with the thought of death. Rather than explicitly asking participants to write about their own death (i.e., the traditional mortality salience induction)

or asking participants to answer questions related to the potential for lifestyle-related illnesses and death (i.e., the novel mortality salience induction: Death Clock), all that the AgingBooth software does, in the induction condition, is age the photograph of the participant. Individuals are unique in how they respond to the thought of their own death and their responses are influenced by their death-related beliefs (e.g., religiosity, afterlife, reincarnation). Given this, it is possible that the effects of the traditional mortality salience inductions are confounded by the influence of these factors. By not directly asking participants to think about their own death, AgingBooth software reduces the influence of other factors (e.g., religiosity, belief in an afterlife, belief in reincarnation) from impacting how individuals respond to death-related thoughts. Despite the effectiveness of the AgingBooth software as a novel mortality salience manipulation, the results of my research do not support the use of Death Clock as a novel mortality salience manipulation without first addressing its current limitations.

The second main implication of this research is that it contributed a new domain to the mortality salience literature: the role that reminders of death play in generating judgments of those who engage in self-destructive behaviours in a healthcare-related domain. My research addressed this gap by testing whether participants who are reminded of their own death derogated a patient more when that patient was responsible for their own condition than when they were not responsible for their own condition (i.e., behaviourally- vs. genetically-caused emphysema). That is, my research examined how participants responded to a patient who actively chose to engage in behaviours thought to shorten their life, and therefore, violate a basic tenant of TMT – the human desire for self-preservation. The

limitations of this research are discussed above. When these limitations have been addressed, this research offers exciting research possibilities for future studies.

A final implication of this research is that it tested the limits of the mortality salience hypothesis to offer explanations for how individuals respond to violations to cultural worldviews in a criminal justice domain. Previous mortality salience research has focused on either the negative evaluations of moral transgressors (Rosenblatt et al., 1989) or the negative evaluations of outgroup members (Greenberg et al., 1990), but never both at the same time. Exposing participants to a moral transgressor in each of the conditions established a threat to a participants' cultural worldviews for morality. The mortality salience hypothesis was pushed further when we included the suspect's race and asked participants to make judgments about the suspect. My research exposed participants to two threats to their worldviews – a moral transgressor and a racial outgroup member – and this double threat allowed me to examine the impact of the suspect's race over and above the impact of a moral transgression on judgments of others in the face of death.

The mortality salience effect is celebrated as one of the top 20% strongest effects in personality and social psychology, consistently evidencing moderate to large effects for many different manipulations and dependent measures (Burke et al., 2010), but failed to show an effect across all three studies of my dissertation. Study 1 did introduce a novel domain for mortality salience research (i.e., healthcare), but an effect still should have been seen for Studies 2 and 3 in a criminal justice domain where similar effects have been established (i.e., Rosenblatt et al., 1989). The lack of significant results for the traditional methods of mortality salience manipulation speaks to a potential replicability issue with the traditional methods of the mortality salience hypothesis.

3.4 Final Thoughts

As Solomon, Greenberg, and Pyszczynski (2015) note, we as humans face a great predicament. We are intelligent enough to recognize that we exist but equally intelligent enough to know that one day we will cease to exist. We harbour an intense desire to avoid death, despite the reality that death is inevitable. To deal with the uncertainty (but ironic certainty) of death, we create beliefs about the nature of our world to instil meaning and belonging. We subscribe to beliefs and engage in behaviours to ensure a promised immortality – often at the expense of others. Surrounding ourselves with those who validate our understanding of the world helps us to feel secure and protected against death-related anxiety. Conversely, encountering those with differing beliefs leaves us feeling anxious and detached. We manage this anxiety, or terror, by derogating those who are different than us to regain feelings of safety and security. Feelings of safety and security that are only temporary, however, until we are reminded again of the fragility of life and the inescapability of death.

Table 1

Study 1: Cell Means (DV #1: Medicare Coverage)

MS Variable	Cause of Emphysema	*M*	*SE*	*N*
Traditional MS Induction	Behavioural	64.63	4.73	26
	Genetic	91.37	4.56	28
Traditional MS Control	Behavioural	69.41	4.83	25
	Genetic	83.13	5.04	23
Novel MS Induction (57 Years)	Behavioural	54.61	4.72	26
	Genetic	85.67	5.16	22
Novel MS Attenuation (97 Years)	Behavioural	63.18	5.48	20
	Genetic	87.04	4.95	24

Table 2

Study 1: Tests of Between-Subjects Effects (DV #1: Medicare Coverage)
4 x 2 ANCOVA (Mortality Salience Manipulations x Cause)

	df	*F*	*Sig.*	η_p^2
Corrected Model	9	6.32	.000	.236
Intercept	1	29.71	.000	.139
NegativePanas	1	.227	.635	.001
HLCTotal	1	.135	.714	.001
Mortality Salience	3	.971	.408	.016
Cause of Emphysema	1	46.31	.000	.201
Mortality Salience * Cause	3	1.11	.345	.018
Error	184			
Total	194			
Corrected Total	193			

Table 3

Study 1: Tests of Between-Subjects Effects (DV #1: Medicare Coverage)
2 x 2 ANCOVA (Traditional Mortality Salience Manipulation x Cause)

	df	*F*	*Sig.*	η_p^2
Corrected Model	5	4.97	.000	.205
Intercept	1	15.00	.000	.135
NegativePanas	1	1.30	.257	.013
HLCTotal	1	.267	.606	.003
Mortality Salience	1	.154	.696	.002
Cause of Emphysema	1	19.34	.000	.168
Mortality Salience * Cause	1	1.84	.178	.019
Error	96			
Total	102			
Corrected Total	101			

Table 4

Study 1: Post-hoc Simple Effects Test (DV #1: Medicare Coverage)
(Traditional Mortality Salience Manipulation for the Behavioural Cause Condition)

	df	*F*	*Sig.*	η_p^2
Corrected Model	3	1.62	.197	.094
Intercept	1	.640	.428	.013
NegativePanas	1	3.35	.074	.066
HLCTotal	1	.544	.465	.011
Mortality Salience	1	.173	.679	.004
Error	47			
Total	51			
Corrected Total	50			

Table 5

Study 1: Tests of Between-Subjects Effects (DV #1: Medicare Coverage)
2 x 2 ANCOVA (Novel Mortality Salience Manipulation x Cause)

	df	*F*	*Sig.*	η_p^2
Corrected Model	5	6.03	.000	.260
Intercept	1	14.31	.000	.143
NegativePanas	1	.166	.685	.002
HLCTotal	1	.000	.984	.000
Mortality Salience	1	.469	.495	.005
Cause of Emphysema	1	27.33	.000	.241
Mortality Salience * Cause	1	.432	.513	.005
Error	86			
Total	92			
Corrected Total	91			

Table 6

Study 1: Post-hoc Simple Effects Test (DV #1: Medicare Coverage)
(Novel Mortality Salience Manipulation for the Behavioural Cause Condition)

	df	*F*	*Sig.*	η_p^2
Corrected Model	3	.458	.731	.032
Intercept	1	5.03	.030	.107
NegativePanas	1	.407	.527	.010
HLCTotal	1	.161	.690	.004
Mortality Salience	1	.341	.562	.008
Error	42			
Total	46			
Corrected Total	45			

Table 7

Study 1: Cell Means (Manipulation Check #1: Personal Responsibility)

MS Variable	Cause of Emphysema	*M*	*SE*	*N*
Traditional MS Induction	Behavioural	84.58	4.25	27
	Genetic	8.66	4.17	28
Traditional MS Control	Behavioural	78.15	4.43	25
	Genetic	7.00	4.61	23
Novel MS Induction (57 Years)	Behavioural	79.39	4.32	26
	Genetic	2.77	4.72	22
Novel MS Attenuation (97 Years)	Behavioural	80.20	5.02	20
	Genetic	4.50	4.53	24

Table 8

Study 1: Tests of Between-Subjects Effects (Manipulation Check #1: Personal Responsibility) 4 x 2 ANCOVA (Mortality Salience Manipulations x Cause)

	df	*F*	*Sig.*	η_p^2
Corrected Model	9	63.05	.000	.754
Intercept	1	20.09	.000	.098
NegativePanas	1	1.10	.294	.006
HLCTotal	1	.076	.783	.000
Mortality Salience	3	.620	.603	.010
Cause of Emphysema	1	547.66	.000	.747
Mortality Salience * Cause	3	.152	.928	.002
Error	185			
Total	195			
Corrected Total	194			

Table 9

Study 2: Cell Means (DV #1: Level of Guilt)

MS Variable	Race of Suspect (Grouping Variable)	*M*	*SE*	*N*
Traditional MS Induction	Ingroup	76.67	3.79	21
	Outgroup	81.25	3.58	23
Traditional MS Control	Ingroup	75.25	3.44	25
	Outgroup	69.21	3.28	28
Novel MS Induction (57 Years)	Ingroup	78.90	3.81	20
	Outgroup	78.30	3.65	22
Novel MS Attenuation (97 Years)	Ingroup	75.03	3.73	21
	Outgroup	74.84	3.47	24

Table 10

Study 2: Tests of Between-Subjects Effects (DV #1: Level of Guilt)
4 x 2 ANCOVA (Mortality Salience Manipulations x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	10	.884	.550	.049
Intercept	1	104.63	.000	.377
RWATotal	1	.815	.368	.005
MRTotal	1	.212	.646	.001
NegativePanas	1	.673	.413	.004
Mortality Salience	3	1.63	.183	.028
Group	1	.049	.825	.000
Mortality Salience * Group	3	.732	.534	.013
Error	173			
Total	184			
Corrected Total	183			

Table 11

Study 2: Tests of Between-Subjects Effects (DV #1: Level of Guilt)
2 x 2 ANCOVA (Traditional Mortality Salience Manipulation x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	6	1.33	.252	.081
Intercept	1	54.91	.000	.379
RWATotal	1	.805	.372	.009
MRTotal	1	.953	.332	.010
NegativePanas	1	.687	.409	.008
Mortality Salience	1	3.96	.050	.042
Group	1	.075	.785	.001
Mortality Salience * Group	1	2.30	.133	.025
Error	90			
Total	97			
Corrected Total	96			

Table 12

Study 2: Tests of Between-Subjects Effects (DV #1: Level of Guilt)
2 x 2 ANCOVA (Novel Mortality Salience Manipulation x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	6	2.30	.966	.017
Intercept	1	47.55	.000	.373
RWATotal	1	.077	.782	.001
MRTotal	1	.183	.670	.002
NegativePanas	1	.052	.821	.001
Mortality Salience	1	.818	.368	.010
Group	1	.001	.972	.000
Mortality Salience * Group	1	.000	.989	.000
Error	80			
Total	87			
Corrected Total	86			

Table 13

Study 2: Cell Means (DV #2: Years Sentenced to Prison)

MS Variable	Race of Suspect (Grouping Variable)	*M*	*SE*	*N*
Traditional MS Induction	Ingroup	6.73	1.005	21
	Outgroup	6.50	.972	22
Traditional MS Control	Ingroup	8.60	.912	25
	Outgroup	6.82	.869	28
	Total (Collapsed)			
Novel MS Induction (57 Years)	Ingroup	8.60	1.011	20
	Outgroup	8.77	.968	22
	Total (Collapsed)			
Novel MS Attenuation (97 Years)	Ingroup	9.70	.968	22
	Outgroup	6.81	.920	24

Table 14

Study 2: Tests of Between-Subjects Effects (DV #2: Years Sentenced to Prison)
4 x 2 ANCOVA (Mortality Salience Manipulations x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	10	1.70	.084	.090
Intercept	1	15.19	.000	.081
RWATotal	1	.100	.752	.001
MRTotal	1	5.39	.021	.030
NegativePanas	1	2.50	.115	.014
Mortality Salience	3	1.67	.176	.028
Group	1	3.13	.079	.018
Mortality Salience * Group	3	1.08	.357	.018
Error	173			
Total	184			
Corrected Total	183			

Table 15

Study 2: Tests of Between-Subjects Effects (DV #2: Years Sentenced to Prison)
2 x 2 ANCOVA (Traditional Mortality Salience Manipulation x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	6	2.50	.028	.144
Intercept	1	29.35	.000	.248
RWATotal	1	2.45	.121	.027
MRTotal	1	4.81	.031	.051
NegativePanas	1	.003	.953	.000
Mortality Salience	1	2.18	.143	.024
Group	1	1.31	.255	.015
Mortality Salience * Group	1	3.20	.077	.035
Error	89			
Total	96			
Corrected Total	95			

Table 16

Study 2: Tests of Between-Subjects Effects (DV #2: Years Sentenced to Prison)
2 x 2 ANCOVA (Novel Mortality Salience Manipulation x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	6	1.86	.097	.121
Intercept	1	.372	.544	.005
RWATotal	1	2.67	.106	.032
MRTotal	1	1.90	.172	.023
NegativePanas	1	5.52	.021	.064
Mortality Salience	1	.250	.618	.003
Group	1	1.11	.295	.014
Mortality Salience * Group	1	2.92	.091	.035
Error	81			
Total	88			
Corrected Total	87			

Table 17

Study 3: Cell Means (DV #1: Level of Guilt)

MS Variable	Race of Suspect (Grouping Variable)	*M*	*SE*	*N*
Traditional MS Induction	Ingroup	69.39	3.56	32
	Outgroup	76.49	3.76	29
Traditional MS Control	Ingroup	74.24	3.68	30
	Outgroup	77.24	3.46	34
Novel MS Induction (Aged)	Ingroup	66.41	3.69	30
	Outgroup	75.77	3.34	37
No MS Induction (Not-Aged)	Ingroup	73.58	3.61	31
	Outgroup	68.08	3.61	31

Table 18

Study 3: Tests of Between-Subjects Effects (DV #1: Level of Guilt)
4 x 2 ANCOVA (Mortality Salience Manipulations x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	10	1.24	.268	.048
Intercept	1	141.56	.000	.368
RWATotal	1	.795	.373	.003
MRTotal	1	.341	.560	.001
NegativePanas	1	.101	.751	.000
Mortality Salience	3	.800	.495	.010
Group	1	1.90	.169	.008
Mortality Salience * Group	3	1.66	.176	.020
Error	243			
Total	254			
Corrected Total	253			

Table 19

Study 3: Tests of Between-Subjects Effects (DV #1: Level of Guilt)
2 x 2 ANCOVA (Traditional Mortality Salience Manipulation x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	6	.971	.448	.047
Intercept	1	96.31	.000	.449
RWATotal	1	1.92	.169	.016
MRTotal	1	.211	.647	.002
NegativePanas	1	.236	.628	.002
Mortality Salience	1	.513	.475	.004
Group	1	1.98	.162	.017
Mortality Salience * Group	1	.174	.677	.001
Error	118			
Total	125			
Corrected Total	124			

Table 20

Study 3: Tests of Between-Subjects Effects (DV #1: Level of Guilt)
2 x 2 ANCOVA (Novel Mortality Salience Manipulation x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	6	1.23	.294	.057
Intercept	1	47.98	.000	.282
RWATotal	1	.033	.857	.000
MRTotal	1	1.57	.213	.013
NegativePanas	1	1.21	.274	.010
Mortality Salience	1	.008	.927	.000
Group	1	.328	.568	.003
Mortality Salience * Group	1	4.27	.041	.034
Error	122			
Total	129			
Corrected Total	128			

Table 21

Study 3: Post-hoc Simple Effects Test (DV #1: Level of Guilt)
(Novel Mortality Salience Manipulation for the Aged Photograph Condition)

	df	*F*	*Sig.*	η_p^2
Corrected Model	4	1.35	.261	.080
Intercept	1	29.19	.000	.320
RWATotal	1	.084	.773	.001
MRTotal	1	1.96	.167	.031
NegativePanas	1	.026	.873	.000
Group	1	.388	.053	.059
Error	62			
Total	67			
Corrected Total	66			

Table 22

Study 3: Post-hoc Simple Effects Test (DV #1: Level of Guilt)
(Novel Mortality Salience Manipulation for the Not-Aged Photograph Condition)

	df	*F*	*Sig.*	η_p^2
Corrected Model	4	1.22	.315	.079
Intercept	1	18.48	.000	.245
RWATotal	1	.027	.871	.000
MRTotal	1	.126	.724	.002
NegativePanas	1	3.20	.079	.053
Group	1	1.09	.301	.019
Error	57			
Total	62			
Corrected Total	61			

Table 23

Study 3: Cell Means (DV #2: Years Sentenced to Prison)

MS Variable	Race of Suspect (Grouping Variable)	*M*	*SE*	*N*
Traditional MS Induction	Ingroup	7.50	.769	32
	Outgroup	7.19	.820	28
Traditional MS Control	Ingroup	8.93	.793	30
	Outgroup	7.33	.779	31
Novel MS Induction (Aged)	Ingroup	6.57	.793	30
	Outgroup	7.18	.718	37
No MS Induction (Not-Aged)	Ingroup	6.39	.777	31
	Outgroup	5.79	.777	31

Table 24

Study 3: Tests of Between-Subjects Effects (DV #2: Years Sentenced to Prison)
4 x 2 ANCOVA (Mortality Salience Manipulations x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	10	1.05	.401	.042
Intercept	1	22.05	.000	.084
RWATotal	1	.147	.701	.001
MRTotal	1	.362	.548	.002
NegativePanas	1	.073	.788	.000
Mortality Salience	3	2.40	.069	.029
Group	1	.754	.386	.003
Mortality Salience * Group	3	.700	.553	.009
Error	239			
Total	250			
Corrected Total	249			

Table 25

Study 3: Tests of Between-Subjects Effects (DV #2: Years Sentenced to Prison)
2 x 2 ANCOVA (Traditional Mortality Salience Manipulations x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	6	.557	.764	.028
Intercept	1	16.12	.000	.124
RWATotal	1	.501	.481	.004
MRTotal	1	.088	.767	.001
NegativePanas	1	.068	.795	.001
Mortality Salience	1	.655	.420	.006
Group	1	1.05	.307	.009
Mortality Salience * Group	1	.368	.545	.003
Error	114			
Total	121			
Corrected Total	120			

Table 26

Study 3: Tests of Between-Subjects Effects (DV #2: Years Sentenced to Prison)
2 x 2 ANCOVA (Novel Mortality Salience Manipulations x Grouping Variable)

	df	*F*	*Sig.*	η_p^2
Corrected Model	6	1.30	.261	.060
Intercept	1	4.88	.029	.038
RWATotal	1	4.24	.042	.034
MRTotal	1	.336	.563	.003
NegativePanas	1	.126	.723	.001
Mortality Salience	1	1.20	.275	.010
Group	1	.030	.863	.000
Mortality Salience * Group	1	1.27	.262	.010
Error	122			
Total	129			
Corrected Total	128			

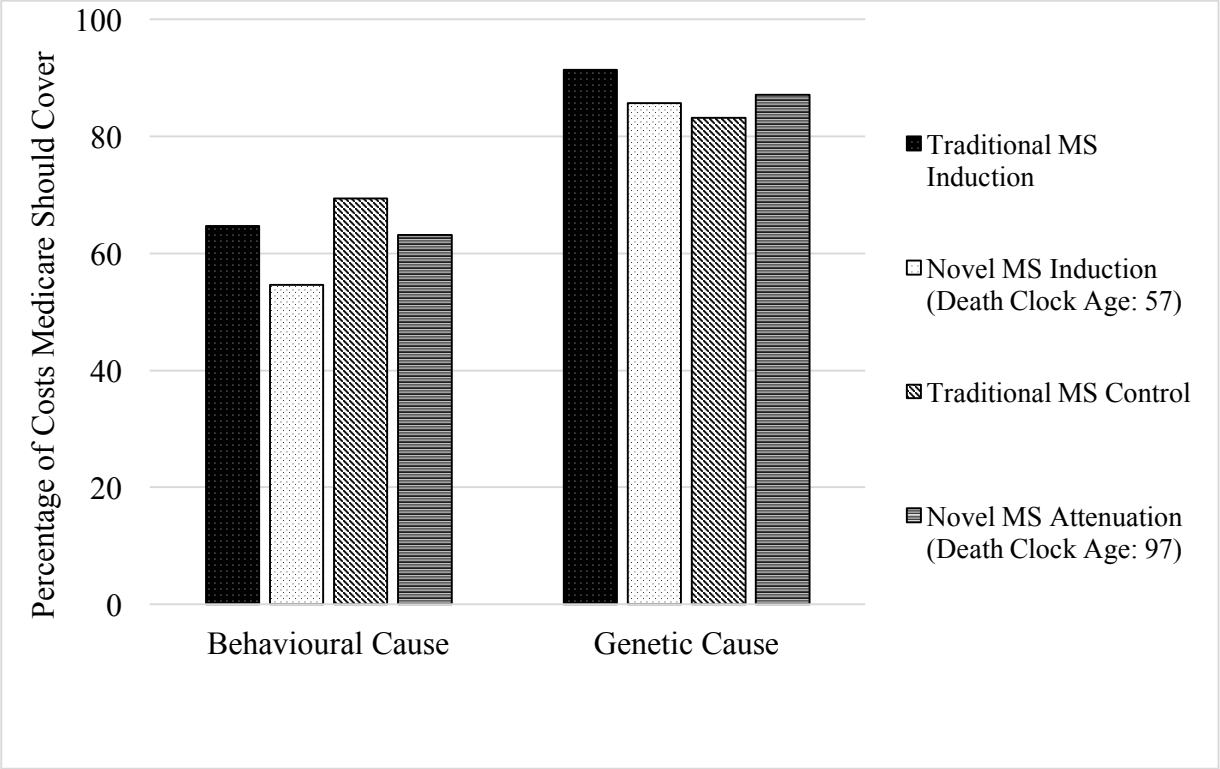

Figure 1. Study 1: Mean results of the two-way ANCOVA (4 x 2) of the mortality salience manipulation and the cause of emphysema on the percentage of the total transplant surgery costs that should be covered by Medicare. The two-way interaction was not significant, $F(3, 184) = 1.11$, $p = .345$, $\eta_p^2 = .018$, but there was a significant main effect for cause of emphysema on Medicare coverage, $F(1, 184) = 46.31$, $p < .001$, $\eta_p^2 = .201$. The main effect of mortality salience on Medicare coverage was not significant, $F(3, 184) = .971$, $p = .408$, $\eta_p^2 = .016$.

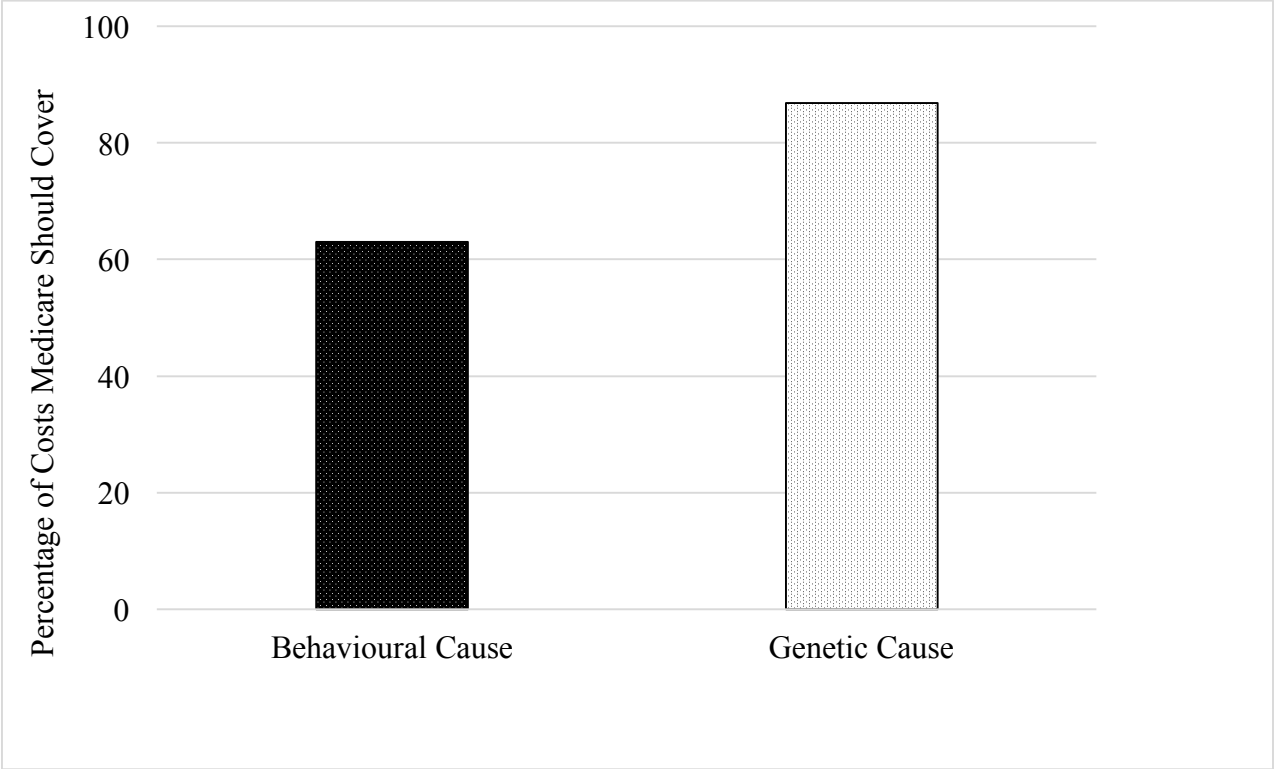

Figure 2. Study 1: Mean results for the main effect of the cause of emphysema on the percentage of the total transplant surgery costs that should be covered by Medicare from the 4 x 2 ANCOVA (i.e., all mortality salience conditions x cause). Participants in the behavioural cause condition thought that 62.96% of expenses should be covered by Medicare; whereas, participants in the genetic cause condition thought 86.80% of expenses should be covered by Medicare, $F(1, 184) = 46.31$ $p < .001$, $\eta_p^2 = .201$.

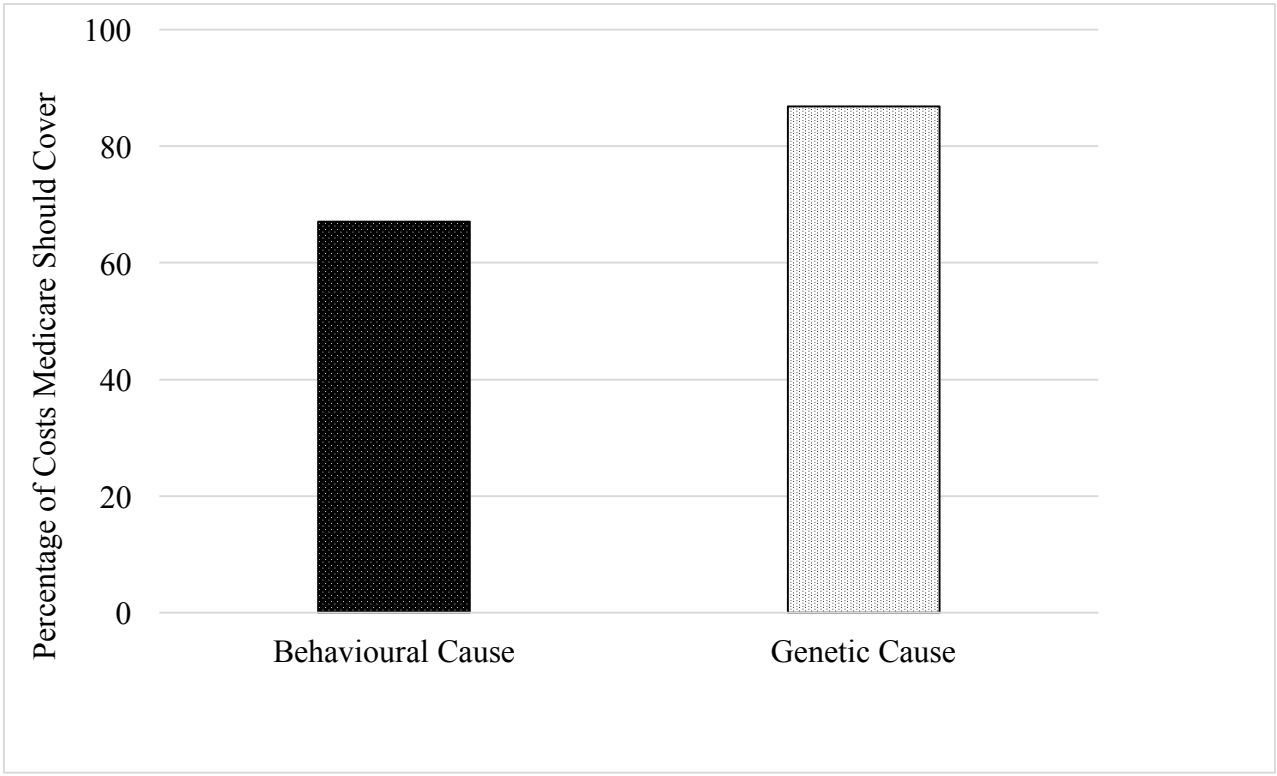

Figure 3. Study 1: Mean results for the main effect of the cause of emphysema on the percentage of the total transplant surgery costs that should be covered by Medicare from the 2 x 2 ANCOVA (i.e., traditional MS induction/traditional MS control x cause). Participants in the behavioural cause condition thought that 67.12% of expenses should be covered by Medicare; whereas, participants in the genetic cause condition thought 87.42% of expenses should be covered by Medicare, $F(1, 96) = 19.34$, $p < .001$, $\eta_p^2 = .168$.

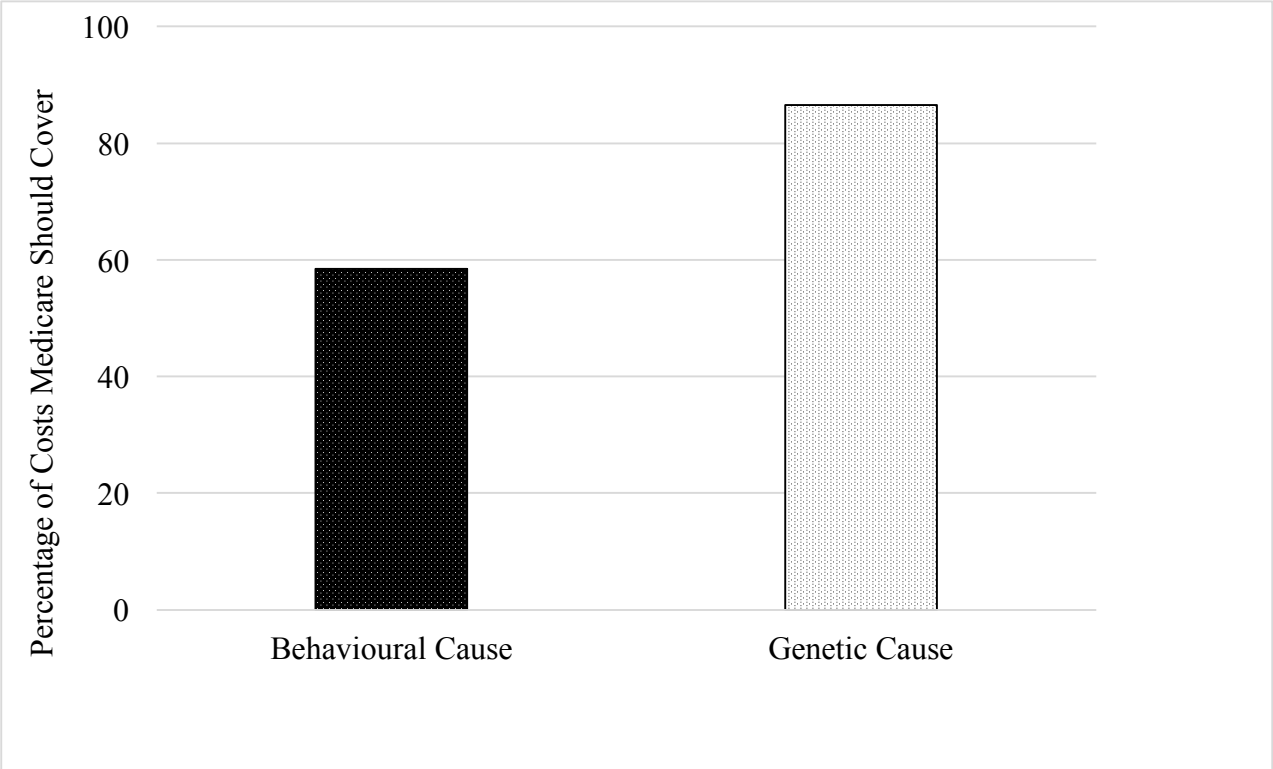

Figure 4. Study 1: Mean results for the main effect of the cause of emphysema on the percentage of the total transplant surgery costs that should be covered by Medicare from the 2 x 2 ANCOVA (i.e., novel MS induction/novel MS attenuation x cause). Participants in the behavioural cause condition thought that 58.41% of expenses should be covered by Medicare; whereas, participants in the genetic cause condition thought 86.50% of expenses should be covered by Medicare, $F(1, 86) = 27.33$, $p < .001$, $\eta_p^2 = .241$.

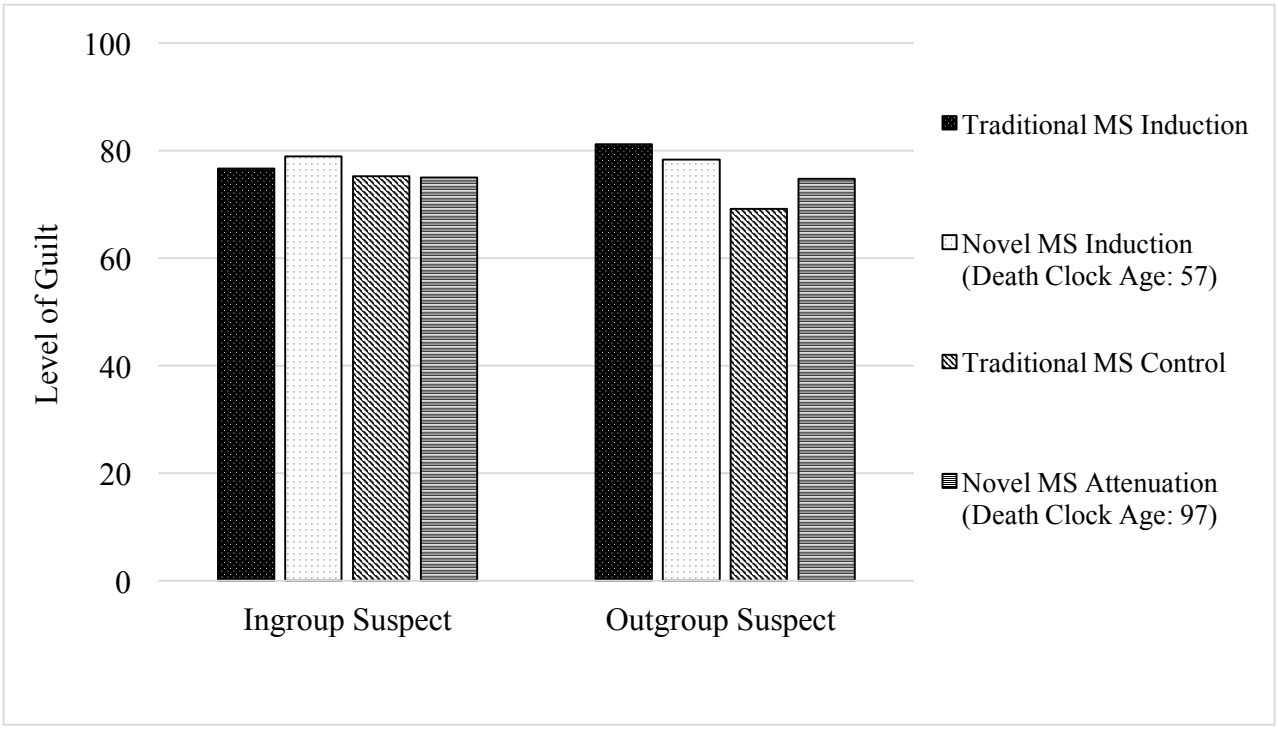

Figure 5. Study 2: Mean results of the two-way ANCOVA (4 x 2) of the mortality salience manipulation and the grouping variable on level of guilt. The two-way interaction was not significant, $F(3, 173) = .732$, $p = .534$, $\eta_p^2 = .013$. Both the main effect of the mortality salience manipulation on level of guilt and the main effect of the grouping variable on level of guilt were not significant, $F(3, 173) = 1.63$, $p = .183$, $\eta_p^2 = .028$ and $F(1, 173) = .049$, $p = .825$, $\eta_p^2 = .000$ respectively.

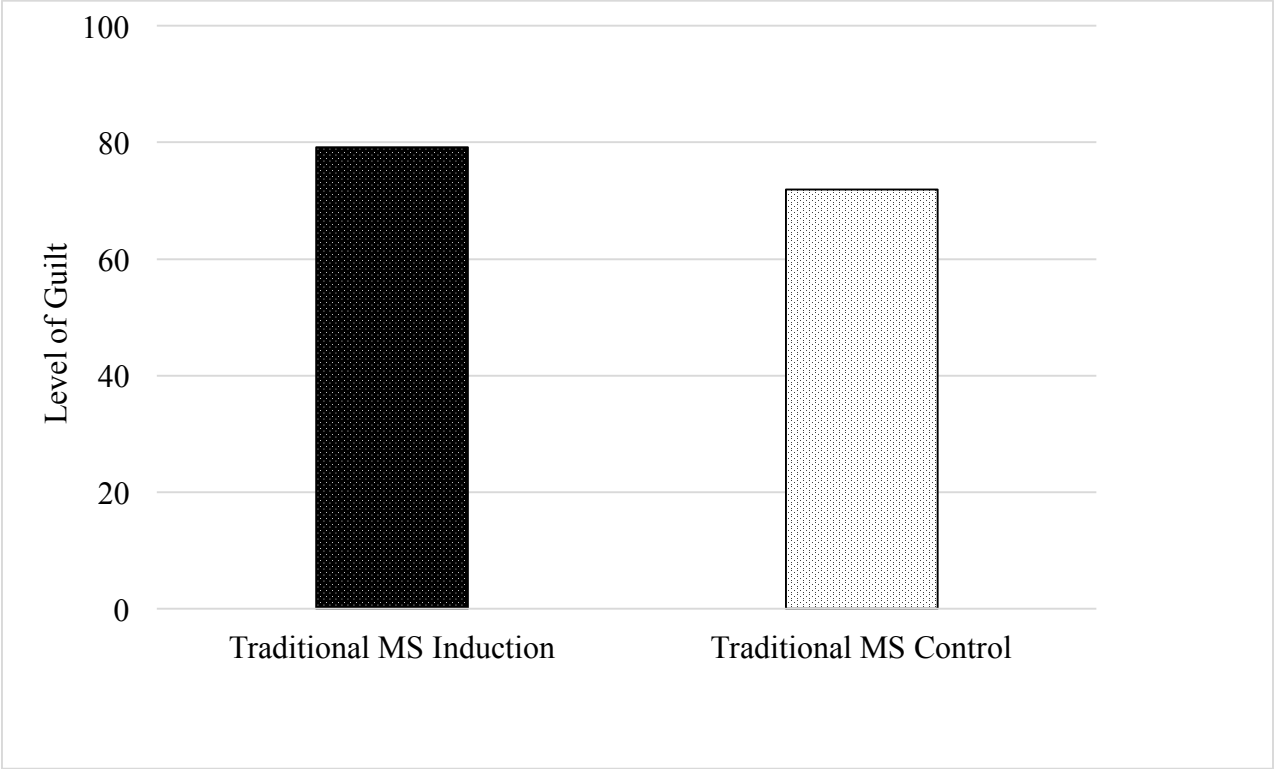

Figure 6. Study 2: Mean results for the main effect of the mortality salience manipulation on level of guilt from the 2 x 2 ANCOVA (i.e., traditional MS induction/traditional MS control x grouping variable). Participants in the traditional mortality salience induction condition rated the suspect as 79.12% guilty; whereas, participants in the traditional mortality salience control condition rated the suspect as 71.90% guilty, $F(1, 90) = 3.96$, $p = .050$, $\eta_p^2 = .042$.

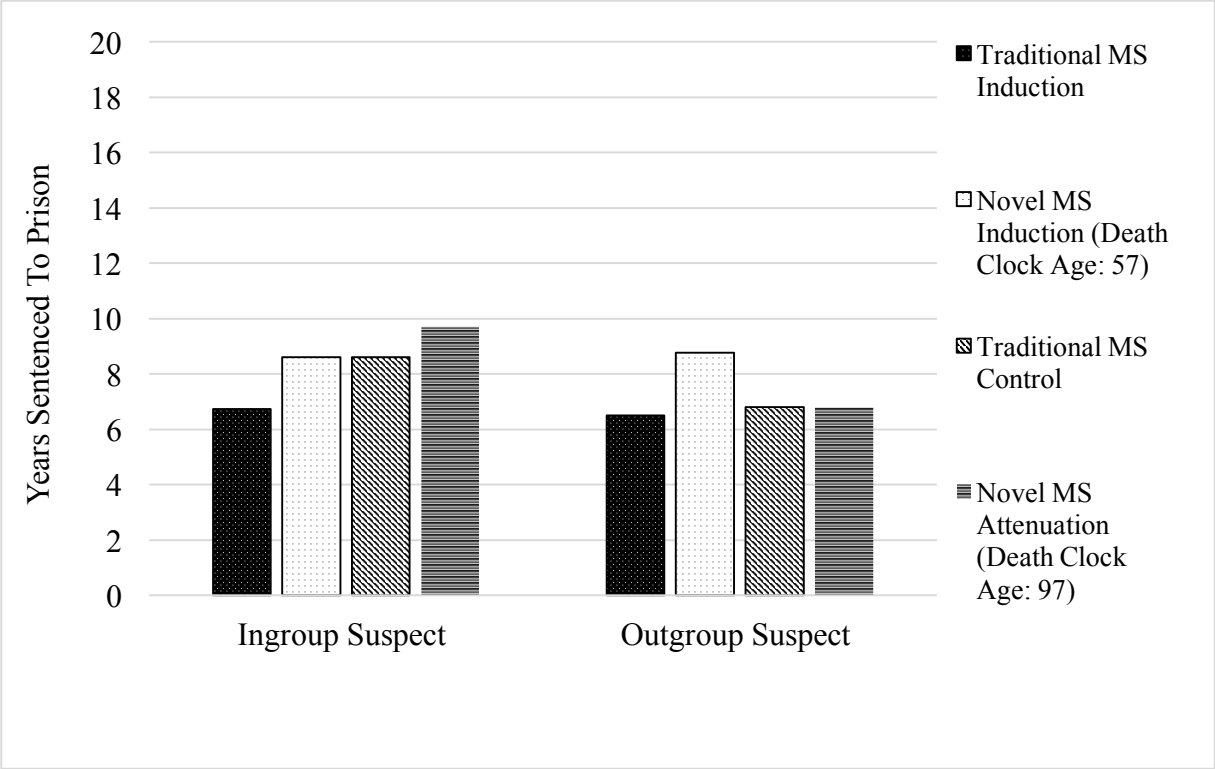

Figure 7. Study 2: Mean results of the two-way ANCOVA (4 x 2) of the mortality salience manipulation and the grouping variable on years in prison. The two-way interaction was not significant, $F(3, 173) = 1.08$, $p = .357$, $\eta_p^2 = .018$. Both the main effect of the mortality salience manipulation on years in prison and the main effect of the grouping variable on years in prison were not significant, $F(3, 173) = 1.67$, $p = .176$, $\eta_p^2 = .028$ and $F(1, 173) = 3.13$, $p = .079$, $\eta_p^2 = .018$ respectively.

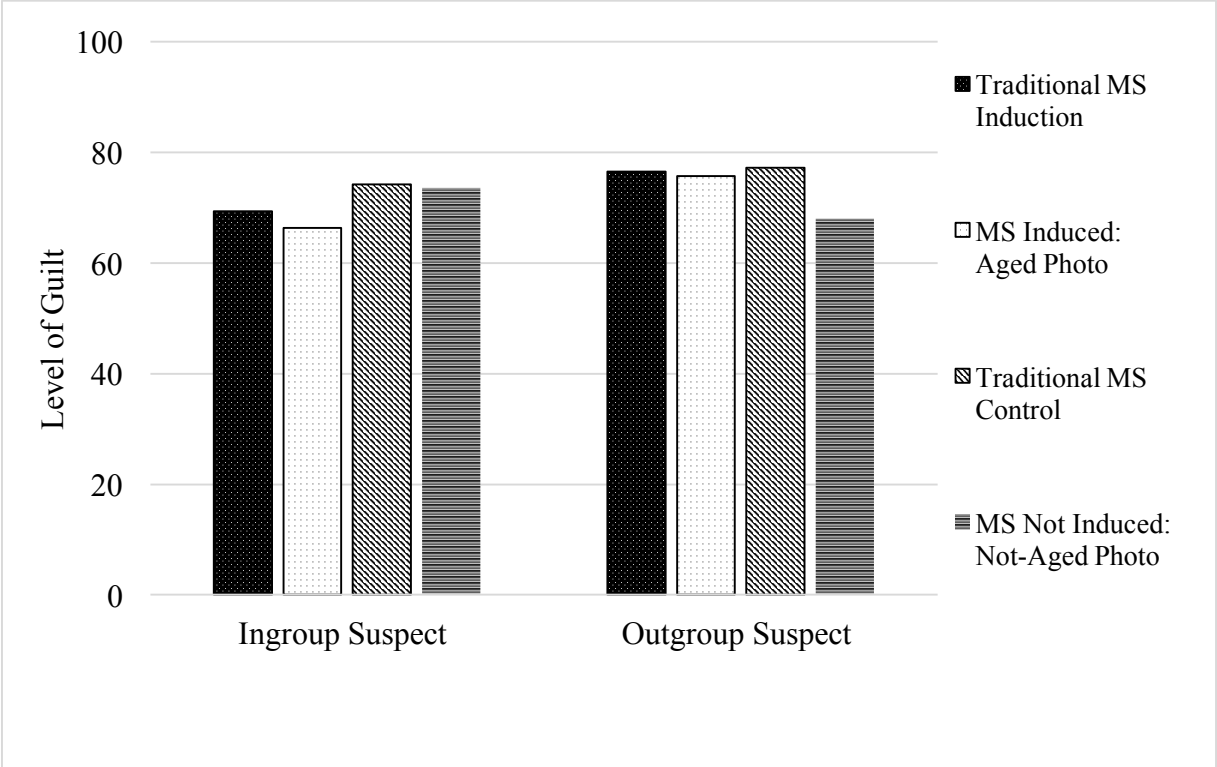

Figure 8. Study 3: Mean results of the two-way ANCOVA (4 x 2) of the mortality salience manipulation and the grouping variable on level of guilt. The two-way interaction was not significant, $F(3, 243) = 1.66$, $p = .176$, $\eta_p^2 = .020$. Both the main effect of the mortality salience manipulation on level of guilt and the main effect of the grouping variable on level of guilt were not significant, $F(3, 243) = .800$, $p = .495$, $\eta_p^2 = .010$ and $F(1, 243) = 1.90$, $p = .169$, $\eta_p^2 = .008$ respectively.

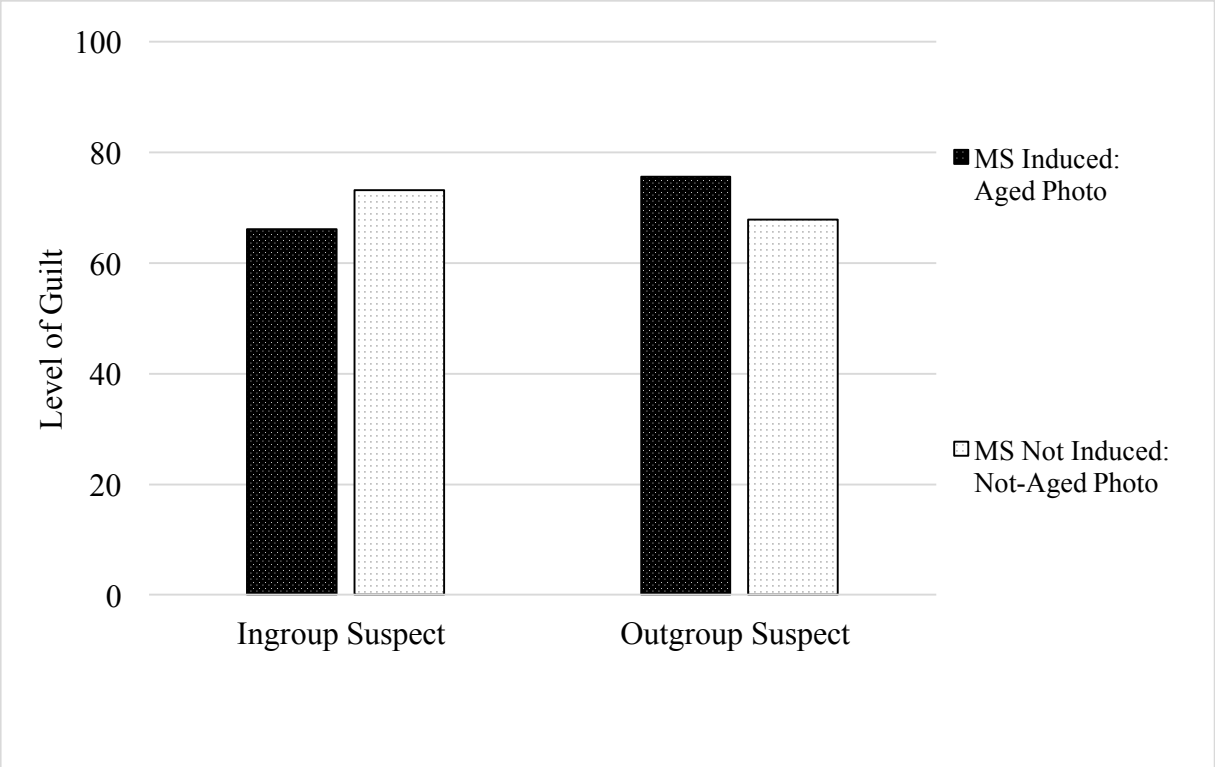

Figure 9. Study 3: Results of the post-hoc simple effects test from the two-way ANCOVA (2 x 2) of the novel mortality salience manipulation (i.e., aged/not-aged) and the grouping variable on level of guilt. The two-way interaction was significant, $F(1, 122) = 4.27$, $p = .041$, $\eta_p^2 = .034$. Aged photograph participants in the ingroup condition rated the suspect as less guilty ($M = 66.41$) than those participants in the outgroup condition ($M = 75.77$), $F(1, 62) = 3.88$, $p = .053$, $\eta_p^2 = .059$. In the not-aged photograph condition, however, participants' ratings in the ingroup condition did not significantly differ from participants' ratings in the outgroup condition (M = 73.58% vs. 68.08%), $F(1, 57) = 1.09$, $p = .301$, $\eta_p^2 = .019$.

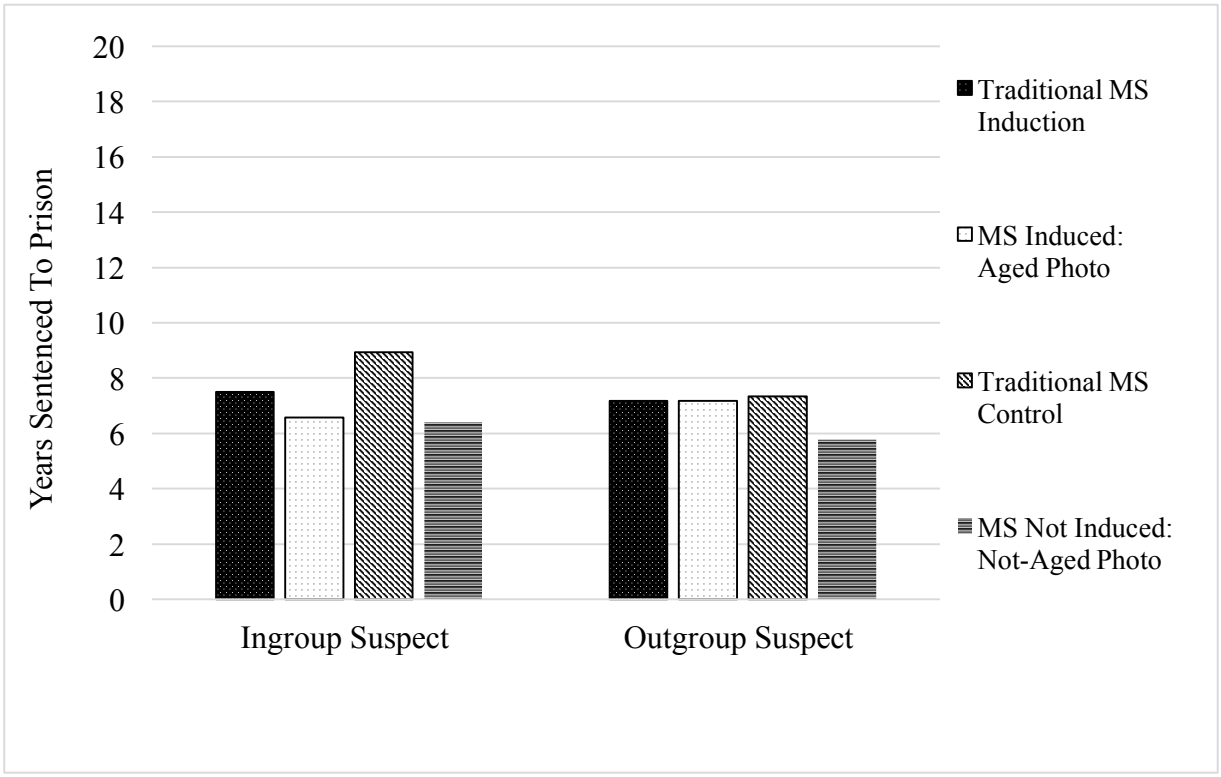

Figure 10. Study 3: Mean results of the two-way ANCOVA (4 x 2) of the mortality salience manipulation and the grouping variable on years in prison. The two-way interaction was not significant, $F(3, 239) = .700$, $p = .553$, $\eta_p^2 = .009$, but the main effect of the mortality salience manipulation on years in prison was marginally significant, $F(3, 239) = 2.40$, $p = .069$, $\eta_p^2 = .029$. The main effect of the grouping variable on years in prison was not significant, $F(1, 239) = .754$, $p = .386$, $\eta_p^2 = .003$.

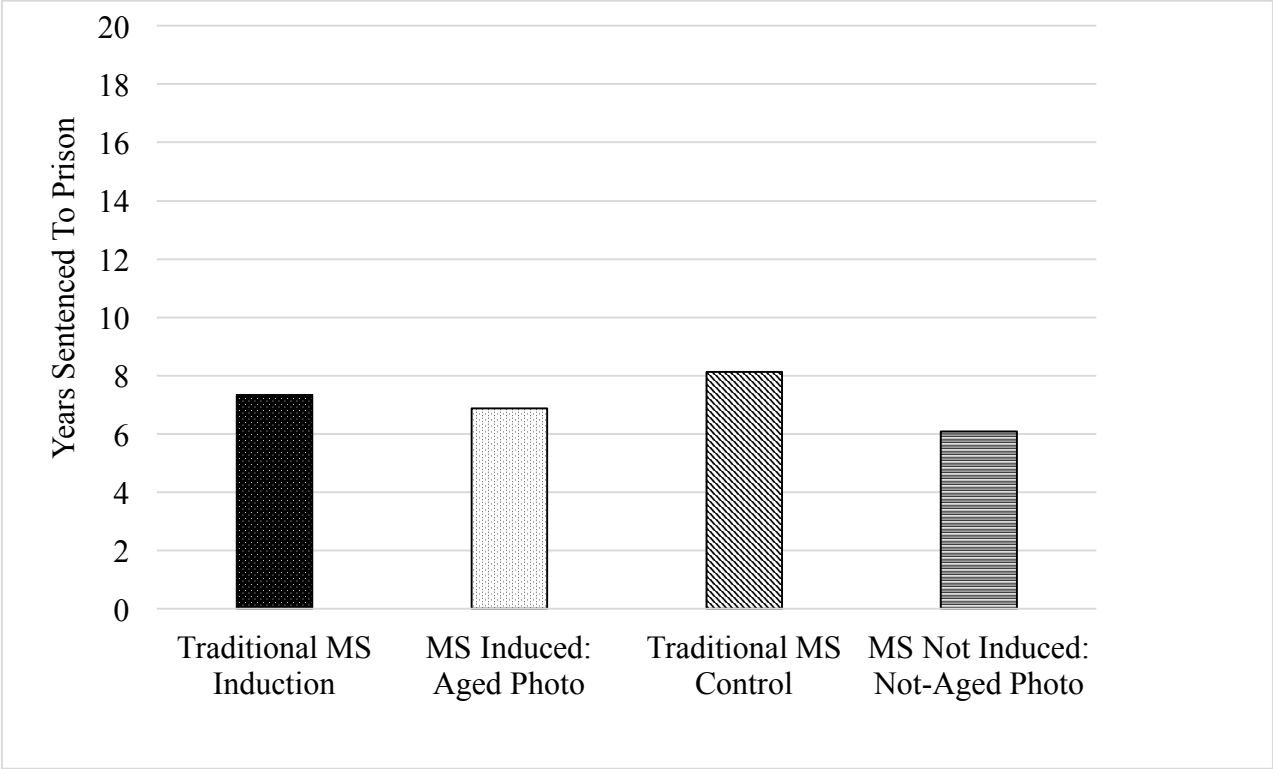

Figure 11. Study 3: Mean results for the marginal main effect of the mortality salience manipulation on years in prison from the 4 x 2 ANCOVA (i.e., all mortality salience manipulations x the grouping variable). Participants who were asked to think about the experience of their own death (i.e., traditional mortality salience induction) sentenced the suspect to 7.34 years in prison; whereas, participants who were asked to think about the experience of dental pain (i.e., traditional mortality salience control) sentenced the suspect to 8.13 years in prison. Aged photograph participants (i.e., novel mortality salience induction) sentenced the suspect to 6.88 years in prison, while not-aged photograph participants (i.e., no mortality salience induction) sentenced the suspect to 6.09 years in prison, $F(3, 239) = 2.40$, $p = .069$, $\eta_p^2 = .029$.

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Appendices

Appendix A – Traditional MS Induction and Traditional MS Control Manipulations

Traditional Mortality Salience (MS) Induction
Retrieved verbatim from: http://www.tmt.missouri.edu/www/index.html
(Greenberg et al., 2008)

On the following page are two open-ended questions, please respond to them with your first, natural response.

We are looking for peoples' gut-level reactions to these questions.

The Projective Life Attitudes Assessment

This assessment is a recently developed, innovative personality assessment. Recent research suggests that feelings and attitudes about significant aspects of life tell us a considerable amount about the individual's personality. Your responses to this survey will be content-analyzed in order to assess certain dimensions of your personality. Your honest responses to the following questions will be appreciated.

1. PLEASE BRIEFLY DESCRIBE THE EMOTIONS THAT THE THOUGHT OF YOUR OWN DEATH AROUSES IN YOU.

_____

_____

_____

_____

2. JOT DOWN, AS SPECIFICALLY AS YOU CAN, WHAT YOU THINK WILL HAPPEN TO YOU AS YOU PHYSICALLY DIE AND ONCE YOU ARE PHYSICALLY DEAD.

_____

_____

_____

_____

Traditional Mortality Salience (MS) Control
(Arndt et al., 2002; Butsch et al., 2006; Greenberg et al., 1994)

On the following page are two open-ended questions, please respond to them with your first, natural response.

We are looking for peoples' gut-level reactions to these questions.

The Projective Life Attitudes Assessment

This assessment is a recently developed, innovative personality assessment. Recent research suggests that feelings and attitudes about significant aspects of life tell us a considerable amount about the individual's personality. Your responses to this survey will be content-analyzed in order to assess certain dimensions of your personality. Your honest responses to the following questions will be appreciated.

1. PLEASE BRIEFLY DESCRIBE THE EMOTIONS THAT THE THOUGHT OF DENTAL PAIN AROUSES IN YOU.

_____

_____

_____

_____

_____

2. JOT DOWN, AS SPECIFICALLY AS YOU CAN, WHAT YOU THINK WILL HAPPEN TO <u>YOU</u> AS YOU PHYSICALLY EXPERIENCE DENTAL PAIN.

_____

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Appendix B – Novel MS Induction/No Induction and Attenuation Manipulations

Novel Mortality Salience (MS) Induction and Mortality Salience (MS) Attenuation Death Clock Questionnaire (Studies 1 & 2)

You are about to complete a questionnaire that will ask you questions about your physical health, lifestyle, and environment in order to generate an estimate of your life expectancy age. There are a variety of factors related to life expectancy and in order to achieve the best estimate possible, please answer the following questions as honestly and openly as possible.

This first set of questions will measure risk factors related to your physical health and lifestyle.

- Please use the box below to enter your age. (blank text box)
- Please indicate if you are male or female. (blank text box)
- Please indicate your race/ethnicity. (blank text box)
- Please use the box below to enter your height. Please indicate if this is in feet/inches or in centimeters. (blank text box)
- Please use the box below to enter your weight. Please indicate if this is in pounds or kilograms. (blank text box)
- Please use the options below to indicate what size frame you have. (To find out your frame, wrap your middle finger and your thumb around your wrist. If your fingers overlap, you have a small frame. If your fingers meet, you have a medium frame. If your fingers do not touch each other, you have a large frame.) (Small Frame Medium Frame Large Frame)
- Please use the options below to indicate how physically active you are. (Not At All Active, Somewhat Active, Very Active)
- Please use the options below to indicate your level of stress. (Low Stress, Medium Stress, High Stress)
- Please use the options below to indicate if you smoke, and if so, how much you smoke. (Non-Smoker, Light Smoker [Less than 1 pack/day], Moderate Smoker [1-2 packs/day], Heavy Smoker [2+ packs/day])
- Please use the options below to indicate if you drink, and if so, your alcohol consumption. (Non-Drinker, Light Drinker [less than 1 drink/day], Moderate Drinker [1-2 drinks/day], Heavy drinker [2+ drinks/day])
- Please use the options below to indicate your driving behaviours in the past year. (No accidents or violations in the past year, One or two minor accidents or violations in the past year, Three or four minor accidents or violations in the past year, Five or more minor accidents or violations in the past year, Any major accident or violation in the past year)
- Please use the options below to indicate if you are being treated for any medical disease or illness? (e.g., cancer, coronary heart disease, stroke, diabetes, high blood pressure, asthma etc.). (checklist for each: Yes/No)
- Please use the options below to indicate if a family member is being treated for any medical disease or illness? (e.g., cancer, coronary heart disease, stroke, diabetes, high blood pressure, asthma etc.). (checklist for each: Yes/No)
- Have either of your parents passed away, and if so, at what age? (blank text box)

- Have any of your aunts or uncles passed away, and if so, at what age? (blank text box)
- Have any of your grandparents passed away, and if so, at what age? (blank text box)
- Have you experienced the death of a sibling, and if so, at what age? (blank text box)

This last set of questions will measure risk factors related to your environment that have been associated with poor health outcomes. Environmental risk factors that have been linked to poor health outcomes include, but are not limited to, the following: air quality, water quality, food quality, waste disposal, hazardous substances, and housing conditions. The specific housing conditions that have been linked to poor health outcomes are lead paint, aluminum wiring, and asbestos. We will be able to determine if any of your residences contain, or have contained, any of these materials based on the age and location of your residence.

- Please use the box below to indicate the age of your current residence and the neighbourhood and city of your current residence. (blank text box)
- Please use the box below to indicate the number of residences you have lived in and the cities in which those residences were located. (blank text box)
- Please use the options below to indicate if you have lived in a residence that has been treated for any of the following issues: (smoke damage, water damage, carbon monoxide exposure, mold damage, pest damage). (checklist for each: Yes/No)
- Please indicate if your residence is located on or near agricultural land. (blank text box)
- Please indicate if your residence is located near power lines or cellular towers. (blank text box)
- Please indicate if your residence is located near industrial manufacturing facilities. (blank text box)
- In the city in which you currently reside, are you aware of any pollution concerns? If yes, please describe these concerns. (blank text box)
- In the city in which you currently reside, are you aware of any water quality concerns? If yes, please describe these concerns. (blank text box)

Novel MS Induction:

Based on your responses, your estimated life expectancy is:

57 YEARS

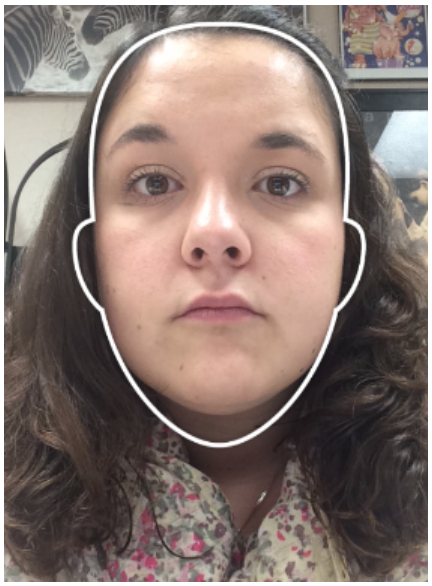
OR

Novel MS Attenuation:

Based on your responses, your estimated life expectancy is:

97 YEARS

Novel Mortality Salience (MS) Induction and Novel No MS Induction
AgingBooth Software (Study 3)



Age 28 (2017)
Novel No MS Induction (Not Aged)

Age 73 (2062)
Novel MS Induction (Aged)

Appendix C – Medical File Vignette: Behaviourally-Caused Emphysema (Study 1)

Emphysema Requiring Lung Transplant

Your lungs' alveoli (i.e., air sacs) are clustered like bunches of grapes. In emphysema, the inner walls of the air sacs weaken and eventually rupture — creating one larger air space instead of many small ones. This reduces the surface area of the lungs and, in turn, the amount of oxygen that reaches your bloodstream.

Emphysema gradually damages the air sacs (alveoli) in your lungs, making you progressively more short of breath. Emphysema is one of several diseases known collectively as chronic obstructive pulmonary disease (COPD). Smoking is the leading cause of emphysema.

When you breathe, the damaged alveoli don't work properly and old air becomes trapped, leaving no room for fresh, oxygen-rich air to enter. Treatment may slow the progression of emphysema, but it can't reverse the damage. Lung damage can often be treated with medication or with special breathing devices. But when these measures no longer help or lung function becomes life-threatening, a lung transplant is necessary. A lung transplant is a surgical procedure to replace a diseased or failing lung with a healthy lung.

Doctors at the McGill University Health Centre have determined that Patient X is in critical need of a lung transplant. Without the transplant the patient’s life is in danger. Patient X is 30 years old and has been smoking three packs of cigarettes a day since the age of 18. The doctors attribute Patient X’s emphysema to the fact that Patient X is such a heavy smoker.

Appendix D – Medical File Vignette: Genetically-Caused Emphysema (Study 1)

Emphysema Requiring Lung Transplant

Your lungs' alveoli (i.e., air sacs) are clustered like bunches of grapes. In emphysema, the inner walls of the air sacs weaken and eventually rupture — creating one larger air space instead of many small ones. This reduces the surface area of the lungs and, in turn, the amount of oxygen that reaches your bloodstream.

Emphysema gradually damages the air sacs (alveoli) in your lungs, making you progressively more short of breath. Emphysema is one of several diseases known collectively as chronic obstructive pulmonary disease (COPD). Some individuals have genetic predispositions that make them deficient in certain proteins normally found in the blood. One of these proteins, Alpha-1 antitrypsin (AAT), is responsible for preventing white blood cells from damaging body tissues, including lung tissue, when white blood cells have to fight infections. Over many years, people with AAT deficiency can develop emphysema from damage to their lung tissues.

When you breathe, the damaged alveoli don't work properly and old air becomes trapped, leaving no room for fresh, oxygen-rich air to enter. Treatment may slow the progression of emphysema, but it can't reverse the damage. Lung damage can often be treated with medication or with special breathing devices. But when these measures no longer help or lung function becomes life-threatening, a lung transplant is necessary. A lung transplant is a surgical procedure to replace a diseased or failing lung with a healthy lung.

Doctors at the McGill University Health Centre have determined that Patient X is in critical need of a lung transplant. Without the transplant the patient’s life is in danger. Patient X is 30 years old and was diagnosed with emphysema at the age of 18. The doctors note that Patient X is in excellent physical health, does not smoke or drink, and has a healthy diet. The doctors attribute Patient X’s emphysema to a genetically predisposed AAT deficiency.

Appendix E – Healthcare System in Canada (Study 1)

Canada's national health insurance program, often referred to as "Medicare", is designed to ensure that all residents have reasonable access to medically necessary hospital and physician services, on a prepaid basis. Instead of having a single national plan, we have a national program that is composed of 13 interlocking provincial and territorial health insurance plans, all of which share certain common features and basic standards of coverage.

Provincial and territorial health insurance plans are required to provide insured persons with coverage of insured health services, which are: hospital services provided to in-patients or out-patients, if the services are medically necessary for the purpose of maintaining health, preventing disease or diagnosing or treating an injury, illness, or disability; and medically required physician services rendered by medical practitioners.

In October 2015, the Canadian Institute for Health Information (CIHI) completed a report addressing national health expenditure trends for Canada. This report projected total health spending to be $219.1 billion dollars, or $6,051 per Canadian citizen.

Both experts in economics and experts in health care universally agree that current health care spending in Canada is unsustainable. That is, major changes are required in our health care system.

Appendix F – Transplant Costs in Canada (Study 1)

The cost of a transplant, including preliminary testing, the surgery itself, and post-operative care costs vary across the country and across organ type. A recent survey of Canadian hospitals found that the average cost of organ transplants (e.g., heart, liver, lung, kidney, pancreas, intestine) range from $600,000 - $1,200,000. The success rate of all major transplants in Canada is 90% or higher.

Appendix G – News Crime Article: White Male Suspects (Study 2)

White Male Suspects #1-3

Participants will be presented with ONE of the following three photographs in the following news crime article.



RBC Bank Manager Accused Of Stealing More Than $400K From Safe-Deposit Box

CTVNews.ca Staff
Published Thursday, Aug. 23, 2013 2:08 PM EDT
Last Updated Thursday, Aug. 23, 2013 5:15 PM EDT

Photograph of the accused, Michael Long, from the Royal Bank of Canada (RBC) website.

Michael Long (photographed right), 30, has been charged with stealing some $410,000 from a safe-deposit box in the Jane and Finch branch of the Royal Bank of Canada (RBC), located at 3336 Keele St, North York, Ontario. Mr. Long was employed as a branch manager at the RBC when the alleged theft was committed. Leonard Williams, a 79-year-old retiree from North York has accused Mr. Long of taking the cash from his safe-deposit box.

According to police reports, Leonard Williams kept his life savings in a safe located in the basement of his North York home, where he has lived for over 40 years. Road construction in the area, however, ruptured a water main, which flooded Mr. Williams' basement. Mr. Williams then contacted the Jane and Finch branch of the RBC to ask their advice about what he should do with the waterlogged currency in his safe. He told police that while at the bank he was helped solely by Michael Long, the branch manager. After exchanging over a half-million dollars in cash, which Mr. Williams carried to the bank in grocery bags, Mr. Long suggested that Mr. Williams should open a safe-deposit box at the bank to store his cash. Williams reported that he agreed, and stored $520,000 of cash in his new safe-deposit box, which Mr. Long reportedly helped him open.

Williams returned a month later to check on his cash and found that only $110,000 of the original $520,000 remained in his safe-deposit box. According to a press release by RBC, banks do not insure the contents of safe-deposit boxes. Nor do banks want to know what customers keep in the boxes; and directly related to this case, using the boxes for cash is strongly discouraged. RBC bank officials could not explain why their branch manager would have recommended that Mr. Williams store his cash in a safe-deposit box.

Upon discovering the discrepancy in cash, Mr. Williams immediately accused Mr. Long, which started the investigation. The police quickly established that Mr. Long had made a number of large cash purchases since Mr. Williams deposited the cash, including $35,000 worth of jewelry. When asked where he got the cash, Mr. Long said that a family member had given it to him, but he has refused to supply the family member's name, and no one from his family has come forward to the police.

The problem now facing Leonard Williams is that RBC, for the privacy of their clients, does not keep any records of what is put into safe-deposit boxes, nor do they have security cameras in the safe-deposit region of the bank. So Mr. Williams has no proof that he actually put $520,000 into his safe-deposit box. Bank records, however, do indicate that Mr. Williams did exchange $520,000 of damaged bills for new bills the day he opened his safe-deposit box. Records also indicate that Mr. Williams only entered the safe-deposit region of the bank twice: first, on the day he opened the box, and second, on the day he discovered the box only contained $110,000. Security cameras also show Mr. Williams leaving the bank empty-handed after he exchanged the damaged bills. Since Mr. Long is maintaining his innocence, the courts will now have to determine the fate of these two. A preliminary hearing is scheduled for next month. Mr. Long will remain on paid leave from RBC until the case is resolved.

Appendix H – News Crime Article: Asian Male Suspects (Study 2)

Asian Male Suspects #1-3

Participants will be presented with ONE of the following three photographs in the following news crime article.



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According to police reports, Leonard Williams kept his life savings in a safe located in the basement of his North York home, where he has lived for over 40 years. Road construction in the area, however, ruptured a water main, which flooded Mr. Williams' basement. Mr. Williams then contacted the Jane and Finch branch of the RBC to ask their advice about what he should do with the waterlogged currency in his safe. He told police that while at the bank he was helped solely by Michael Long, the branch manager. After exchanging over a half-million dollars in cash, which Mr. Williams carried to the bank in grocery bags, Mr. Long suggested that Mr. Williams should open a safe-deposit box at the bank to store his cash. Williams reported that he agreed, and stored $520,000 of cash in his new safe-deposit box, which Mr. Long reportedly helped him open.

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Appendix I – News Crime Article: White Female Suspects (Studies 2 & 3*)*

White Female Suspects #1-3

Participants will be presented with ONE of the following three photographs in the following news crime article.



RBC Bank Manager Accused Of Stealing More Than $400K From Safe-Deposit Box

CTVNews.ca Staff
Published Thursday, Aug. 23, 2013 2:08 PM EDT
Last Updated Thursday, Aug. 23, 2013 5:15 PM EDT

Photograph of the accused, Michelle Long, from the Royal Bank of Canada (RBC) website.

Michelle Long (photographed right), 30, has been charged with stealing some $410,000 from a safe-deposit box in the Jane and Finch branch of the Royal Bank of Canada (RBC), located at 3336 Keele St, North York, Ontario. Miss Long was employed as a branch manager at the RBC when the alleged theft was committed. Leonard Williams, a 79-year-old retiree from North York has accused Miss Long of taking the cash from his safe-deposit box.

According to police reports, Leonard Williams kept his life savings in a safe located in the basement of his North York home, where he has lived for over 40 years. Road construction in the area, however, ruptured a water main, which flooded Mr. Williams' basement. Mr. Williams then contacted the Jane and Finch branch of the RBC to ask their advice about what he should do with the waterlogged currency in his safe. He told police that while at the bank he was helped solely by Michelle Long, the branch manager. After exchanging over a half-million dollars in cash, which Mr. Williams carried to the bank in grocery bags, Miss Long suggested that Mr. Williams should open a safe-deposit box at the bank to store his cash. Williams reported that he agreed, and stored $520,000 of cash in his new safe-deposit box, which Miss Long reportedly helped him open.

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Upon discovering the discrepancy in cash, Mr. Williams immediately accused Miss Long, which started the investigation. The police quickly established that Miss Long had made a number of large cash purchases since Mr. Williams deposited the cash, including $35,000 worth of jewelry. When asked where she got the cash, Miss Long said that a family member had given it to her, but she has refused to supply the family member's name, and no one from her family has come forward to the police.

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Appendix J – News Crime Article: Asian Female Suspects (Studies 2 & 3)

Asian Female Suspects #1-3

Participants will be presented with ONE of the following three photographs in the following news crime article.



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Appendix K – Dependent Variable and Manipulation Check Questions

Study 1

All participants asked:

- What percentage of the total transplant surgery cost should Canadian Medicare cover for Patient X? (No Coverage [0%] to Complete Coverage [100%], blank text box)
- How personally responsible is Patient X for his/her need for a transplant? (Not At All Responsible [0%] – Completely Responsible [100%], blank text box)
- Can Patient X's illness be attributed to behaviour? (Yes or No; if Yes, Which Behaviour? [blank text box])
- Which transplant surgery did Patient X require? (blank text box)

Study 2

Female participants presented with female suspects only and asked:

- In your opinion, is Michelle Long guilty of the crime she is accused of committing? (Definitely Not Guilty [0%] – Definitely Guilty [100%], blank text box)
- Assuming Michelle Long is guilty of the crime she is accused of committing, what should be her punishment? (No Sentence [0 Years] – Maximum Sentence [20 Years], blank text box)
- Using the options below, please indicate the gender of the suspect (Male or Female)
- Using the options below, please indicate the race/ethnicity of the suspect (White, Black, Asian, Other [if other, indicate which race/ethnicity])

Male participants presented with male suspects only and asked:

- In your opinion, is Michael Long guilty of the crime he is accused of committing? (Definitely Not Guilty [0%] – Definitely Guilty [100%], blank text box)
- Assuming Michael Long is guilty of the crime he is accused of committing, what should be his punishment? (No Sentence [0 Years] – Maximum Sentence [20 Years], blank text box)
- Using the options below, please indicate the gender of the suspect (Male or Female)
- Using the options below, please indicate the race/ethnicity of the suspect (White, Black, Asian, Other [if other, indicate which race/ethnicity])

Study 3

Female participants presented with female suspects only and asked:

- In your opinion, is Michelle Long guilty of the crime she is accused of committing? (Definitely Not Guilty [0%] – Definitely Guilty [100%], blank text box)
- Assuming Michelle Long is guilty of the crime she is accused of committing, what should be her punishment? (No Sentence [0 Years] – Maximum Sentence [20 Years], blank text box)
- Using the options below, please indicate the race/ethnicity of the suspect (White, Black, Asian, Other [if other, indicate which race/ethnicity])

Appendix L – Measures

Positive and Negative Affect Schedule (PANAS): (Studies 1, 2, & 3)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you feel this way right now, that is, at the present moment.

1 Very Slightly or Not At All	2 A Little	3 Moderately	4 Quite a Bit	5 Extremely

_____1. Interested

_____2. Distressed

_____3. Excited

_____4. Upset

_____5. Strong

_____6. Guilty

_____7. Scared

_____8. Hostile

_____9. Enthusiastic

_____10. Proud

_____11. Irritable

_____12. Alert

_____13. Ashamed

_____14. Inspired

_____15. Nervous

_____16. Determined

_____17. Attentive

_____18. Jittery

_____19. Active

_____20. Afraid

Scoring Instructions:
Positive Affect Score: Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 - 50, with higher scores representing higher levels of positive affect. Mean Score: Momentary = 29.7 (*SD* = 7.9); Weekly = 33.3 (*SD* = 7.2)

Negative Affect Score: Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 - 50, with lower scores representing lower levels of negative affect. Mean Score: Momentary = 14.8 (*SD* = 5.4); Weekly = 17.4 (*SD* = 6.2).

Health Locus of Control (HLC) Scale: (Study 1)

A 6-point scale is used for each item; participants rate their agreement or disagreement with the statements from 1 (strongly disagree) to 6 (strongly agree). The scale is scored in the external direction; items that are internally worded are reversed scored. Keying is reversed on items 1, 2, 8, 10, and 11.

1. If I take care of myself, I can avoid illness.
2. Whenever I get sick it is because of something I've done or not done.
3. Good health is largely a matter of good fortune.
4. No matter what I do, if I am going to get sick I will get sick.
5. Most people do not realize the extent to which their illnesses are controlled by accidental happenings.
6. I can only do what my doctor tells me to do.
7. There are so many strange diseases around that you can never know how or when you might pick one up.
8. When I feel ill, I know it is because I have not been getting the proper exercise or eating right.
9. People who never get sick are just plain lucky.
10. People's ill health results from their own carelessness.
11. I am directly responsible for my health.

Right-Wing Authoritarianism (RWA) Scale: (Studies 2 & 3)

A 7-point scale is used for each item; participants rate their agreement or disagreement with the statements from 1 (strongly disagree) to 7 (strongly agree). Keying is reversed on questions 2, 4, 6, 8, 10, 12, and 14.

1. Our country needs a powerful leader, in order to destroy the radical and immoral currents prevailing in society today.
2. Our country needs free thinkers, who will have the courage to stand up against traditional ways, even if this upsets many people.
3. The "old-fashioned ways" and "old-fashioned values" still show the best way to live.
4. Our society would be better off if we showed tolerance and understanding for untraditional values and opinions.
5. God's laws about abortion, pornography and marriage must be strictly followed before it is too late, violations must be punished.
6. The society needs to show openness towards people thinking differently, rather than a strong leader, the world is not particularly evil or dangerous.
7. It would be best if newspapers were censored so that people would not be able to get hold of destructive and disgusting material.
8. Many good people challenge the state, criticize the church and ignore "the normal way of living".
9. Our forefathers ought to be honoured more for the way they have built our society, at the same time we ought to put an end to those forces destroying it.
10. People ought to put less attention to the Bible and religion, instead they ought to develop their own moral standards.

11. There are many radical, immoral people trying to ruin things; the society ought to stop
    them.
12. It is better to accept bad literature than to censor it.
13. Facts show that we have to be harder against crime and sexual immorality, in order to uphold law and order.
14. The situation in the society of today would be improved if troublemakers were treated with reason and humanity.
15. If the society so wants, it is the duty of every true citizen to help eliminate the evil that
    poisons our country from within.

Modern Racism (MR) Scale: (Studies 2 & 3)

A 7-point scale is used for each item; participants rate their agreement or disagreement with the statements from 1 (strongly disagree) to 7 (strongly agree). Items 1, 2, 4, and 5 measure modern racism (McConahay, 1986).

1. Over the past few years, minorities have gotten more economically than they deserve.
2. Over the past few years, the government and news media have shown more respect for minorities than they deserve.
3. It is easy to understand the anger of minority people in Canada.
4. Discrimination against minorities is no longer a problem in Canada.
5. Minorities are getting too demanding in their push for equal rights.
6. Minorities should not push themselves where they are not wanted.