

Mortality Salience and Product Evaluation:
Role of Self versus Loved Ones

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DEDICATION

This thesis is dedicated to my father, who now lives in my heart. He was,
is and always will be my mentor, my inspiration and my hero.

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ABSTRACT

In this dissertation, I distinguish between two types of mortality salience, namely mortality salience of self (MSS) and mortality salience of a loved one (MSLO). Based on a need salience mechanism, I predict and find in four studies that MSS individuals prefer social status choice options over social experience choice options; whereas MSLO individuals prefer social experience choice options over social status choice options. Further, these effects are more pronounced among MSS individuals high in independent self-construal, and MSLO individuals high in interdependent self-construal. This dissertation contributes to the mortality salience literature in three ways. First, it distinguishes for the first time between two types of mortality salience, namely MSS and MSLO in terms of their effects on type of choice. Second, it proposes a new mediating mechanism based on need salience which predicts the divergent effects of MSS and MSLO on type of choice. Third, it identifies two new moderating variables, namely independent self-construal and interdependent self-construal, which can modify the effect of MSS versus MSLO on type of choice.

ABRÉGÉ

Dans cette thèse, je propose une distinction entre deux types d'exposition à la saillance de la mort (mortality salience), soit la saillance de sa propre mort ou MSS (mortality salience of self) et la saillance de la mort d'une personne aimée ou MSLO (mortality salience of a loved one). En se basant sur un mécanisme du besoin de saillance (need salience mechanism), je prédis et confirme à l'aide de quatre études expérimentales que les individus exposés à la saillance de leur propre mort (MSS) préfèrent des options de décision signalant le statut social contrairement aux individus exposés à la saillance de la mort d'une personne aimée (MSLO) qui préfèrent des options de décision associées à des expériences sociales. De plus, l'effet de la saillance de sa propre mort (MSS) est plus prononcé lorsque les sujets de l'étude ont un construit de soi hautement indépendant (independent self-construal) alors que l'effet de la saillance de la mort d'une personne aimée (MSLO) est plus prononcé pour les individus ayant un construit de soi hautement interdépendant (interdependent self-construal). Cette thèse contribue à la littérature sur la saillance de la mort de trois façons. En premier lieu, elle distingue pour la première fois, en fonction de leur effet sur la prise de décision, deux types de saillance de la mort, soit celle associée à sa

propre mort (MSS) et celle associée à la mort d'une personne aimée (MSLO). Deuxièmement, elle propose un nouveau mécanisme de médiation basé sur le besoin de saillance (need saliance) qui prédit les effets divergents des types de saillance de la mort sur la prise de décision. Finalement, elle identifie deux nouvelles variables modératrices, soit le construit de soi indépendant et le construit de soi interdépendant, qui modulent l'effet des deux types de saillance de la mort sur la prise de décision.

Chapter 1 INTRODUCTION

Marketing communications can prompt consumers to contemplate their own death, as well as the death of loved ones. For example, as shown in appendices A to C, thoughts of one's own death can be prompted by ads related to drinking and driving, anti-smoking, or life insurance. Alternatively, as shown in appendices D to F, thoughts of the death of loved ones can be prompted by ads related to breast cancer, infant safety, or heart disease. Past research has largely focused on thoughts about one's own death, which has been termed mortality salience (Greenberg, Solomon, and Pyszczynski 1997). I extend past research by arguing that there are two distinct types of mortality salience – namely mortality salience of self (MSS) and mortality salience of a loved one (MSLO) – which can have different effects on product choice. In particular, I examine the effects of MSS and MSLO on two types of product choices, namely social status choice and social experience choice. Here, social status choice refers to a choice whereby consumers' primary intention is to gain social status, whereas social experience choice refers to a choice whereby consumers' primary intention is to obtain social experience (Sheldon and Kasser 2008; Van Boven and Gilovich 2003).

I hypothesize and find that MSS individuals are more likely to favour social status choice options over social experience choice options; in contrast, MSLO individuals are more likely to prefer social experience choice options over social status choice options. I argue that a need salience mechanism underlies these effects, such that preference for social status choice options are driven by the need for self-esteem bolstering, while preference for social experience choice options are driven by the need for social connection. Based on this mechanism, I propose that individuals' self-construal moderates the effect of type of mortality salience on type of choice. Specifically, I hypothesize and find that the relative preference for social status choice options over social experience choice options is stronger for MSS individuals high in independent self-construal than for MSS individuals low in independent self-construal. Further, I show that the relative preference for social experience choice options over social status choice options is stronger for MSLO individuals high in interdependent self-construal than for MSLO individuals low in interdependent self-construal.

In the following sections, I begin with a review of past research on mortality salience. I then develop hypotheses regarding the effect of type of mortality salience on type of choice, as well as the moderating effects of independent and interdependent self-construal. I subsequently test my

hypotheses in four studies, which also assess robustness of results across different product categories and measures of product evaluation. In summary, my research makes three contributions to the literature. First, it distinguishes for the first time between two types of mortality salience, namely MSS and MSLO in terms of their effects on type of choice. Past research has considered mortality salience to be a single unitary construct representing mortality salience of self. In contrast, my research suggests that different types of mortality salience can have different effects on product choice. Second, this research proposes a new mediating mechanism, namely need salience which predicts the divergent effects of MSS and MSLO on type of choice. Specifically, I find that MSS increases the need for self-esteem bolstering, whereas MSLO increases the need for social connection. Third, this research identifies two new moderating variables, namely independent self-construal and interdependent self-construal that can modify the impact of MSS versus MSLO respectively on type of choice.

Chapter 2 LITERATURE REVIEW

2.1 Mortality Salience

Mortality salience has been defined as an individual's awareness of his or her eventual death (Becker 1973; Greenberg et al. 1997). It has been researched extensively in psychology, sociology, anthropology, and to a lesser extent, in consumer behaviour (Burke, Marten and Faucher 2010). In the following sections, I synthesize past consumer research on mortality salience in terms of its effects on five key outcome variables: prosocial behavior, food choice and consumption, risk-taking behavior, brand choice, and materialistic consumption (see table 1).

-----Insert table 1 here-----

Prosocial Behavior

Past research on prosocial behavior has mainly investigated the effect of mortality salience on individuals' evaluations of charities, their willingness to engage in socially conscious behavior, and their actual prosocial behavior. Overall, studies have shown that mortality salience can enhance prosocial attitudes and behaviors. Three major findings are of note in this area of research. First, it has been found that mortality salience improves individuals' evaluations of charities. For example, Jonas et al. (2002) found that individuals interviewed in

front of a funeral home reported more favorable attitudes toward charities than those interviewed three blocks away from the funeral home. This finding has been replicated in studies where mortality salience was manipulated by asking participants to answer death-related questions (e.g., Joireman and Duell 2007). In addition, Joireman and Duell (2007) found that individual's self-transcendent values moderate the effect of mortality salience on individuals' evaluations of charities. In particular, their studies revealed that mortality salience led participants high in self-transcendent values to evaluate charities more favorably (vs. a control group), whereas mortality salience had no such impact on participants with low self-transcendent values.

Second, it has been shown that mortality salience can elevate one's willingness to engage in socially conscious behaviors. For example, Hirschberger, Ein-Dor, and Almakias (2008) reported that willingness to donate money to the Caring Heart organization was significantly greater in the mortality salience condition compared to the control condition. However, this effect of mortality salience disappeared when individuals were asked to donate organs. Moreover, individuals' self-esteem was found to moderate the effect of mortality salience on socially conscious behaviors. For example, Ferraro, Shiv, and Bettman (2005) found that mortality salience significantly increased an

individual's intention to engage in socially conscious consumer behaviors if virtue was a source of his self-esteem. In contrast, they found that mortality salience decreased this intention if virtue was not a source of an individual's self-esteem.

Lastly, studies have shown that mortality salience can promote individuals' actual prosocial behavior. For example, Jonas et al. (2002) and Hirschberger et al. (2008) found that after answering questions about their death, individuals gave more money to charities than those who answered questions on a control topic. In addition, there is evidence for an in-group bias towards donations to charitable foundations. For example, Jonas et al (2002) reported that following mortality salience prime, U.S college students donated more money to U.S. charities than to foreign charities. Furthermore, individual differences have been found to moderate the effect of mortality salience on prosocial behavior. For example, Joireman and Duell (2005) found that mortality salience encouraged charitable donations among proselves (i.e., those who value their own well-being), but not among prosocials (i.e., those who value the well-being of others). Moreover, Ferraro et al. (2005) reported that mortality salience increased the amount donated to charities among individuals who considered helping others as a source of self-esteem. In contrast, the effect of mortality

salience was not significant among individuals who didn't consider helping others as a source of self-esteem.

Food Choice

Past research on food choice has investigated the effect of mortality salience on consumption quantity and choice of food. Two major findings are of note in this area of research. First, it has been shown that mortality salience can increase the purchase and consumption of food. For example, Mandel et al. (2008) found that consumers who had recently been reminded of their impending mortality wished to purchase higher quantities of food products and actually ate larger quantities than their control counterparts. Furthermore, this effect of mortality salience was moderated by individuals' self-esteem. Specifically, mortality salience can increase amounts of purchasing and consumption among consumers with low self-esteem, but not among those with high self-esteem (Mandel et al. 2008).

Second, studies have demonstrated that individual differences can moderate the effect of mortality salience on choice of food. For example, Ferraro et al. (2005) found that following mortality salience manipulation, individuals were more likely to choose chocolate cake over fruit salad, but only when they were low in body esteem. In contrast, for individuals with high body esteem, mortality

salience could lead to restricted eating. For example, Goldenberg, Arndt, and Brown (2004) found that women in the mortality salience condition ate less of a nutritious but fattening snack food that might compromise efforts to maintain an attractive figure. The restricted eating effect of mortality salience was more prevalent among women who ranked high in body mass index scores.

Risk Taking Behavior

Past research on risk taking behavior has investigated the effect of mortality salience in the context of driving, diving, gambling, and health-related behavior. The major finding in this area of research is that mortality salience can lead to a higher intention of undertaking risky endeavors, and this effect is moderated by individuals' self-esteem. For example, in the context of driving behavior, mortality salience has been found to increase risky driving behavior, both in self-reports and on a driving simulator, among those who value their driving ability as a source of self-esteem (Taubman-Ben-Ari, Florian, and Mikulincer 1999, 2000; Miller and Mulligan 2002). Furthermore, in the context of diving behavior, mortality salience could lead to greater willingness to take risks in diving among divers for whom diving was an important source of self-esteem (Miller and Taubman Ben-Ari 2004). Moreover, in the context of gambling, in a task of choosing between a high-payoff/high-risk and a low-payoff/low-risk

option, mortality salience can lead to individuals with high, but not low, self-esteem to favor the high-risk option (Landau and Greenberg 2006). Meanwhile, in the context of health-related risk-taking behaviors, research has indicated that mortality salience can elevate the intention of smoking and lower the likelihood of quitting smoking among individuals who consider smoking to be a means of self-esteem, in comparison to those who don't (Martin and Kamins 2010; Hansen, Winzeler, and Topolinski 2010). Likewise, mortality salience can lower an individual's intention to protect oneself from dangerous exposure to the sun if getting tanned is related to his or her self-esteem (Routledge, Arndt, and Goldenberg 2004).

Brand Preference

Past research on brand preference has investigated the effect of mortality salience on a consumer's preference between domestic and foreign brands. The major finding in this area is that people tend to prefer domestic brands over foreign ones when mortality is salient. For example, Frieze and Hofmann (2008) found that after answering death-related questions, individuals reported stronger preferences and greater actual consumption of local brands as compared to foreign brands for soft drinks and chocolate. This effect of mortality salience on brand preferences has been replicated in other product categories such as cars,

beer, mugs, duffle bags, currencies, travel destinations etc. (Cutright et al. 2011; Jonas, Fritsche, and Greenberg 2005). The robustness of these results has been demonstrated through different manipulations of mortality salience, such as subliminally exposing participants to a life insurance brand logo (Fransen et al. 2010), and interviewing participants in front of a funeral home (Jonas et al. 2005).

Materialistic Consumption

Past research on materialistic consumption has investigated the effect of mortality salience on high-status product preference, financial goal aspirations and excessive spending. Overall, it has been found that mortality salience can increase materialistic consumption. Three major findings are of note in this area of research. First, it has been shown that mortality salience can elevate consumers' preference for high-status products. For example, Mandel and Heine (1999) found that after answering death-related questions, individuals expressed more favorable attitudes towards high-status products such as luxury vehicles and watches but not towards low-status products such as economical vehicles and snacks, compared with those in a control condition. Likewise, Kasser and Sheldon (2000) found that mortality salience resulted in a stronger emphasis on the future accumulation of luxury possessions. In line with this, Choi, Kwon, and

Lee (2007) reported that individuals with a greater fear of becoming a terrorist victim tended to stick to prestigious brands and preferred to buy products with designer names. Moreover, Heine, Harihara, and Niiya (2002) found consistent results in a non-Western culture and showed that mortality salience could also increase the tendency of Japanese subjects to prefer high-status over low-status products. Studies also revealed that mortality salience can encourage materialistic individuals to form stronger connections and attachments to their high-status brands (Rindfleisch, Burroughs, and Wong 2009).

Second, studies have shown that mortality salience can promote one's financial goal aspirations. For example, Kasser and Sheldon (2000) found that individuals in the mortality salience condition had higher financial expectations in terms of their future overall financial worth, compared with those in the control condition. Similarly, Lee and Shrum (2008) reported that mortality salience can promote individuals' goal orientation toward financial success. Furthermore, their results also indicated the moderating effects of self-esteem. Specifically, they found that mortality salient individuals with low self-esteem would be more likely to focus on financial success than mortality salient individuals with high self-esteem.

Lastly, mortality salience has been found to encourage excessive spending. For example, Fransen et al. (2008) found that after being exposed to a life insurance logo, individuals reported a higher inclination for excessive spending on entertainment and food, compared to a control group. Likewise, Kasser and Sheldon (2000) reported that mortality salience can increase individuals' expectation of the amount they will spend on pleasurable items. Furthermore, one's ego involvement was found to moderate the effect of mortality salience on excessive spending. Specifically, mortality salient participants who saw acquisition and possession of material objects in relation to self-concept were more likely to exhibit excessive spending, compared with mortality salient participants who didn't link material objects with self-concept (Choi, Kwon, and Lee 2007).

In the previous sections, I have outlined past research regarding the effects of mortality salience on five key outcome variables. In the following section, I discuss two underlying mechanisms proposed in past research to explain the effects of mortality salience on the outcome variables, namely worldview validation and self-esteem bolstering.

2.2 Worldview Validation

Cultural worldview refers to shared beliefs about the nature of reality that provide meaningful explanations of life and the world (Greenberg, et al. 1997). For example, people may have a cultural worldview involving desirable levels of generosity, kindness and patriotism. Worldview validation suggests that people are motivated to deal with death concerns by maintaining and defending their cultural worldview (Greenberg et al. 1990). As a result, when mortality is salient, individuals tend to express cultural values and engage in culturally prescribed behavior to buffer the fear of death.

Worldview validation can explain the effect of mortality salience on prosocial behavior. As discussed earlier, past research indicates that mortality salience enhances prosocial attitudes and behavior (Jonas et al, 2002; Joireman and Duell 2007; Hirschberger et al. 2008). Past research suggests that generosity and kindness are important aspects of many people's cultural worldview (Joireman and Duell 2007). Hence, engaging in prosocial behavior can serve to confirm people's cultural worldview. In addition, the notion of prosocial behavior as a means to buffer the fear of death is rooted in many cultural and religious beliefs (Hirschberger et al. 2008). Most people learn from an early age that living up to standards of kindness and generosity towards those

who are less fortunate is an honorable and highly desirable cultural worldview. Thus, based on worldview validation mechanism, individuals exposed to death-related stimuli should become more generous and helpful.

Similarly, worldview validation can also explain the effect of mortality salience on brand preference between domestic and foreign products. As discussed earlier, past research has established that when mortality is salient, people tend to prefer domestic brands over foreign brands (Frieese and Hofmann 2008; Cutright et al. 2011; Fransen et al. 2008; Jonas et al. 2005). The cultural worldview related to this domain of research is patriotism, which refers to a person's individual attachment and loyalty to his or her country (Kosterman and Feshbach 1989). According to worldview validation, mortality salience can lead individuals to react more positively to those who help uphold their attachment and loyalty to their country (in-group bias) and more negatively to those who threaten it (out-group derogation). As described earlier, this in-group bias under the condition of mortality salience then translates into positive attitudes towards national brands (Fransen et al. 2008; Cutright et al. 2011) and domestic items (Jonas et al. 2005). It also leads to greater actual consumption of local as compared to foreign products (Frieese and Hofmann 2008). In contrast, the out-

group derogation results in less preference for foreign brands over local brands (Jonas et al. 2008).

2.3 Self-Esteem Bolstering

Self-esteem has been defined as a person's overall evaluation or appraisal of his or her own worth (Hewitt 2009, 217-224). It encompasses beliefs (e.g., "I am competent", "I am worthy") and emotions (e.g., triumph, despair, pride and shame). The mortality salience literature suggests that people are motivated to deal with death concerns by bolstering self-esteem (Greenberg et al. 1990). Notably, self-esteem can arise from different sources, such as material possessions, physical appearance, and risky behaviors (Arndt et al. 2004). Thus, when mortality is salient, individuals could bolster their self-esteem using different sources of self-esteem.

Self-esteem bolstering can explain the effect of mortality salience on food choice and consumption. As discussed earlier, past research has found that mortality salience can lead to restricted eating for individuals with high body esteem (Goldenberg et al. 2004). Food choice and consumption can be associated with one's concerns about physical appearance. In many cultures, physical appearance is one of the primary sources of self-esteem, particularly being thin for young women (Crocker and Wolfe 2001). Based on self-esteem

bolstering mechanism, mortality salience can intensify the importance people place on physical attractiveness (Goldenberg et al. 2000). This can explain why, following mortality salience priming, individuals are likely to avoid foods that might undermine their slim and attractive figures (Ferraro et al. 2005; Goldenberg et al. 2004).

Self-esteem bolstering can also explain the effect of mortality salience on materialistic consumption. As discussed earlier, past research has found that mortality salience can encourage materialistic consumption (Kasser and Sheldon 2000; Mandel and Heine 1999; Fransen et al. 2008; Rindfleisch et al. 2009). Materialism can be seen as an important value in modern capitalist cultures (Solomon, Greenberg and Pyszczynski 1991), and one's self-esteem can be derived from living up to this standard of value. Based on the mechanism of self-esteem bolstering, mortality salience can intensify an individual's desire to live up to materialistic values, which translates into the pursuit of wealth and culturally desired commodities (Arndt et al. 2004a, 2004b). Similarly, self-esteem bolstering can explain why participants who think about their death are more likely to focus on financial success (Kasser and Sheldon 2000) and desire high status products and luxury brands (Mandel and Heine 1999; Fransen et al. 2011; Rindfleisch et al. 2009; Choi et al. 2007). Consumption and hedonism are

currently seen as important values related to self-esteem in Western countries (Bauman 1995). Therefore, spending money on luxury goods, services and entertainment can be considered a means to bolster one's self-esteem. Consequently, mortality salience can lead to excessive spending on hedonic products (Kasser and Sheldon 2000; Fransen et al. 2008).

Moreover, self-esteem bolstering can explain the effect of mortality salience on risk-taking behavior. As discussed earlier, past research has found that mortality salience can encourage risk-taking behaviors (Landau and Greenberg 2006; Martin and Kamins 2010; Miller and Mulligan 2002; Routledge et al. 2004). Some risky behaviors, such as speedy driving, drinking and driving, diving, smoking cigarettes, and getting tanned can be considered as ways to manifest self-worth, enhance attractiveness, and hence bolster self-esteem (Taubman-Ben-Ari 1999). Based on self-esteem bolstering mechanism, mortality salience can lead to a higher willingness to engage in such risky behaviors (Taubman-Ben-Ari 2004; Miller and Mulligan 2002; Hansen et al. 2010; Miller and Taubman-Ben-Ari 2004).

Notably, self-esteem bolstering mechanism has been tested in different domains. For example, studies on food choice reveal that following death-related stimuli, only individuals high in the self-esteem related to appearance or fitness,

would make an effort to decrease food intake and choose a healthy snack over a fattening one (Arndt, Schimel, and Goldenberg 2003; Ferraro et al. 2005; Goldenberg et al. 2004). Similarly, studies on health-related risky behavior indicate that mortality salience can lower an individual's intention to protect himself or herself from dangerous exposure to the sun only for individuals high in self-esteem related to getting tanned (Routledge et al. 2004). Likewise, mortality salience can increase risky behaviors such as speedy driving and diving among those who derive high self-esteem from conducting such behavior (Miller and Taubman-Ben-Ari 2004; Hansen et al. 2010). In accordance with the same rationale, studies on prosocial behaviors reveal that if helping others engenders high self-esteem for an individual, then he or she will donate more to a charity (Ferraro et al. 2005) and will be more likely to help a wheelchair-bound confederate (Hirschberger et al. 2008) as compared to those who don't consider helping others to be relevant to self-esteem.

In summary, two mechanisms have been proposed in past research to explain the effects of mortality salience on outcome variables such as prosocial behavior, food choice, risk taking behavior, brand preference and materialistic consumption. Notably, past research has largely considered mortality salience to be a single construct representing awareness of one's own death. In contrast, I

argue in the present research that there are two distinct types of mortality salience, namely mortality salience of self (MSS) and mortality salience of a loved one (MSLO). In the following section, I discuss these two types of mortality salience, and develop a model that formalizes the effects of type of mortality salience on product choice (see figure 1).

-----Insert figure 1 here-----

Chapter 3 THEORETICAL DEVELOPMENT

3.1 Type of Mortality Salience

I define type of mortality salience in terms of the person whose mortality is salient, the person being either the self or a loved one. Thus, I distinguish between mortality salience of self (MSS) which is awareness of one's own death and mortality salience of a loved one (MSLO) which is awareness of the death of a loved one. Here, loved ones refer to one's spouse, children, parents, siblings and other important family members (Harvey 1998).

Past research on mortality salience has mostly focused on MSS, with only a few studies having explored the effect of MSLO (Greenberg et al. 1994; Bonsu and Belk 2003). In these latter studies, it was assumed that MSLO would serve as a reminder of an individual's own mortality, since loved ones and the self are likely to be related concepts in a spreading activation model of memory (Taubman-Ben-Ari and Katz-Ben-Ami 2008; Mikulincer et al. 2003). As a result, the underlying assumption in past research has been that MSLO and MSS influence consumer behaviour in a similar manner. Consistent with this assumption, Greenberg et al. (1994) found that compared to a control condition of no mortality salience, both MSS and MSLO increase an individual's defense of their cultural worldviews. Yet, MSS participants exhibited a significantly greater

defense than MSLO participants. Similarly, Bonsu and Belk (2003) found that like their MSS counterparts, MSLO consumers also tend to engage in conspicuous consumption. Although it is possible that MSS and MSLO sometimes have similar effects on judgment and choice, I argue that MSS and MSLO can also have divergent effects when we consider two specific types of choice, namely social status choice and social experience choice.

3.2 Type of Choice

I define type of choice in terms of the purpose or goal underlying choice, and differentiate between two types of choice: social status choice and social experience choice. The main goal of social status choice is to signal position in the social hierarchy (Sheldon and Kasser 2008; Van Boven and Gilovich 2003), while the main goal of social experience choice is to share experiences with others (Holbrook and Hirschman 1982; Van Boven and Gilovich 2003). For example, choosing a luxury car (e.g., BMW) or a costly watch (e.g., Rolex) could be an example of social status choice. Conversely, choosing a tent (e.g., Columbia) or a sleeping bag (e.g., MEC) to camp in a national park with one's family could be an example of social experience choice. Notably, a given brand could be chosen primarily for social status or social experience purposes, depending on its positioning in the consumer's mind. For example, a BMW car

can be chosen as a social status product if a consumer acquires the product mainly for the purpose of signalling social status; alternatively it can be chosen as a social experience product if the consumer's main purpose is to enjoy experiences with family members. Notably, this distinction in the present research between social status choice versus social experience choice is analogous to other choice taxonomies in the literature such as hedonic versus utilitarian choice, and functional versus symbolic choice (Dhar and Wetenbroch 2000).

In the present research, I propose that MSS and MSLO have divergent effects on type of choice. With respect to MSS, as reviewed earlier, past research on mortality salience suggests that one way individuals can deal with concerns about their death is to bolster self-esteem (Greenberg et al. 1990; Pyszczynski et al. 1999). Therefore, when MSS is primed, the need for self-esteem bolstering is likely to be salient. Because possessing social status products can enhance one's self-esteem in capitalist societies (Solomon et al. 1991), I argue that MSS can lead to a preference for social status choice options over social experience choice options.

Next consider MSLO. When MSLO is primed, I argue that the need for social connection is likely to be salient. Past research has indicated that the need

for social connection, or the desire for interpersonal attachment, is a fundamental human motivation (Bowlby 1969, 1982; Baumeister and Leary 1995). The prospect of the death of a loved one is likely to increase the salience of goals associated with this loved one, such as affiliation and connectedness (Harvey 2002; Thompson 1985). As a result, after being reminded of losing a loved one through death, an individual's need for social connection can become more salient. This argument is consistent with past research showing that people who have suffered the loss of a loved one would place greater value on relationships and connections with others (Tedeschi and Calhoun 1996). Because experiences are generally considered more social in orientation and are more likely to satisfy the need for social connection than high-status possessions are (Van Boven 2005), I argue that MSLO can lead to a preference for social experience choice options over social status choice options. The preceding arguments are summarized in the following hypothesis:

H1: Type of mortality salience will influence type of choice such that:

- (a) MSS individuals will prefer social status choice options over social experience choice options.
- (b) MSLO individuals will prefer social experience choice options over social status choice options.

In H1 above, I have argued that salience of need drives the effect of type of mortality salience on type of choice. Specifically, I argued that MSS individuals have a salient need for self-esteem bolstering, while MSLO individuals have a salient need for social connection. In the next section, I propose that the individual's self-construal can influence the salience of need, and can thus moderate the effect of type of mortality salience on type of choice.

3.3 Self-Construal

Self-construal refers to how people view themselves either as an individuated entity or in relation to others (Singelis 1994). Past research indicates that there are two distinct types of self-construal, namely interdependent self-construal and independent self-construal. Interdependent self-construal has been described as self-representation in terms of others, which emphasizes belongingness and interconnection with others (Cross and Madson 1997; Markus and Kitayama 1991). In contrast, independent self-construal has been described as one's sense of uniqueness, which emphasizes individual achievement and distinction from others (Cross and Madson 1997; Markus and Kitayama 1991).

Past research indicates that independent self-construal and interdependent self-construal are conceptually distinct. For example, Singelis

(1994) found that the factor scores of independent self-construal and interdependent self-construal in an exploratory factor analysis were virtually uncorrelated ($r = -.044$). Further, follow-up confirmatory factor analysis showed that a two-factor model in which the two types of self-construal were orthogonal was a better fit than a one-factor model in which the two types of self-construal were correlated. The results suggested that the two types of self-construal are distinct constructs. Past research has also shown that individuals may have both independent and interdependent self-construal, which can differ in their relative strength. For example, Cross and Markus (1991) found that East Asian Americans scored relatively high on both independent self-construal and interdependent self-construal, whereas White Americans scored relatively high on independent self-construal but relatively low in interdependent self-construal. These results were replicated in other studies using participants from other cultural backgrounds, showing that independent self-construal and interdependent self-construal can coexist in individuals (Aaker and Schmitt 2001; Lee, Aaker, and Gardner 2000). Given the distinct nature of independent self-construal and interdependent self-construal, I examine these two types of self-construal separately in the present research. In particular, I argue that interdependent self-construal is more strongly related to the need for social

connection, while independent self-construal is more strongly related to the need for self-esteem bolstering. Consequently, interdependent self-construal and independent self-construal can moderate the effects of type of mortality salience on type of choice.

First, consider interdependent self-construal. People high in interdependent self-construal put more emphasis on interconnection with others, so they might have a stronger need for social connection than those low in interdependent self-construal. I have argued earlier that MSLO activates one's need for social connection, which leads to preference for social experience choice options over social status choice options. If interdependent self-construal highlights the need for social connection, then the relative preference for social experience (over social status) choice options in the case of MSLO individuals should be more pronounced among those high in interdependent self-construal compared with those low in interdependent self-construal. On the other hand, I have proposed that MSS can lead to preference for social status choice options over social experience choice options. If interdependent self-construal highlights the need for social connection, then the relative preference for social status (over social experience) choice options in the case of MSS individuals should be stronger among those low in interdependent self-construal compared with those

high in interdependent self-construal. The preceding arguments are summarized in the following hypothesis:

H2: Interdependent self-construal moderates the effect of type of mortality salience on type of choice such that:

- (a) The preference for social experience choice options over social status choice options in the case of MSLO individuals will be stronger for those high in interdependent self-construal, than for those low in interdependent self-construal.
- (b) The preference for social status choice options over social experience choice options in the case of MSS individuals will be stronger for those low in interdependent self-construal, than for those high in interdependent self-construal.

Next, consider independent self-construal. People high in independent self-construal put more emphasis on individual achievement and distinction from others. In a materialistic culture, bolstering self-esteem through possessing high status products can be a way to manifest individual achievement and differentiate oneself from others (Marks and Kitayama 1991; Solomon et al. 1991). I have argued earlier that MSS activates one's need for self-esteem bolstering, which leads to preference for social status choice options over social

experience choice options. If independent self-construal highlights individual achievement through possessing high status products, then the relative preference for social status (over social experience) choice options in the case of MSS individuals should be more pronounced among those high in independent self-construal compared with those low in independent self-construal. On the other hand, I have proposed that MSLO can lead to preference for social experience choices over social status choices. If independent self-construal highlights individual achievement through possessing high status products, then the relative preference for social experience (over social status) choice options in the case of MSLO individuals should be more pronounced among those low in independent self-construal compared with those high in independent self-construal. The preceding arguments are summarized in the following hypothesis:

H3: Independent self-construal moderates the effect of type of mortality salience on type of choice such that:

- (a) The preference for social status choice options over social experience choice options in the case of MSS individuals will be stronger for those high in independent self-construal, than for those low in independent self-construal.

(b) The preference for social experience choice options over social status choice options in the case of MSLO individuals will be stronger for those low in independent self-construal, than for those high in independent self-construal.

In the following sections, I describe four studies designed to test my hypotheses. Studies 1 and 2 tested H1, study 3 tested H2, and study 4 tested H3. As noted earlier, the model tested in these studies is shown in Figure 1.

Chapter 4 STUDY 1

4.1 Design & Procedure

This study was designed as a 2 (Type of Mortality Salience: MSS vs. MSLO) x 2 (Choice Option: Social Status vs. Social Experience) between-subjects factorial. One hundred and twenty four undergraduate students from a Canadian university and a junior college participated in the study for five dollars compensation. The cover story described the study as a survey on the effects of emotion and personality on the attitudes of college students toward advertisements. Participants were invited to a computer lab where they answered an online questionnaire. To correspond with the cover story, the first session of the questionnaire included filler questions from the big five personality test (John, Donahue, and Kentle 1991). After answering the filler questions, participants were randomly assigned to one of the two types of mortality salience: MSS or MSLO. In the MSS condition, participants responded to two open-ended questions used in previous mortality salience research (e.g., Arndt et al. 2004): (a) "Please briefly describe the emotions that the thought of your own death awakens in you" and (b) "Describe, as specifically as you can, what you think will happen to you as you physically die and once you are physically dead." Participants in the MSLO condition were first asked to think of a deeply

loved parent and then to indicate, using seven-point Likert scales, how important and close this parent was to them. Then they were asked to respond to two similar open-ended questions adapted from Greenberg et al. (1994): (a) “Please briefly describe the emotions that the thought of this loved one’s death arouses in you,” and (b) “Describe, as specifically as you can, what you think will happen to this loved one as he or she dies, and once he or she has died.”

All participants then completed the Positive and Negative Affect Scale (PANAS) for mood (Watson, Clark, and Tellegen 1988), followed by a filler anagram task. This filler task was introduced between the manipulation and choice task in accordance with prior mortality salience research which found mortality salience manipulations to be more effective after a delay (Arndt et al. 2004). Participants’ mood states were found to be unaffected by the mortality salience manipulation, hence this factor is not discussed further.

Next, participants were asked to examine an advertisement for a BMW car. The advertisement included a slogan which manipulated choice option (see appendix G). In the social experience condition, the slogan included the following two sentences: “How do you become ‘best daddy in the world?’” and “The rides together with her”. In the social status condition, the slogan included the following two sentences: “How do you become ‘most admired car owner?’” and

“The rides in my BMW with pride”. The dependent variable, preference for choice option, was measured by attitude towards the brand and purchase intent (Mandel and Heine 1999). Attitude towards the brand was measured by a single item scale: “To what extent do you like the product in the advertisement?” Purchase intent was measured by a three-item scale: (1) “After reading the advertisement, how possible is it that you will buy the product in the future?” (2) “After reading the advertisement, how likely is it that you will buy the product in the future?” and (3) “After reading the advertisement, how probable is it that you will buy the product in the future?” Participants indicated their answers on a seven-point Likert scale (1=not at all / 7=very much). Note that, in this and subsequent studies, my dependent variable is preference for choice option which acts as a proxy for actual choice. Past research on attitude-behavior consistency indicates that individuals’ attitude towards high involvement products (e.g., BMW car) can be a significant predictor of their actual choice behavior (Kokkinaki and Lunt 1997). As a result, preference for choice option is likely to be a relevant proxy for actual choice in my studies which use high involvement products as stimuli. I also empirically address this issue in the general discussion section, where I report the results of a follow up study that measures effects of mortality salience on actual choice.

Next, the manipulation of choice option was checked by participants' responses to the following binary scale: "Please pick the statement below that best describes the slogan in the advertisement: a) it focuses on owning a BMW car as a high-status possession; b) it focuses on using a BMW car to enjoy a good experience with a loved one." As in Mandle and Heine (1999), student participants were told to assume for all the questions that they had graduated from college and were earning a comfortable salary. Thus, they could afford any of the items, though acquiring them would likely involve having to forego other purchases. At the end of the study, participants were thanked and debriefed.

4.2 Results

Manipulation Checks

The manipulation of type of mortality salience was checked by analyzing participants' written answers to the two open-ended questions. All MSS participants noted thoughts related to their death and none of them mentioned thoughts of a loved one's death. Examples of thoughts from MSS participants include: "When I die, all the most important organs will slowly shut down", and "I will be buried and visited". All MSLO participants wrote thoughts related to the death of a parent and none of them mentioned thoughts related to their own death. Examples of thoughts from MSLO participants include: "As she physically

dies her body systems will shut down”, and “His body will be taken away and then cremated”.

Participants’ answers to the binary choice question were consistent with the manipulation of choice option. When rating the social status choice option, 57 out of 61 participants indicated that the slogan signalled high status. When rating the social experience choice option, 59 out of 63 participants indicated that the slogan emphasized social experience. Data from participants who indicated answers contrary to the manipulation were discarded before analysis, resulting in an effective sample size of 116.

Hypothesis Tests

H1 proposed that MSS participants would prefer social status choice options over social experience choice options while MSLO participants would favor social experience choice options over social status choice options. I tested H1 by conducting a two-way between-subjects ANOVA with type of mortality salience and choice option as the independent variables and preference of choice option as the dependent variable (see table 2).

-----Insert table 2 here-----

As described earlier, preference for choice option was measured by brand attitude and purchase intent. Regarding brand attitude, there was a significant

interaction between type of mortality salience and choice option ($F(1, 112)=6.3$, $p<.02$). The results showed no significant effect of type of mortality salience ($F(1, 112)=1.72$, NS) or choice option ($F(1, 112)=.01$, NS). Pairwise comparisons using the overall error showed that MSS participants reported more positive brand attitude for BMW when the product was framed as a social status choice option ($M_{\text{status}}=4.85$) than when the product was framed as a social experience choice option ($M_{\text{experience}}=4.03$, one-tailed $t(112)=3.02$, $p<.05$). In contrast, MSLO participants reported more positive brand attitude for BMW when the product was framed as a social experience choice option ($M_{\text{experience}}=4.43$) than when the product was framed as a social status choice option ($M_{\text{status}}=3.58$, one-tailed $t(112)=3.41$, $p<.05$). Note that the t-tests in the pairwise comparisons in this research are one-tailed hypothesis tests since my research hypotheses are predicting differences in particular directions.

Regarding purchase intent, there was a significant interaction between type of mortality salience and choice option ($F(1, 112)=6.1$, $p<.02$). The results showed no significant effect of type of mortality salience ($F(1, 112)=1.26$, NS) or choice option ($F(1, 112)=.05$, NS). Pairwise comparisons using the overall error term showed that MSS participants reported stronger purchase intent for BMW when the product was framed as a social status choice option ($M_{\text{status}}=4.76$) than

when the product was framed as a social experience choice option ($M_{\text{experience}}=4.03$, one-tailed $t(112)=2.79$, $p<.05$). In contrast, MSLO participants reported stronger purchase intent for BMW when the product was framed as a social experience choice option ($M_{\text{experience}}=4.46$) than when the product was framed as a social status choice option ($M_{\text{status}}=3.66$, one-tailed $t(112)=3.28$, $p<.05$). Overall, these results support H1a and H1b (see figure 2).

-----Insert figure 2 here-----

Study 2 was designed with two objectives in mind. First, I wanted to conduct a more complete test of H1 by including a control condition without mortality thoughts. Second, I wanted to test the robustness of results in two new product categories, namely tablet computer and TV.

Chapter 5 STUDY 2

5.1 Design & Procedure

The study was designed as a 3 (Type of Mortality Salience: MSS vs. MSLO vs. Control) x 2 (Choice Option: Social Status vs. Social Experience) between-subjects factorial. Two hundred and seventeen undergraduate students from a Canadian university and a junior college participated in the study for five dollars compensation. The same cover story was used as in study 1. Participants were invited to a lab where they answered a paper and pencil questionnaire in a cubicle. After answering the same filler questions as in study 1, participants were randomly assigned to one of the three mortality salience conditions. In the MSS and MSLO conditions, participants answered the same questions as in study 1. Those in the control condition answered questions about seeing a dentist (Arndt et al. 2004): (a) "Please briefly describe the emotions that the thought of visiting the dentist arouses in you" and (b) "Describe, as specifically as you can, what you think will happen to you the next time you have a painful procedure done at the dentist's office." All participants then completed the Positive and Negative Affect Scale (PANAS) for mood (Watson, Clark, and Tellegen 1988), followed by a filler anagram task. Participants' mood states were found to be unaffected by mortality salience manipulation, hence this factor is not discussed further.

Next, participants were asked to examine product advertising for iPad in the tablet computer category and Panasonic 3D TV in the TV category. The presentation of the products' advertising was counterbalanced. As in the previous study, type of product choice was manipulated by slogans. Regarding Panasonic 3D TV (see appendix H), the slogan in the social experience condition was, "Now, family time also means enjoying ultimate visual experience at home"; the slogan in the social status condition was, "Now, TV is worthy enough to be made a proud possession in your house again". Concerning iPad (see appendix I), the slogan in the social experience condition was, "A magical and revolutionary product that guarantees a better experience you can share with others"; the slogan in the social status condition was, "A magical and revolutionary product that guarantees you the pride of ownership." Preference for choice option was measured by brand attitude and purchase intention, using the same scales as in study 1. For each brand, participants also answered a binary choice scale which checked the manipulation of type of choice as in study 1. Participants were told to assume for all the questions that they had graduated from college and were able to afford the products. At the end, participants were thanked and debriefed.

5.2 Results

Manipulation Checks

The manipulation for type of mortality salience was checked by analyzing participants' written answers to the two open-ended questions. All MSS participants noted thoughts related to their own death and none of them mentioned thoughts of a loved one's death. All MSLO participants wrote thoughts related to the death of a parent and none of them mentioned thoughts related to their own death. All control participants wrote thoughts about visiting a dentist and none of them mentioned thoughts related to their own death or a loved one's death.

Participants' answers to the binary choice question were consistent with the manipulation of choice option. When rating the social status choice options, 101 out of 107 participants indicated that the slogan for Panasonic 3D TV signalled high status and 97 out of 107 had the same opinion for iPad. When rating the social experience choice option, 104 out of 110 participants indicated that the slogan for Panasonic 3D TV emphasized experience and 99 out of 110 had the same opinion for iPad. Data from participants who indicated answers contrary to the manipulation were discarded before data analysis, resulting in an effective sample size of 196.

Hypothesis Tests

H1 proposed that MSS participants would prefer social status choice options over social experience choice option, whereas MSLO participants would favor social experience choice options over social status choice option. I argued that these divergent effects of type of mortality salience on type of choice were driven by the increased need for self-esteem bolstering or social connection. To conduct a more complete test of H1, I included a control condition without mortality thoughts in study 2. The logic in doing so is that participants in the control condition may not have any significant change on either type of need. Thus, I expect that their preferences for social status choice options and social experience choice options may not differ significantly.

I tested H1 by first conducting a MANOVA test, with preference of choice option on iPad and Panasonic 3DTV as repeated factors, and with type of mortality salience and choice option as between-subject variables. The results on brand attitude revealed significant interaction between type of mortality salience and choice option (Hotelling's trace=.06, $F(2, 190)=2.96$, $p<.03$), and non-significant effect of type of mortality salience (Hotelling's trace=.005, $F(2, 190)=.24$, NS) or choice option (Hotelling's trace=.01, $F(2, 190)=.07$, NS). Similarly, the analysis with purchase intent also revealed significant interaction

between type of mortality salience and choice option (Hotelling's trace=.05, $F(2, 190)=2.55$, $p<.04$), and non-significant effect of type of mortality salience (Hotelling's trace=.004, $F(2, 190)=.20$, NS) or choice option (Hotelling's trace=.002, $F(2, 190)=.23$, NS). Given the significant interaction revealed in the omnibus MANOVA, I proceeded to test H1 separately for Panasonic 3D TV and iPad. I tested H1 by conducting a two-way between-subjects ANOVA with type of mortality salience and choice option as the independent variables, and preference of choice option as the dependent variable (see table 3).

-----Insert table 3 here-----

Regarding Panasonic 3D TV, with respect to brand attitude, the between-subjects ANOVA results revealed a significant interaction between type of mortality salience and choice option ($F(2, 190)=3.33$, $p<.04$). The results showed no significant effect of type of mortality salience ($F(2, 190)=.33$, NS) or choice option ($F(1, 190)=.53$, NS). Pairwise comparisons using the overall error term showed that MSS participants reported more positive brand attitude for Panasonic 3D TV when the product was framed as a social status choice option ($M_{\text{status}}=4.44$) than when it was framed as a social experience choice option ($M_{\text{experience}}=3.66$, one-tailed $t(190)=3.06$, $p<.05$). In contrast, MSLO participants reported more positive brand attitude for Panasonic 3D TV when the product was

framed as a social experience choice option ($M_{\text{experience}}=4.38$) than when it was framed as a social status choice option ($M_{\text{status}}=3.64$, one-tailed $t(190)=3.37$, $p<.05$). Further, control participants did not report significantly different brand attitude for Panasonic 3D TV when the product was framed as a social status choice ($M_{\text{status}}=3.96$) compared to when it was framed as a social experience choice ($M_{\text{experience}}=4.31$, one-tailed $t(190)=.44$, NS).

With respect to purchase intent for Panasonic 3D TV, there was a significant interaction between type of mortality salience and choice option ($F(2, 190)=3.57$, $p<.03$). The results showed no significant effect of type of mortality salience ($F(1, 190)=.02$, NS) and choice option ($F(2, 190)=.06$, NS). Pairwise comparisons using the overall error term showed that MSS participants reported stronger purchase intent for Panasonic 3D TV when the product was framed as a social status choice option ($M_{\text{status}}=3.74$) than when it was framed as a social experience choice option ($M_{\text{experience}}=3.14$, one-tailed $t(190)=2.92$, $p<.10$). In contrast, MSLO participants reported stronger purchase intent for Panasonic 3D TV when the product was framed as a social experience choice option ($M_{\text{experience}}=3.79$) than when it was framed as a social status choice option ($M_{\text{status}}=3.10$, one-tailed $t(190)=5.38$, $p<.03$). Further, control participants did not report significantly different purchase intent for Panasonic 3D TV when the

product was framed as a social status choice ($M_{\text{status}}=3.51$) compared to when it was framed as a social experience choice ($M_{\text{experience}}=3.41$, one-tailed $t(190) = .09$, NS). Overall, the results for Panasonic 3D TV support H1a and H1b (see figure 3).

-----Insert figure 3 here-----

Regarding iPad, with respect to brand attitude, the between-subjects ANOVA results revealed a significant interaction between type of mortality salience and choice option ($F(2, 190)=4.5$, $p<.02$). The results showed no significant effect of type of mortality salience ($F(2, 190)=.18$, NS) or choice option ($F(1, 190)=.01$, NS). Pairwise comparisons using the overall error term showed that MSS participants reported more positive brand attitude for iPad when the product was framed as a social status choice option ($M_{\text{status}}=4.97$) than when it was framed as a social experience choice option ($M_{\text{experience}}=4.06$, one-tailed $t(190)=3.91$, $p<.05$). In contrast, MSLO participants reported more positive brand attitude for iPad when the product was framed as a social experience choice option ($M_{\text{experience}}=4.82$) than when the product was framed as a social status choice option ($M_{\text{status}}=3.84$, one-tailed $t(190)= 5.19$, $p<.05$). Further, control participants did not report significantly different brand attitude towards iPad when it was framed as a social status choice ($M_{\text{status}}=4.44$) compared to when it was

framed as a social experience choice ($M_{\text{experience}}=4.31$, one-tailed $t(190)=.02$, NS).

With respect to purchase intent on iPad, there was a significant interaction between type of mortality salience and choice option ($F(2, 190)=3.25$, $p<.05$). The results showed no significant treatment effect of type of mortality salience ($F(2, 190)=.30$, NS) or choice option ($F(1, 190)=.09$, NS). Pairwise comparisons using the overall error term showed that MSS participants reported stronger purchase intent for iPad when the product was framed as a social status choice option ($M_{\text{status}}=4.43$) than when it was framed as a social experience choice option ($M_{\text{experience}}=3.61$, one-tailed $t(190)=3.18$, $p<.05$). In contrast, MSLO participants reported stronger purchase intent for iPad when the product was framed as a social experience choice option ($M_{\text{experience}}=4.16$) than when it was framed as a social status choice option ($M_{\text{status}}=3.40$, one-tailed $t(190)=3.10$, $p<.05$). Further, control participants did not report significantly different purchase intent towards iPad when the product was framed as a social status choice ($M_{\text{status}}=3.80$) compared to when it was framed as a social experience choice ($M_{\text{experience}}=4.11$, one-tailed $t(190)=.35$, NS). Overall, the results for iPad support H1a and H1b (see figure 4).

-----Insert figure 4 here-----

Study 3 was designed to test hypotheses H2 regarding the moderating effect of interdependent self-construal. This study used one product category from study 1 and one product category from study 2 to increase comparability of the results across studies.

Chapter 6 STUDY 3

6.1 Design & Procedure

Study 3 was designed as a 2 (Type of Mortality Salience: MSS vs. MSLO) x 2 (Choice Option: Social Status vs. Social Experience) x 2 (Interdependent Self-Construal: High vs. Low) between-subjects factorial. One hundred and fifty three students from a Canadian university participated in the study in exchange for a chance to win one of the two 8G iPod nanos worth \$170 each. The cover story was similar to previous studies, and participants were told that the study was designed to understand how emotion and personality affect college students' attitude toward advertisements. Participants were invited to a lab where they answered a paper & pencil questionnaire in a cubicle. Seven participants provided incomplete answers to the dependent variables, so their questionnaires were discarded. After answering filler questions on personality as in study 1, participants were randomly assigned to MSS or MSLO condition manipulated as in study 1. They then completed the Positive and Negative Affect Scale (PANAS), followed by a filler anagram task. Participants' mood states were found to be unaffected by mortality salience manipulation, hence this factor is not reported further.

Participants were then asked to examine advertisements for a BMW car and iPad. The presentation of the two brands was counterbalanced. The manipulation of choice option within these brands was the same as in studies 1 and 2. Preference for choice option was measured by purchase intent, using the same three-item scale as in studies 1 and 2. For each brand, participants also answered a binary choice scale which checked the manipulation of choice option. Participants were also told to assume for all the questions that they had graduated from college and were able to afford the products.

In the last section of the study, participants completed Singelis' (1994) 12-item measure of interdependent self-construal (see appendix K). This scale has been validated in previous research on a variety of cultural groups (Singelis 1994; Singelis et al. 1999). Sample items included, "I often have the feeling that my relationships with others are more important than my own accomplishments," and "my happiness depends on the happiness of those around me." Responses ranged from "strongly disagree" (1) to "strongly agree" (7). Participants' responses to the 12 items were averaged into an index. Cronbach's alpha for interdependent self-construal scale was .73, similar to the results reported in previous research (Singelis 1994; Oyserman, Coon and Kemmelmeier 2002). High and low levels of interdependent self-construal were constructed by a

median split on responses to the scale. Finally, participants were thanked and debriefed.

6.2 Results

Manipulation Checks

The manipulation of type of mortality salience was checked by analyzing participants' written answers to the two open-ended questions. All MSS participants noted thoughts related to their own death and none of them mentioned thoughts of a loved one's death. All MSLO participants wrote thoughts related to the death of a parent and none of them mentioned thoughts related to their own death.

Participants' answers to the binary choice questions were consistent with the manipulation of choice option. When rating the social status choice options, 72 out of 74 participants indicated that the slogan for BMW signaled high status and 69 out of 72 participants had the same opinion for iPad. When rating the social experience choice option, 70 out of 72 participants indicated that the slogan for BMW emphasized experience and 71 out of 74 participants had the same opinion for iPad. Data from participants who indicated answers contrary to the manipulation were discarded before data analysis, resulting in an effective sample size of 138.

Interdependent Self-Construal and MSLO

H2a proposed that the preference for social experience choice options over social status choice options will be stronger for MSLO individuals high in interdependent self-construal than low in interdependent self-construal. I tested H2a by first conducting a MANOVA test on MSLO participants, with purchase intent for BMW and iPad as repeated factors, along with choice option and interdependent self-construal as between-subjects variables. The results revealed significant directional main effect of choice option (Hotelling's trace=.112, $F(1, 64)=3.70$, $p<.04$) and marginally significant interaction of level of interdependent self-construal by choice option (Hotelling's trace=.073, $F(1, 64)=2.42$, $p<.10$). Overall, results from MANOVA provided initial support for the moderating role of interdependent self-construal. Given the marginally significant effect revealed in the omnibus MANOVA, I proceeded to test H2a separately for BMW and iPad in the case of MSLO participants. I tested H2a by conducting a two-way between-subjects ANOVA using choice option and interdependent self-construal as independent variables, and purchase intent as dependent variable (see table 4)

-----Insert table 4 here-----

Regarding MSLO participants' purchase intent for BMW, the between-subjects ANOVA results revealed a significant main effect of choice option ($F(1, 64)=6.13, p<.02$) and marginally significant interaction between choice option and interdependent self-construal ($F(1, 64)=2.75, p<.10$). Pairwise comparisons using the overall error term showed that MSLO participants high in interdependent self-construal have stronger purchase intent for the BMW when it was framed as a social experience choice ($M_{\text{experience}}=4.48$) than when it was framed as a social status choice ($M_{\text{status}}=3.00$, one-tailed $t(64)=9.10, p<.01$). This effect of choice option disappeared on MSLO participants low in interdependent self-construal ($M_{\text{experience}}=3.04, M_{\text{status}}=3.33$, one-tailed $t(64)=.32$, NS). The results for BMW were consistent with the proposed moderating role of interdependent self-construal on MSLO participants.

Regarding MSLO participants' purchase intent on iPad, the between-subject ANOVA results revealed a significant main effect of choice option ($F(1, 64)=5.30, p<.03$) and marginally significant interaction between choice option and interdependent self-construal ($F(1, 64)=2.76, p<.10$). Pairwise comparisons using the overall error term showed that MSLO participants high in interdependent self-construal have stronger purchase intent for iPad when it was framed as a social experience choice ($M_{\text{experience}}=4.37$) than when it was framed

as a social status choice ($M_{\text{status}}=2.38$, one-tailed $t(64)=10.74$, $p<.01$). This effect of choice option disappeared on MSLO participants low in interdependent self-construal ($M_{\text{experience}}=3.21$, $M_{\text{status}}=2.64$, one-tailed $t(64)=.88$, NS). The results for iPad were consistent with the proposed moderating role of interdependent self-construal on MSLO participants. Overall, results from study 3 support H2a.

Interdependent Self-Construal and MSS

H2b proposed that the preference for social status choice options over social experience choice options will be stronger for MSS individuals low in interdependent self-construal than high in interdependent self-construal. I tested H2b by first conducting a MANOVA test on MSS participants, with purchase intent for BMW and iPad as repeated factors, along with choice option and interdependent self-construal as between-subjects variables. The results revealed a marginally significant directional main effect of choice option (Hotelling's trace=.09, $F(1, 66)=2.89$, $p<.07$) and non-significant interaction of interdependent self-construal by choice option (Hotelling's trace=.061, $F(1, 66)=2.01$, $p=.14$). Given the non-significant interaction, I concluded that H2b was not supported by the data.

For more insight into the data, I conducted exploratory analysis using two-way ANOVA to assess the pattern of results for interdependent self-construal

and MSS with purchase intent for BMW or iPad as dependent variable.

Regarding MSS participants' purchase intent for BMW, the between-subject ANOVA results revealed a marginally significant main effect of choice option ($F(1, 66)=2.77, p<.10$) and non-significant interaction between choice option and interdependent self-construal ($F(1, 66)=1.11, NS$). Regarding MSS participants' purchase intent for iPad, the between-subject ANOVA results revealed a marginally significant main effect of choice option ($F(1, 66)=3.52, p<.07$) and non-significant interaction between choice option and interdependent self-construal ($F(1, 66)=.62, NS$). Overall, this exploratory analysis did not support H2b regarding the proposed moderating role of interdependent self-construal on MSS participants.

Study 4 was designed to test hypothesis H3 regarding the moderating effects of independent self-construal. This study used one product category from study 3 (i.e., TV) to facilitate comparability with earlier results, as well as a new product category (i.e., computer) to further test robustness of the results. Finally, brand attitude was measured in this study using a three-item scale, rather than the single item scale used in earlier studies.

Chapter 7 Study 4

7.1 Design & Procedure

Study 4 was designed as a 2 (Type of Mortality Salience: MSS vs. MSLO) x 2 (Choice Option: Social Status vs. Social Experience) x 2 (Independent Self-Construct: High vs. Low) between-subjects factorial. Two hundred and twenty seven students from a Canadian university and a junior college participated in the study in exchange for two dollars compensation and a chance to win a 16GB iPhone 5 worth \$200. The cover story was similar to previous studies, and participants were told that the study was designed to understand how personality affects college students' attitude toward advertisements. Participants were invited to a computer lab where they completed an online questionnaire. After answering filler questions on personality as in study 1, participants were randomly assigned to MSS or MSLO condition manipulated as in study 1. They then completed the Positive and Negative Affect Scale (PANAS), followed by a filler anagram task. Participants' mood states were found to be unaffected by mortality salience manipulation, hence this factor is not reported further.

Next, participants were asked to examine advertisements for Panasonic 3D TV in the TV category and Apple MacBook computer in the laptop computer category. The presentation of the two brands was counterbalanced. The

manipulation of choice option for Panasonic 3D TV was the same as in study 2 (see appendix H). Regarding Apple MacBook (see appendix J), the slogan in the social experience condition was, “Enjoy a better experience with others”; the slogan in the social status condition was, “Show your owner’s pride to others”. Preference for choice option was measured by product attitude, using three bipolar evaluative scales (Gardner 1983) on the question: “Please rate your feelings towards the product in the advertisement on the following scales”. Participants indicated their answers to the question using a seven-Likert scale (bad/good, dislike/like, unpleasant/pleasant). For each brand, participants also answered a binary choice scale which checked the manipulation of choice option. Participants were also told to assume for all the questions that they had graduated from college and were able to afford the products.

In the last section of the study, participants completed Singelis’ (1994) twelve-item scale for independent self-construal (see appendix L). This scale has been validated in previous research on a variety of cultural groups (Singelis 1994; Singelis et al. 1999). Sample items included, “I enjoy being unique and different from others in many respects,” and “My personal identity independent of others, is very important to me.” Responses ranged from “strongly disagree” (1) to “strongly agree” (7). Participants’ responses to the 12 items were averaged

into an index. Cronbach's alpha for interdependent self-construal scale was .76, similar to the results reported in previous research (Singelis 1994; Oyserman et al. 2002). High and low levels of independent self-construal were constructed by a median split on responses to the scale. Finally, participants were thanked and debriefed.

7.2 Results

Manipulation Checks

The manipulation of type of mortality salience was checked by analyzing participants' written answers to the two open-ended questions. All MSS participants noted thoughts related to their own death and none of them mentioned thoughts of a loved one's death. All MSLO participants wrote thoughts related to the death of a parent and none of them mentioned thoughts related to their own death.

Participants' answers to the binary choice question were consistent with the manipulation of choice option. When rating the social status choice options, 108 out of 115 participants indicated that the slogan for Panasonic 3D TV signalized high status and 109 out of 112 participants had the same opinion for MacBook laptop. When rating the social experience choice option, 106 out of 112 participants indicated that the slogan for Panasonic 3D TV emphasized

experience and 111 out of 115 participants had the same opinion for MacBook. Data from participants who indicated answers contrary to the manipulation were discarded before data analysis, resulting in an effective sample size of 205.

Independent Self-Construal and MSS

H3a proposed that the preference for social status choice options over social experience choice options will be stronger for MSS individuals high in independent self-construal than low in independent self-construal. I tested H3a by first conducting a MANOVA test on MSS participants, with brand attitude for Panasonic 3D TV and MacBook laptop as repeated factors, along with choice option and independent self-construal as between-subjects variables. The results revealed significant effect of choice option (Hotelling's trace=.192, $F(1, 97)=9.21$, $p<.01$) and significant interaction of interdependent self-construal by choice option (Hotelling's trace=.107, $F(1, 97)=5.13$, $p<.01$). Overall, results from MANOVA provided initial support on the moderating role of independent self-construal. Given the significant effect revealed in the omnibus MANOVA, I proceeded to test H3a separately for Panasonic 3D TV and MacBook laptop in the case of MSS participants. I tested H3a by conducting a two-way between-subjects ANOVA using choice option and independent self-construal as the independent variables and brand attitude as dependent variable (see table 5).

-----Insert table 5 here-----

Regarding MSS participants' brand attitude for Panasonic 3D TV, the between-subjects ANOVA results revealed a significant main effect of choice option ($F(1, 97)=5.36, p<.03$) and marginally significant interaction between choice option and interdependent self-construal ($F(1, 97)=3.15, p<.08$). Pairwise comparisons using the overall error term showed that MSS participants high in independent self-construal reported more positive attitude for Panasonic 3D TV when it was framed as a social status choice ($M_{\text{status}}=4.68$) than when it was framed as a social experience choice ($M_{\text{experience}}=3.71$, one-tailed $t(97)=9.18, p<.01$). This effect of choice option disappeared on MSS participants low in independent self-construal ($M_{\text{status}}=4.44, M_{\text{experience}}=4.31$, one-tailed $t(97)=.05$, NS). The results for Panasonic 3D TV were consistent with the proposed moderating role of independent self-construal on MSS participants.

Regarding MSS participants' brand attitude on MacBook laptop, the between-subject ANOVA results revealed a significant main effect of choice option ($F(1, 97)=7.21, p<.01$) and marginally significant interaction between choice option and interdependent self-construal ($F(1, 97)=3.82, p<.06$). Pairwise comparisons using the overall error term showed that MSS participants high in independent self-construal reported more positive attitude for MacBook laptop

when it was framed as a social status choice ($M_{\text{status}}=5.21$) than when it was framed as a social experience choice ($M_{\text{experience}}=4.10$, one-tailed $t(97)=8.1$, $p<.01$). This effect of choice option disappeared on MSS participants low in independent self-construal ($M_{\text{status}}=4.89$, $M_{\text{experience}}=4.60$, one-tailed $t(97)=.97$, NS). The results for MacBook laptop were consistent with the proposed moderating role of independent self-construal on MSS participants. Overall, results from study 4 support H3a.

Independent Self-Construal and MSLO

H3b proposed that the preference for social experience choice options over social status choice options will be stronger for MSLO individuals low in independent self-construal than high in independent self-construal. I tested H3b by first conducting a MANOVA test on MSLO participants, with brand attitude for Panasonic 3D TV and MacBook laptop as repeated factors, along with choice option and independent self-construal as between-subject variables. The results revealed significant main effect of choice option (Hotelling's trace=.13, $F(1, 100)=6.41$, $p<.01$) and non-significant interaction of independent self-construal by choice option (Hotelling's trace=.02, $F(1, 100)=.98$, NS). Thus results from MANOVA did not support the moderating role of independent self-construal stated in H3b.

For more insight into the data, I conducted exploratory analysis using two-way ANOVA to assess the pattern of results for interdependent self-construal and MSLO with brand attitude for Panasonic 3D TV or MacBook laptop as dependent variable. Regarding MSLO participants' brand attitude for Panasonic 3D TV, the between-subjects ANOVA results revealed a significant main effect of choice option ($F(1, 100)=4.92, p<.03$) and marginally significant interaction between choice option and independent self-construal ($F(1, 100)=2.83, p<.10$). Pairwise comparisons using the overall error term demonstrated that MSLO participants low in independent self-construal liked Panasonic 3D TV more when it was framed as a social experience choice ($M_{\text{experience}}=4.77$) than when it was framed as a social status choice ($M_{\text{status}}=3.98$, one-tailed $t(100)=2.80, p<.05$). This effect of choice option disappeared on MSLO participants high in independent self-construal ($M_{\text{experience}}=4.43, M_{\text{status}}=4.13$, one-tailed $t(100)=.70$, NS). Thus the exploratory results for Panasonic 3D TV were consistent with the proposed moderating role of independent self-construal on MSLO participants. Regarding MSLO participants' brand attitude for MacBook laptop, the between-subjects ANOVA results revealed a significant main effect of choice option ($F(1, 100)=12.43, p<.01$) and non-significant interaction between choice option and level of independent self-construal ($F(1, 100)=.33$, NS). Thus, the exploratory

results for MacBook laptop were not consistent with the proposed moderating role of independent self-construal on MSLO participants.

Chapter 8 GENERAL DISCUSSION

Mortality salience can be primed by marketing communications for a range of products, services, and ideas. For example, drinking & driving, life insurance or anti-smoking campaigns can remind viewers of their own death, whereas breast-cancer, heart disease or infant safety campaigns can remind viewers of the death of a loved one (see appendices A to F). The present research differentiates between two types of mortality salience (i.e., MSS and MSLO) and shows that they can have different effects on type of choice. Specifically, I hypothesize and find that MSS individuals favor social status choice options over social experience choice options (H1a), whereas MSLO individuals favor social experience choice options over social status choice option (H1b). I argue that these divergent effects of type of mortality salience on type of choice are driven by a need salience mechanism on self-esteem bolstering and social connection. As interdependent self-construal is more strongly related to the need for social connection, and independent self-construal is more strongly related to the need for self-esteem bolstering, I further argue that interdependent self-construal moderates the effects of MSLO (H2a) and MSS (H2b) on type of choice, and independent self-construal moderates the effects of MSS (H3a) and MSLO (H3b) on type of choice. My results support H2a

and H3a regarding the moderating effect of interdependent self-construal on MSLO individuals and the moderating effect of independent self-construal on MSS individuals. These results are consistent with the proposed need salience mechanism. My results do not support H2b and H3b regarding the moderating effect of interdependent self-construal on MSS individuals and the moderating effect of independent self-construal on MSLO individuals. The results imply that the effects of MSLO and MSS are not driven by the decreased need for self-esteem bolstering and the decreased need for social connection respectively. These results further complement the proposed mediating mechanism based on need salience in that the effects of type of mortality salience are not driven by need reduction. Notably, in my four studies, I have tested the robustness of hypotheses across different manipulations of choice options, different measures of product preference, and five product categories.

8.1 Contribution to the Literature

The present research makes three contributions to the literature on mortality salience. Firstly, it distinguishes for the first time between two types of mortality salience, namely MSS and MSLO in terms of their effects on type of choice. Past research on mortality salience has mostly focused on MSS, with only a few studies having explored the effect of MSLO (Greenberg et al. 1994;

Bonsu and Belk 2003). On the studies which examined MSLO generally assumed that MSLO was equivalent to MSS, since mortality of a loved one would prime thoughts of mortality of self through a spreading activation process in memory (Taubman-Ben-Ari and Katz-Ben-Ami 2008; Mikulincer et al. 2002). Thus the underlying assumption in past research appears to be that MSLO and MSS influence consumer behaviour in a similar manner. Consistent with this assumption, Greenberg et al. (1994) found that both MSS and MSLO increase an individual's defense over cultural worldview in comparison to a control condition without mortality thought. Similarly, Bonsu and Belk (2003) found that MSLO consumers, like their MSS counterpart, tend to engage in conspicuous consumption. Although it is possible that MSS and MSLO sometimes have similar effects on judgment and choice, I show in the present research that MSS and MSLO can also have divergent effects when we consider two specific types of choice, namely social status choice and social experience choice. Notably, the divergent effects of MSS and MSLO were at an individual's subconscious level in this research. In each of my four studies, a distractor task was introduced between mortality salience manipulation and choice task in accordance with prior research. The purpose of the distractor task was to allow time for activation to

spread while removing mortality thoughts from immediate consciousness (Greenberg et al. 1994).

This finding contributes to the literature by providing evidence for a new independent variable, namely type of mortality salience with MSS and MSLO as its two levels. The comparison of the effect sizes between MSS and MSLO with previous meta-analysis results may provide evidence of the distinctness of MSS and MSLO. Specifically, past meta-analysis has shown that MSS yielded moderate effects ($r=.35$) on a range of dependent variables, with effects increased for experiments using American participants (Burke, Martens and Faucher 2010). A pilot study of this research comparing the effect of MSS and MSLO with control condition on high-status products (a BMW car and a Rolex watch) has yielded effect size of .21 for MSS, and -.11 for MSLO, which may validate the distinctness of MSS and MSLO.

Secondly, it contributes to the literature by proposing a new mediating mechanism based on need salience. This mechanism explains the divergent effects of MSS and MSLO on type of choice. Past research has identified worldview validation and self-esteem bolstering as two underlying mediating mechanisms that explain the effect of MSS on various outcome variables (Greenberg et al. 1997). These two mechanisms suggest that individuals are

motivated to deal with death concerns by validating their cultural worldviews, or by bolstering their self-esteem. As a result, when self-mortality is salient, individuals tend to maintain or defend their cultural worldviews such as generosity, kindness or patriotism, or bolster their self-esteem in various sources such as physical appearance, risky behaviors, or material possession. The effect of MSS on type of choice is related to the mediating mechanism of self-esteem bolstering, as preference for social status choice options over social experience choice options can be a manifestation of self-esteem bolstering in western society (Solomon, et al. 1991). The present research contributes to the mortality salience literature by proposing an additional mediating mechanism, namely the need for social connection that underlies the effect of MSLO on type of choice. In sum, I argue that MSLO can increase the need for social connection. This need for social connection mechanism is consistent with past research showing that after losing a loved one, the bereaved tend to place greater value on connection with others (Tedeschi and Calhoun 1996). Because experience is generally considered more social in orientation and more likely to satisfy the need for social connection than high-status possessions (Van Boven 2005), MSLO individuals would tend to prefer social experience choice options over social status choice options.

Notably, in this research I didn't argue that MSS exclusively activates the need for self-esteem bolstering and MSLO exclusively activates the need for social connection. It is possible that MSS can also activate the need for social connection (Florian, Mikulincer & Hirschberger, 2002) and MSLO can also activate the need for self-esteem bolstering (Bonsu and Belk 2003). What I've proposed is that the need for self-esteem bolstering is more salient for MSS individuals, whereas the need for social connection is more salient for MSLO individuals. In my studies, I verified the proposed need salience mechanism by testing the moderating role of independent self-construal and interdependent self-construal which are logically related to the need for self-esteem bolstering and social connection respectively. The observed moderating effects of independent self-construal on MSS individuals and interdependent self-construal on MSLO individuals provide support for the proposed mediating mechanism based on need salience.

The proposed mediating mechanism of need for social connection also contributes to the literature on social connection. Past research has investigated several antecedents of the need for social connection, such as chronic loneliness (Epley et al. 2008), physical distress (Knowles and Gardner 2008), academic failure (Knowles and Gardner, 2008), religion (Thomas and Gwendolyn 1985)

and social exclusion (Baumeister and Leary 1995). For example, chronically lonely individuals were found to humanize nonhuman agents such as pets or gods to alleviate a sense of social disconnection (Epley et al. 2008). Academic underachievers were found to amplify group membership to strengthen a sense of social attachment (Knowles and Gardner 2008). The present research adds to this literature by identifying a new antecedent of the need for social connection, namely MSLO.. In other words, the present research shows that the thought of losing a loved one through death can also activate one's need for social connection.

Thirdly, it contributes to the literature by identifying two new moderating variables, namely independent self-construal and interdependent self-construal which modify the effects of MSS versus MSLO on type of choice. As reviewed earlier, past research has investigated a range of moderators of MSS such as self-esteem, social presence, social value orientation, self-transcendent values and locus control(Landau and Greenberg 2006; Joireman and Duell 2005, 2007; Miller and Mulligan 2002). In the present research, I examine for the first time the moderating roles of independent self-construal and interdependent self-construal on the effects of MSS versus MSLO on type of choice. Specifically, I argue that independent self-construal is more strongly related to the need for self-esteem

bolstering, whereas interdependent self-construal is more strongly related to the need for social connection. As MSS leads to increased need for self-esteem bolstering, independent self-construal can moderate the effect of MSS on type of choice. Similarly, as MSLO leads to increased need for social connection, interdependent self-construal can moderate the effect of MSLO on type of choice. Consistent with these arguments, I found that the effects of type of mortality salience on type of choice are more pronounced among MSS individuals high in independent self-construal, and MSLO individuals high in interdependent self-construal.

Notably, past research has investigated the effects of independent and interdependent self-construal in other domains. For example, independent self-construal has been found to moderate the effect of self-esteem on self-protection (Brockner and Chen 1996), need-for-cognition on purchase intent (Polyorat and Alden 2005), and self-concept connection on brand evaluations (Swaminathan, Page, and Gürhan-Canli 2007). Conversely, interdependent self-construal has been found to moderate the effect of procedural fairness on cooperation (Brockner et al. 2005), willpower on impulsive consumption (Zhang and Shrum 2009), and country-of-origin connection on brand evaluations (Swaminathan, Page, and Gürhan-Canli 2007). The present research adds to the literature on

self-construal by showing the independent and interdependent self-construal can also play a moderating role in the domain of mortality salience.

8.2 Managerial Implication

This research highlights an important interaction effect between product choice option and type of mortality salience. It can provide practical implications for brand managers on planning and designing product advertisement. For example, assume a brand manager is planning a TV commercial. If the preceding TV program or advertisement can prompt consumers to contemplate their own death (e.g., a death-theme series such as *Six Feet Under*, or an advertisement related to drinking or driving), he should highlight the product's social status aspect. Alternatively, if the preceding TV program or advertisement can prompt consumers to contemplate the death of a loved one (e.g., a program persuading children to insist their mothers get a breast cancer screening mammogram, or an advertisement related to infant safety), he should highlight the product's social experience aspect. Thus, to maximize the effectiveness of his advertising, a brand manager should be aware of the preceding TV program, as well as other advertisement embedded between when planning to air his. Regarding the manipulation of product choice option, a brand manager can use slogans, as shown in my studies. He can also adopt different graphic elements in

designing the advertisement. For example, to highlight the social status aspect of the product, an image of a successful business man in suit can be used, whereas to highlight the social experience aspect of the product, an image of a loving and caring dad with his son can be used.

The above managerial application to marketing is destined to bring up a host of ethical concerns. Some may argue that it is unethical and even morally wrong to take advantage of people's anxieties evoked by mortality thoughts in order to sell products. Thus, I would suggest that this research can also be used in a more positive manner, namely on social marketing. Regarding MSS, past research has shown that one way that people may respond to MSS is to behave more like an exemplary citizen of their culture, thereby upholding their cultural values (Greenberg et al. 1990). As result, MSS can enhance prosocial attitudes and behaviors (Joire and Duell 2007; Jonas et al. 2002). So marketers of non-profit organizations for anti-poverty such as Salvation Army may find that subtle reminders of one's inevitable mortality may increase memberships to volunteer and donate. Social marketers may also find that presenting public service announcements denouncing such things as drugs, drunk driving or smoking are more effective when embedded within news or stories prompting the thought of one's own death. Regarding MSLO, my research has shown that MSLO

individuals have more salient need for social connection, so they prefer the social experience aspect of a product or service. So marketers of non-profit organizations for family such as Big Brothers Canada may find that subtle reminders of one's loved one's death may increase memberships to volunteer and donate. Social marketers may find that presenting public service announcements promoting such things as family harmony, community contribution or child safety are more effective preceded by news or stories prompting the thought of a loved one's death.

The above managerial implications are proposed assuming that MSS and MSLO can be manipulated by TV programs or advertisements. In my four studies, I manipulated type of mortality salience through two open-ended death questions. It is possible that these two manipulation approaches may differ in their impact and in how real or anxiety provoking they render death for people. Past research on MSS has shown that other manipulation approaches such as watching gory video, reading death-related news, being interviewed in front of a funeral home or cemetery, or being exposed to a life insurance logo has produced similar effect as the manipulation approach using two open-ended death questions. Past research hasn't yet primed MSLO through other approaches. A pilot study can be conducted to test the effectiveness of

manipulation on MSS and MSLO through videos. Specifically, participants will be randomly assigned to watch one of three videos. In the MSS condition, participants will watch a video of a life insurance company in which the character is killed by a car. In the MSLO condition, participants will watch a video of Heart and Stroke Foundation in which the character is mourning the death of his wife. In the control condition, participants will watch a video of a detergent brand in which no mortality thought will be evoked. Next, participants will be asked to fill out the Collet-Lester fear of death scale (Lester 1990) which consists of two subscales measuring the degree of participants' fear on death of self and death of a loved one respectively. Comparison of the Collet-Lester scores on the two subscales among three groups of participants will provide evidence on the effectiveness of this new manipulation.

Chapter 9 FUTURE RESEARCH

The present research has investigated the divergent effects of MSS and MSLO on type of choice based on a need salience mechanism. The results support the value of further work on directly testing the proposed mediating mechanism and further investigating an alternative mediating mechanism.

9.1 Mediating Mechanism: Need Salience

In the present research, I propose that the divergent results between MSS and MSLO can be explained by MSS participants' need for self-esteem bolstering and MSLO participants' need for social connection. In study 3 and study 4, I tested this proposed mediating mechanism through two moderators, namely interdependent self-construal and independent self-construal. Specifically, I argued that interdependent self-construal and independent self-construal are more strongly related to the need for social connection and the need for self-esteem bolstering respectively. Results from study 3 and study 4 indirectly verified the proposed mediating mechanism based on need salience.

This mediating mechanism can be checked more directly in future research by measuring need salience, and using need salience as a mediator in mediation analysis. Past research has indicated that mortality salience works through a preconscious mental process (Pyszczynski et al. 1999), suggesting

that an implicit measure of need salience might be most appropriate. Specifically, a future study could use an implicit measure based on visual word recognition. In this measure, participants would view self-esteem and social connection relevant words very briefly after receiving MSS or MSLO manipulation and indicate when they recognize a word. The underlying assumption for visual word recognition is that if words in a semantic category are salient in a viewer's mind, they will be identified more promptly than neutral words (Forster and Davis 1984; Besner and Smith 1992). For example, compared to a control group, emotional viewers recognize words related to the emotion more quickly (Niedenthal, Halberstadt, and Setterlund 1997). Thus, the assumption of measuring need salience implicitly is that MSS individuals will recognize words related to self-esteem faster, whereas MSLO individuals will recognize words related to social connection faster.

The future study can be designed as a 2(Type of Mortality Salience: MSS vs. MSLO) x 2 (Choice Option: Social Status vs. Social Experience) between-subjects factorial. It can be developed using MediaLab software. The cover story will describe the study as a survey on the effect of personality on college students' attitudes toward advertisements. Participants will be invited to a computer lab and asked to fill in an online questionnaire in a cubicle. After

answering filler questions selected from Big Five personality test (John, Donahue, and Kentle 1991), participants will be randomly assigned to MSS or MSLO condition, and will answer the corresponding manipulation questions as in Study 1. Participants will then read advertisement for a BMW car and iPad, and indicate their choice preference. The presentation of the products will be counterbalanced. Type of choice option will be manipulated using the same slogans as in studies 1 and 2. Preference for choice option will be measured by brand attitude and purchase intent, using the same multi-item scale as in studies 1 and 4. For each product, participants will make choices from a binary choice scale which checks the manipulation of choice option.

Next, to measure their need salience implicitly, participants will take a visual word recognition task. The procedure of the task will follow the standard in studies of visual word recognition (Forster and Davis, 1984). In this procedure, a trial consists of a sequence of two events: a series of # symbols presented for 500ms, followed immediately by the target words to which responses are required----usually participants typing the words they have recognized. The target words are presented either for a fixed duration (e.g., 500ms) or until participant's response. In the future study, the latter approach to presenting the target words will be chosen. Specifically, target words will flash in the center of

the screen for 200ms followed by a series of # symbols. Each target word will be repeatedly presented until the participant hits a key to record the answer in a text field. The next trial will start after the participants hit the return key. A total of 15 words will be displayed in the study, five related to the need for self-esteem bolstering (e.g., wealth, money, rich, status, luxury), five to the need for social connection (e.g., family, friend, home, share, together) and the rest to a neutral stimuli (e.g., desk, flower, building, pencil, printer). The two groups of words related to need salience will be chosen based on results of a pilot study, which records the associated words in college students' minds regarding social status and social connection. The three groups of words will be matched for length and familiarity in order to avoid possible experimenter bias (Forster 2001). After 10 practice trials with neutral words, participants will see words related to need salience in a random order. The implicit measure of need salience, namely the need for self-esteem bolstering and the need for social connection is the reaction time from stimulus onset to the answer. At the end of the task, participants will be thanked and debriefed.

Regarding data analysis, manipulation checks on type of mortality salience and choice option will be conducted first as in studies 1 to 4. Next, the implicit measures of need salience, namely reaction time in the word recognition

task will be checked. To avoid noise created by participants' response error, only words that are recognized correctly will be analyzed. As reaction time distributions are usually skewed to the right, a log transformation will be conducted on the measures of need salience (Perdue and Gurman 1988; Ratcliff 1993). In so doing, the transformed data will no longer violate the assumption of normality in the following ANOVA tests. To first test the argument that MSS increases need for self-esteem bolstering while MSLO increases need for social connection, two ANOVA tests will be conducted with log-transformed measures of the need for self-esteem and the need for social connection as dependent variable respectively, and type of mortality salience as the predictor. I expect to find significant effect of type of mortality salience on the measures of need salience. If the results indeed reveal that MSS participants respond to words related to self-esteem significantly faster, while MSLO participants respond to words related to social connection significantly faster, I will then proceed to conduct a series of regressions for the mediating test as per Baron and Kenny (1986). Specifically, I will perform the mediation analysis with preference for choice option as dependent variable, type of mortality salience and choice option as predictors, while log-transformed measure of the need for self-esteem or the need for social connection as mediating variable for MSS or MSLO condition

respectively. The results can then reveal whether need salience mediates the effect of MSS and MSLO as proposed.

9.2 Alternative Mediating Mechanism: Negative Emotions

Besides need salience, negative emotions evoked by MSS and MSLO might be another potential mechanism underlying the effect of type of mortality salience on type of choice. This view was suggested by results from a content analysis of data that I had collected earlier in other research projects on mortality salience. In these previous projects, I had analyzed MSS and MSLO participants' written answers to the mortality salience manipulation questions. In total, written answers from 707 participants were analyzed. 219 out of 350 MSS participants mentioned fear (e.g., afraid, scary, terrified, fear) and 65 mentioned sadness (e.g., depressing, sadness, upset). In contrast, 315 out of 357 MSLO participants mentioned sadness and 43 mentioned fear. These results indicate that fear may be the dominant emotion for MSS individuals, whereas sadness may be the dominant emotion for MSLO individuals. Further, it is possible that these negative emotions of fear and sadness can drive the divergent results of MSS versus MSLO on type of choice.

First consider fear evoked by MSS. It is possible that fear can lead to MSS individuals' preference for social status choice options over social

experience choice options. The meaning structure underlying fear is defined by high uncertainty over an outcome and low control over a situation (Frijda, Kuipers, and Ter Shure 1989). For example, when thinking of their own death, individuals experience existential fear towards their unavoidable and uncontrollable impending mortality (Greenberg et al. 1997). Raghunathan and Pham (1999) suggested that fear motivates individuals to reduce the sense of uncertainty and regain the sense of control. In modern materialistic societies, status possessions can provide a sense of control, stability and continuity in an otherwise less stable existence (Vinsel et al. 1981). As a result, fear might drive MSS individuals to prefer social status choice options over social experience choice options.

Next consider sadness evoked by MSLO. It is possible that sadness can lead to MSLO individuals' preference for social experience choice options over social status choice options. The meaning structure underlying sadness is defined by the loss or absence of a cherished object or person (Lazarus 1991). For example, an individual can experience sadness for days, months or even years from losing a loved one (Harvey 1989). Raghunathan and Pham (1999) suggested sadness motivates individual to seek pleasurable stimuli as a suitable replacement or compensation for the loss. Compared with social status choice

options, social experience choice options can better remind people of the experience and pleasure shared with their loved ones (Van Boven 2005). As a result, sadness might drive MSLO individuals to prefer social experience choice options over social status choice options.

My results in the current research provide some evidence against this alternative account based on negative emotions. In my studies, after answering MSS or MSLO manipulation questions, participants completed the Positive and Negative Affect Scale (PANAS) (Watson, Clark, and Tellegen 1988). Separate ANOVAs on participants' overall positive and negative mood state indices and on the 20 individual items revealed no significant treatment effects ($p < .20$) except for item 'upset' ($p < .10$). A series of regression analysis was then performed, with preference for choice option as dependent variable and participants' ratings on 'afraid' and 'upset' as independent variables. Both negative emotions were not significant predictors of the dependent variable.

However, these results cannot completely rule out the mediating mechanism of negative emotions, for the following reasons: first, in my studies, fear and sadness were each measured by a single item, namely 'afraid' and 'upset' respectively, which may lack of reliability and predictive validity (e.g. Nunnally 1967). Laros and Steenkamp (2005) have shown that individuals have

different ways to conceive basic emotions such as fear and sadness. For example, fear can be 'scared', 'afraid', 'panicky', 'nervous', 'worried', and 'tense', while sadness can be 'depressed', 'sad', 'miserable', 'helpless', 'nostalgia', and 'guilty'. Thus, multiple-item scales for fear and sadness may be better measures of these negative emotions. Second, consistent with past mortality salience studies, my studies 1 to 4 relied on self-report approach, namely PANAS to measure participants' emotions evoked by MSS or MSLO, which may result in lack of validity. Past research has shown that as a coping strategy, MSS individuals tend to remove thoughts of death from their immediate consciousness (Greenberg et al. 1994). As a result, fear evoked by MSS could be at MSS individuals' subconscious mind (Arndt et al. 2004). Under this circumstance, self-report measures of emotion cannot accurately reflect individuals' emotional reactions to mortality salience manipulation. Thus, emotion measures based on brain states such as electroencephalography (EEG) and neuroimaging may be better measurement tools for fear and sadness evoked by MSS and MSLO. In sum, future research could adopt more reliable measures of emotions and thus examine the possible mediating roles of fear and sadness.

Chapter 10 LIMITATIONS

There are several limitations of the present research that should be pointed out. First, in manipulating mortality salience, I adopted only one method in the present research, namely asking participants two open-ended questions regarding either their own death or the death of a loved one. Past research has applied other methods to manipulate MSS, such as exposing participants to gory video scenes, death-priming news or fear of death inventories, or interviewing participants in front of a funeral home (Boyar 1964; Greenberg et al. 1994; Nelson et al. 1997). As to my knowledge, past research has only used open-ended questions approach to manipulate MSLO (e.g., Greenberg et al. 1994). An alternative method to manipulate MSS and MSLO could involve asking participants to fill out the Collett-Lester fear of death sub-scale on death of self or death of a loved one respectively (see appendix M). The underlying logic of this manipulation approach is that the sub-scales can activate participants' thoughts related to MSS or MSLO accordingly. Future research could try to adopt this manipulation method to check the robustness of my research findings regarding the divergent results of MSS and MSLO on type of choice.

Second, I manipulated MSLO using one method in all my studies. Specifically, in MSLO condition, college students were asked to answer

questions regarding the counterfactual death of a loved parent. Thus MSLO only referred to parental loss among relatively young student respondents. In his attachment theory, Bowlby (1973) claimed that a child's attachment to a caregiver (e.g., a parent) is instinctive; hence the loss of a parent terminates the financial, emotional and instrumental support for the child. In comparison with parental loss, loss of other significant family members during adulthood, such as spouses, siblings or children, might not always lead to the same consequences (Harvey 1998; Geneviro, Marshall, and Miller 2004). Hence, future research could assess the effect of MSLO on other family members (e.g., spouse, siblings, children etc.) rather than just parents.

Third, I measured the dependent variable using preference of choice option instead of actual choice. Although research on attitude-behavior consistency found a significant link between choice preference and actual choice on high involvement products (Kokkinaki and Lunt 1997), it is no doubt that a direct measure on type of choice is preferable. In an extension study to replicate the effects of type of mortality salience on type of choice, I measured the dependent variable using participants' actual choice between social status choice options and social experience choice options. Specifically, after receiving MSS or MSLO manipulation, one hundred and eight participants gave answers

on how to spend five hundred dollars on A) a social status product and B) a social experience product respectively, and later indicated their choice between A and B. 92% MSLO participants chose the social experience product, while 63% MSS participants chose the social status product (Pearson chi-square=15.01, $d.f.$ =2, p =.001). These results replicate the findings on the effect of mortality salience on type of choice from my studies 1 to 4.

Fourth, in my studies, participants' average degree of closeness (M =6.2/7, SD =.94) and importance to their parents (M =6.6/7, SD =.78) were relatively high. It is possible that relationship intensity can moderate the effect of MSLO on type of choice. Previous studies have shown that the degree to which a given person perceives his loss after the death of a loved one depends on how close (or engaging or mutually dependent) the relationship was (Levinger 1992). As a result, the strength of the relationship with a loved one can influence the intensity of MSLO. Specifically, it could be that when MSLO is about an important loved one (e.g., a parent) , MSLO participants would be more likely to prefer social experience choice options over social status choice options, than when MSLO is about a so-so beloved person (e.g., a distant uncle). Hence, further study could investigate how relationship strength influences the effects of MSLO.

Fifth, consistent with prior studies on mortality salience, the participants in my studies were college students, which might limit the generalization of the results to the broader population. On average, college students are still in their youth so they might be less concerned about their own death compared with an older population (Martens et al. 2004). Furthermore, they have less experience of losing a loved one through death in their lives compared to an older population (Harvey 1998). As a result, for college students, MSS and MSLO might activate the concept of death as more temporally distant concerns in its connection to themselves and to their loved ones. Hence, future research could provide a valuable service by recruiting participants from different age groups to examine how the effects of MSS and MSLO differ as a function of age or past experience.

Sixth, my studies were conducted in a western culture in which materialistic value is accepted by majority (Solomon, et al. 1991). It is not clear whether my findings would generalize to eastern cultures (e.g., Bhutan, Korea, and Japan) that purportedly place greater emphasis on interpersonal relationships (Cross and Madson 1997). Past research has suggests that the effects of MSS in western cultures may be less applicable in eastern cultures (Bonsu and Belk 2003). Hence, future research could investigate how the effect of MSS differs from the effect of MSLO across cultural contexts.

Given the limitations stated above, my research provides initial evidence that MSS and MSLO lead to divergent results on type of choice. Specifically, my research suggests that MSS promotes the need for self-esteem bolstering, which leads to preference for social status choice options over social experience choice options. In contrast, MSLO promotes the need for social connection, which leads to preference for social experience choice options over social status choice options. The results expand our understanding of the effects of type of mortality salience on type of choice by highlighting the distinction between the self and loved ones.

APPENDIX A

ADVERTISEMENT: MORTALITY SALIENCE OF SELF



APPENDIX B

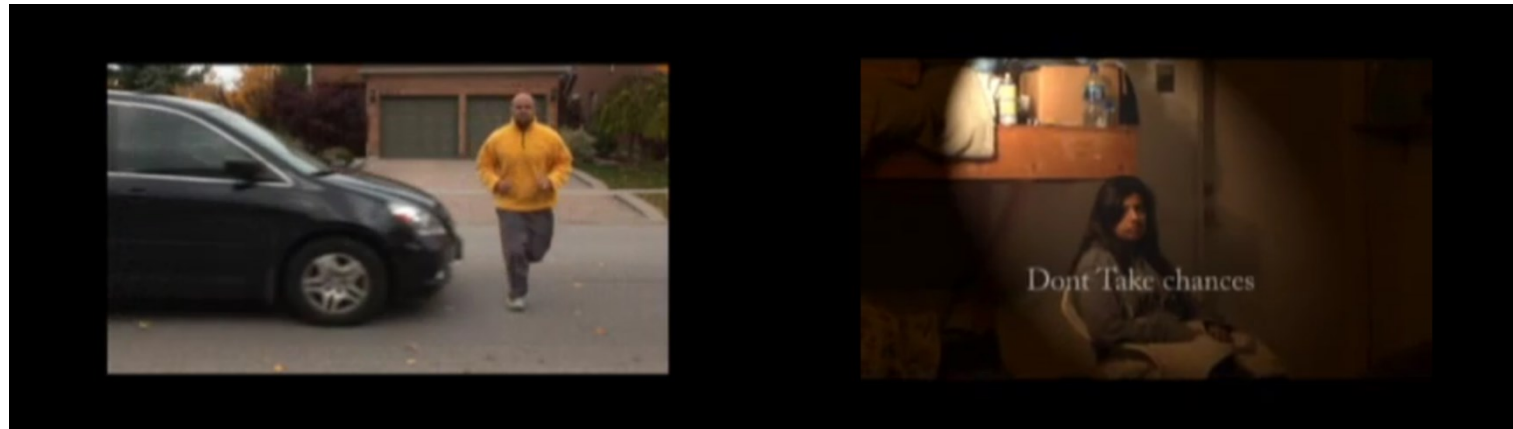
ADVERTISEMENT: MORTALITY SALIENCE OF SELF



APPENDIX C

ADVERTISEMENT: MORTALITY SALIENCE OF SELF

<http://www.youtube.com/watch?v=hWgA7ALLPUs&feature=related>



APPENDIX D

ADVERTISEMENT: MORTALITY SALIENCE OF LOVED ONES



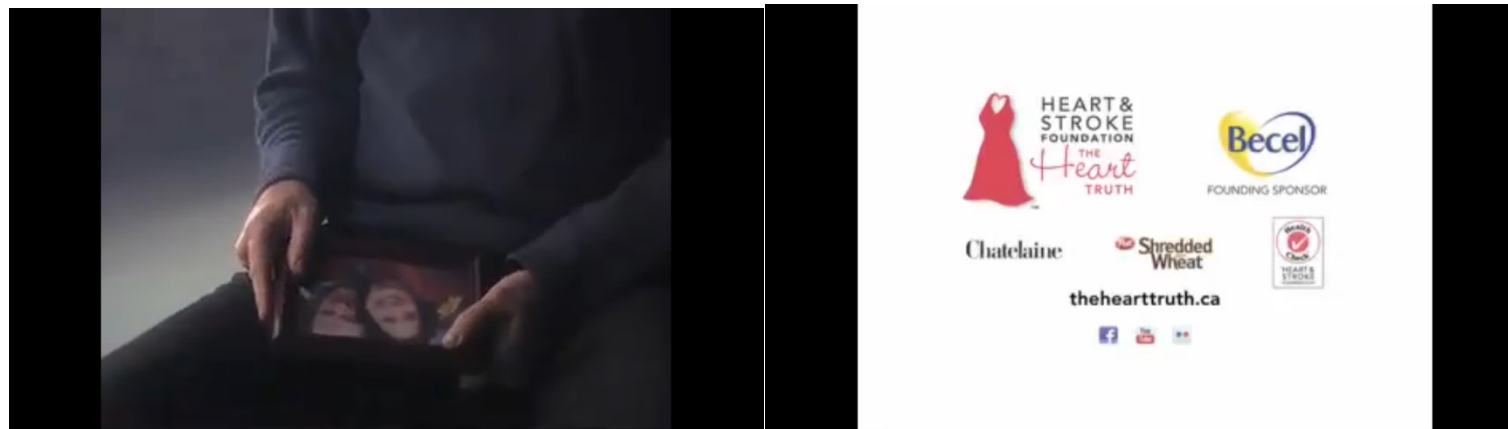
APPENDIX E

ADVERTISEMENT: MORTALITY SALIENCE OF LOVED ONES



APPENDIX F

ADVERTISEMENT: MORTALITY SALIENCE OF LOVED ONES

<http://www.youtube.com/watch?v=oUXNIYI8PXY>

APPENDIX G

CHOICE OPTIONS (STUDY 1 AND STUDY 3)

– HOW DO YOU BECOME
“BEST DADDY IN THE WORLD”?



– THE RIDES TOGETHER WITH HER.



– HOW DO YOU BECOME
“MOST ADMIRED CAR OWNER”?



– THE RIDES IN MY BMW WITH PRIDE.



APPENDIX H

CHOICE OPTIONS (STUDY 2 AND STUDY 4)



APPENDIX I

CHOICE OPTIONS (STUDY 2 AND STUDY 3)



APPENDIX J

CHOICE OPTIONS (STUDY 4)



MacBook Pro

Enjoy a better experience with others.



MacBook Pro

Show your owner's pride to others.



APPENDIX K

SINGELIS' (1994) SCALE FOR INTERDEPENDENT SELF-CONSTRUAL (STUDY 3)

I have respect for the authority figures with whom I interact.

It is important for me to maintain harmony within my group.

My happiness depends on the happiness of those around me.

I would offer my seat in a bus to my professor.

I respect people who are modest about themselves.

I will sacrifice my self-interest for the benefit of the group I am in.

I often have the feeling that my relationships with others are more important than my own accomplishments.

I should take into consideration my parents' advice when making education/career plans.

It is important to me to respect decisions made by the group.

I will stay in a group if they need me, even when I'm not happy with the group.

If my brother or sister fails, I feel responsible.

Even when I strongly disagree with group members, I avoid an argument.

APPENDIX L

SINGELIS' (1994) SCALE FOR INDEPENDENT SELF-CONSTRUAL (STUDY 4)

I'd rather say "NO" directly, than risk being misunderstood.

Speaking up during a class is not a problem for me.

Having a lively imagination is important to me.

I am comfortable with being singled out for praise or rewards.

I am the same person at home that I am at school.

Being able to take care of myself is a primary concern for me.

I act the same way no matter who I am with.

I feel comfortable using someone's first name soon after I meet them, even when they are
much older than I am.

I prefer to be direct and forthright when dealing with people I've just met.

I enjoy being unique and different from others in many respects.

My personal identity independent of others is very important to me.

I value being in good health above everything.

APPENDIX M

THE COLLET-LESTER (COLLET & LESTER, 1969) FEAR OF DEATH SUB-SCALES

Here is a series of general statements. You are to indicate how much you agree or disagree with them. Read each item and decide quickly how you feel about it; then record the extent of your agreement or disagreement.

-3	-2	-1	+1	+2	+3
Strong	Moderate	Slight	Slight	Moderate	Strong
disagreement	disagreement	disagreement	agreement	agreement	agreement

Death of self (MSS manipulation)

I would avoid death at all costs.

The total isolation of death frightens me.

I would not mind dying young.

I view death as a release from earthly suffering.

I am disturbed by the shortness of life.

The feeling that I might be missing out on so much after I die bothers me.

Not knowing what it feels like to be dead does not bother me.

The idea of never thinking or experiencing again after I die does not bother me.

I am not disturbed by death being the end of life as I know it.

Death of a loved one (MSLO manipulation)

I would experience a great loss if someone close to me died.

I accept the death of loved ones as the end of their life on earth.

I would easily adjust after the death of someone close to me.

I would like to be able to communicate with the spirit of a loved one who has died.

I would not mind having to identify the corpse of a loved one.

I would never get over the death of someone close to me.

I do not think of death people as having an existence of some kind.

If someone close to me died, I would miss him/her very much.

I could not accept the finality of the death of a loved one.

It would upset me to have to see a loved one who was dead.

REFERENCES

- Aaker, Jennifer L. and Bernd Schmitt (2001), "Culture-Dependent Assimilation and Differentiation of the Self: Preferences for Consumption Symbols in the United States and China," *Journal of Cross-Cultural Psychology*, 32 (September), 561-76.
- Arndt, Jamie, Sheldon Solomon, Tim Kasser, and Kennon M. Sheldon (2004), "The Urge To Splurge Revisited: Further Reflections On Applying Terror Management Theory to Materialism and Consumer Behaviour," *Journal of Consumer Psychology*, 14 (3), 225-29.
- _____(2004), "The Urge To Splurge: A Terror Management Account of Materialism and Consumer Behaviour," *Journal of Consumer Psychology*, 14 (3), 198-212.
- Arndt, Jamie, Jeff Schimel, and Jamie L. Goldenberg (2003), "Death Can Be Good For Your Health: Fitness Intentions as a Proximal and Distal Defense Against Mortality Salience," *Journal of Applied Social Psychology*, 33, 1726-1746.
- Baron, Reuben M., and David A. Kenny (1986), "The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic and Statistical Considerations," *Journal of Personality and Social Psychology*, 51, 1173-1182.
- Bowlby, John. (1973), *Attachment and Loss, Vol. 2: Separation*. New York: Basic Books.
- Boyar, Jerome I. (1964), The Construction and Partial Validation of a Scale For The Measurement of The Fear of Death, *Dissertation Abstracts*, 25, 20-21.

Bauman, Zygmunt (1995), *Life in Fragments Essays in Postmodern Morality*. Blackwell, Oxford.

Baumeister, Roy F. and Mark R. Leary (1995), "The Need to Belong---Desire for Interpersonal Attachments as a Fundamental Human-Motivation," *Psychological Bulletin*, 117 (3), 497-529.

Becker, Ernest. (1971), *The Birth and Death of Meaning*, New York: Free Press.

_____(1973), *The Denial of Death*. New York: Free Press

Besner, Derek and Marilyn C. Smith (1992), "Models of Visual Word Recognition: When Obscuring The Stimulus Yields a Clearer View," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 18, 468-482.

Bonsu, Samuel K. and Russel W. Belk (2003), "Do not go cheaply into that good night: Death-ritual consumption in Asante, Ghana," *Journal of Consumer Research*, 30 (1), 41-55.

Bowlby, John (1982), *Attachment and Loss: Attachment*. New York: Basic Books. (Original work published 1969).

Brockner, Joel and Ya-Ru Chen (1996), "The Moderating Roles of Self-Esteem and Self-
Construal in Reaction To a Threat To The Self: Evidence From The People's
Republic of China and The United States," *Journal of Personality and Social
Psychology*, 71(3), 603-615.

- Burke, Brian L., Andy Martens, and Erik H. Faucher (2010), "Two Decades of Terror Management Theory: A Meta-Analysis of Mortality Salience Research," *Personality and Social Psychology Review*, 10(5), 1-41.
- Choi, Jounghwa, Kyoung-Nan Kwon, and Mira Lee (2007), "Understanding Materialistic Consumption: A Terror Management Perspective," *Journal of Research for Consumers*, 13, 1-4.
- Crocker, Jennifer and Katherine T. Wolfe (2001), "Contingencies of Self-Worth," *Psychological Review*, 108, 593-623.
- Cross, Susan E. and Laura Madson (1997), "Models of The Self: Self-Construals and Gender," *Psychological Bulletin*, 122, 5-37.
- Cutright, Keisha M., Eugenia C. Wu, Jillian C. Banfield, Aaron C. Kay, and Gavan J. Fitzsimons (2011), "When Your World Must Be Defended: Choosing Products to Justify the System," *Journal of Consumer Research*, 38 (1), 62-77.
- Dhar, Ravi and Klaus Wertenbroch (2000), "Consumer Choice between Hedonic and Utilitarian Goods," *Journal of Marketing Research*, 37(February), 60-71.
- Epley, Nicholas, Scott Akalis, Adam Waytz and John. T. Cacioppo (2008), "Creating Social Connection through Inferential Reproduction: Loneliness and Perceived Agency in Gadgets, Gods, and Greyhounds," *Psychological Science*, 19, 114-120.

Ferraro, Rosellina, Baba Shiv, and James R. Bettman (2005), "Let Us Eat and Drink, For Tomorrow We Shall Die: Effects of Mortality Salience and Self-Esteem On Self-Regulation in Consumer Choice," *Journal of Consumer Research*, 32 (1), 65-75.

Forster, Kenneth and Chris Davis (1984), "Repetition Priming and Frequency Attenuation in Lexical Access," *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 10(4), 680-698.

Frieze, Malte and Wilhem Hofmann (2008), "What Would You Have As a Last Supper? Thoughts about Death Influence Evaluation and Consumption of Food Products," *Journal of Experimental Social Psychology*, 44, 1388-1394.

Frijda, Nico H., Peter Kuipers and Eliabeth ter Schure (1989), "Relations among Emotion, Appraisal, and Emotional Action Readiness," *Journal of Personality and Social Psychology*, 57, 212- 228.

Gardner, Meryl P. (1983), "Advertising Effects on Attributes Recalled and Criteria Used For Brand Evaluations," *Journal of Consumer Research*, 10 (3), 310-318.

Genevro, Janice L., Tracy Marshall and Tess Miller (2004), "Report on Bereavement and Grief Research," *Death Studies*, 28, 491-575.

Goldenberg Jamie L., Jamie Arndt, Joshua Hart and Megan Brown (2005), "Dying To Be Thin: The Effects of Mortality Salience and Body Mass Index On Restricted Eating Among Women," *Personality and Social Psychology Bulletin*, 31 (10), 1400-1412.

- Greenberg, Jeff, Tom Pyszczynski, Sheldon Solomon, and Jamie L. McCoy (2000), "The Body as a Source of Self-Esteem: The Effects of Mortality Salience on Identification with One's Body, Interest in Sex, and Appearance Monitoring," *Journal of Personality and Social Psychology*, 79, 118-130.
- Greenberg, Jeff, Tom Pyszczynski, and Sheldon Solomon (1997), "Terror Management Theory of Self-Esteem and Cultural Worldviews: Empirical Assessments and Conceptual Refinements" in *Advances in experimental social psychology*, Vol. 29, ed. P. M. Zanna: San Diego, CA: Academic, 61-141.
- Greenberg, Jeff, Tom Pyszczynski, Sheldon Solomon, Linda Simon, and Micheal J. Breus (1994), "Role of Consciousness and Accessibility of Death-Related Thoughts in Mortality Salience Effects," *Journal of Personality and Social Psychology*, 67 (4), 627-637.
- Greenberg, Jeff, Sheldon Solomon, Mitchell Veeder, Deborah Lyon, Tom Pyszczynski, Abram Rosenblatt and Shari Kirkland (1990), "Evidence for Terror Management Theory 2: the Effects of Mortality Salience on Reactions to Those Who Threaten or Bolster the Cultural Worldview," *Journal of Personality and Social Psychology*, 58 (2), 308-318.
- Harvey, John H. (1998), *Perspectives on Loss: A Sourcebook*. Taylor & Francis.
- _____(2002), *Perspectives On Loss and Trauma: Assaults on The self*. Sage Publications.

- Hansen, Jochim, Suzanne Winzeler and Sascha Topolinski (2010), "When The Death Makes You Smoke: A Terror Management Perspective On The Effectiveness of Cigarette On-Pack Warnings," *Journal of Experimental Social Psychology*, 46, 226-228.
- Heine, Steven J., Yu Niiya and Motoko Harihara (2002), "Terror Management in Japan," *Asian Journal of Social Psychology*, 5, 187-196.
- Hewitt, John P. (2009), *Oxford Handbook of Positive Psychology*, Oxford University Press.
- Hirschberger, Gilad, Tsachi Ein-Dor and Shaul Almakias (2008), "The Self-Protective Altruist: Terror Management and the Ambivalent Nature of Prosocial Behavior," *Personality and Social Psychology Bulletin*, 34, 666-678.
- John, Oliver P., Eileen. M. Donahue and Robert L. Kentle (1991), *The Big Five Inventory---Versions 4A and 54*, Berkeley, CA: University of California, Berkeley, Institute of Personality and Social Research.
- Jonas, Eva, Immo Fritsche and Jamie Greenberg (2005), "Currencies as Cultural Symbols ---An Existential Psychological Perspective on Reactions of Germans towards the Euro," *Journal of Economic Psychology*, 26, 129-146.
- Jonas, Eva, Jeff Schimel, Jeff Greenberg and Tom Pyszczynski (2002), "The Scrooge Effect: Evidence that Mortality Salience Increases Prosocial Attitudes and Behavior," *Personality and Social Psychology Bulletin*, 28, 1342-1353.

- Joireman, Jeff and Blythe Duell (2005), "Mother Teresa vs. Ebenezer Scrooge: Mortality Salience Leads Proselfs to Endorse Self-Transcendent Values (Unless Proselfs Are Reassured)," *Personality and Social Psychology Bulletin*, 31, 307-320.
- Joireman, Jeff and Blythe Duell (2007), "Self-Transcendent Values Moderate the Impact of Mortality Salience on Support for Charities," *Personality and Individual Differences*, 43, 779-789.
- Kasser, Tim and Kennon M. Sheldon (2000), "Of Wealth and Death: Materialism, Mortality Salience, and Consumption Behaviour," *Psychological Science*, 11 (4), 348-51.
- Knowles, Megan L., and Wendi L. Gardner (2008), "Benefits of Membership: The Activation and Amplification of Group Identities in Response to Social Rejection," *Personality and Social Psychology Bulletin*, 34, 1200-1213.
- Kokkinaki, Flora and Peter Lunt (1997), "The Relationship between Involvement, Attitude Accessibility and Attitude-Behaviour Consistency," *British Journal of Social Psychology*, 36(4), 497-509.
- Kosterman, Rick and Seymour Feshbach (1989), "Toward a Measure of Patriotic and Nationalistic Attitudes," *Political Psychology*, 10 (2), 257-274.
- Landau, Mark J., and Jamie Greenberg (2006), "Play it Safe or Go for the Gold? A Terror Management Perspective on Self-Enhancement and Protection Motives in Risky Decision Making," *Personality and Social Psychology Bulletin*, 32, 1633-1645.

- Laros, Fleur J. M. and Jan-Benedict E. M. Steenkamp (2005), "Emotions in Consumer Behaviour: A Hierarchical Approach," *Journal of Business Research*, 58(10), 1437-1445.
- Lazarus, Richard S. (1991), *Emotion and Adaptation*, in Pervin, L. A. (Ed.), *Handbook of personality: Theory and Research*, 609-637.
- Lee, Angela Y., Jennifer L. Aaker, and Wendi L. Gardner (2000), "The Pleasures and Pains of Distinct Self-Construals: The Role of Interdependence in Regulatory Focus," *Journal of Personality and Social Psychology*, 78(June), 1122-34.
- Lee, Jaehoon and L. J. Shrum (2006), "Mortality Salience and Extrinsic Goal Orientation: The Moderating Effects of Self-Esteem and Materialistic Values," in *Association for Consumer Research Annual North American Conference*.
- Levinger, George (1992), *Close Relationship Loss as a Set of Inkblots*, in T. L. Orbach (ed.), *Close Relationship Loss* (213-221), New York: Springer Verlag.
- Mandel, Naomi and Steven J. Heine (1999), "Terror Management and Marketing: He Who Dies With The Most Toys Wins," *Advances in Consumer Research*, 26, 527-532.
- Markus, Hazel and Shinobu Kitayama (1991), "Culture and the Self: Implications for Cognition, Emotion, and Motivation," *Psychological Review*, 98, 224-253.
- Martens, Andy, Jeff Greenberg, Jeff Schimel, and Mark J. Landau (2004), "Ageism and Death: Effects of Mortality Salience and Perceived Similarity to Elders on Reactions to Elderly People," *Personality and Social Psychology Bulletin*, 30 (12), 1524-1536.

- Ingrid M. Martin and Michael A. Kamins (2010), "An Application of Terror Management Theory in the Design of Social and Health-Related Anti-Smoking Appeals," *Journal of Consumer Behaviour*, 9 (3), 172-190.
- Mikulincer, Mario, Victor Florian and Gilad Hirschberger (2003), "The Existential Function of Close Relationships: Introducing Death into the Science of Love," *Personality and Social Psychology Review*, 7 (1), 20-40.
- Miller, Richard L. and Ryan D. Mulligan (2002), "Terror management: The Effects of Mortality Salience and Locus of Control on Risk-Taking Behaviors," *Personality and Individual Differences*, 33, 1203-1214.
- Miller, Gila and Orit Taubman-Ben-Ari (2004), "Scuba Diving Risk Taking --- A Terror Management Theory Perspective," *Journal of Sport and Exercise Psychology*, 26, 269-282.
- Nelson, Lori J., David L. Moore, Jennifer Olivetti and Tippony Scott (1997), "General and Personal Mortality Salience and Nationalistic Bias," *Personality and Social Psychology Bulletin*, 23, 884-892.
- Niedenthal, Paula M., Jamin B. Halberstadt and Marc B. Setterlund (1997), "Being Happy and Seeing "Happy": Emotional State Mediates Visual Word Recognition," *Cognition and Emotion*, 11(4), 403-432.
- Nunnally, Jum C. (1967), *Psychometric Theory*, New York: McGraw Hill.

- Oyserman, Daphna, Heather M. Coon and Markus Kemmelmeier (2002), "Rethinking Individualism and Collectivism: Evaluation of Theoretical Assumptions and Meta-Analyses," *Psychological Bulletin*, 128 (1), 3-72.
- Perdue, Charles W., and Micheal B. Gurtman (1988), "Self-Reference and Evaluative Biases in the Perception of Trait Information," *Personality and Social Psychology Bulletin*, 14, 578-586.
- Polyorat, Kawpong and Dana L. Alden (2005), "Self-Construal and Need-For-Cognition Effects on Brand Attitudes and Purchase Intentions in Response to Comparative Advertising in Thailand and the United States," *Journal of Advertising*, 34(1), 37-48.
- Pyszczynski, Tom, Jeff Greenberg and Sheldon Solomon (1999), "A Dual Process Model of Defense against Conscious and Unconscious Death-Related Thoughts: An Extension of Terror Management Theory," *Psychological Review*, 106 (4), 835-845.
- Raghunathan, Rajagopal and Michel T. Pham (1999), "All Negative Moods Are Not Equal: Motivational Influences of Anxiety and Sadness on Decision Making," *Organizational Behaviour and Human Decision Processes*, 79 (1), 56-77.
- Ratcliff, Roger (1993), "Methods for Dealing with Reaction Time Outliers," *Psychological Bulletin*, 114, 510-532.
- Richins, Marsha L. (1994), "Special Possessions and the Expression of Material Values," *Journal of Consumer Research*, 21, 522-533.

- Rindfleisch, Aric, James E. Burroughs and Nancy Wong (2009), "The Safety of Objects: Materialism, Existential Insecurity and Brand Connection," *Journal of Consumer Research*, 36(1), 1-16.
- Routledge, Clay, Jamie Arndt and Jamie L. Goldenberg (2004), "A Time to Tan: Proximal and Distal Effects of Mortality Salience on Sun Exposure Intentions," *Personality and Social Psychology Bulletin*, 30, 1347-1358.
- Sheldon, Kennon M. and Tim Kasser (1995), "Coherence and Congruence: Two Aspects of Personality Integration," *Journal of Personality and Social Psychology*, 68, 531-543.
- Singelis, Theodore M. (1994), "The Measurement of Independent and Interdependent Self-Construct," *Personality and Social Psychology Bulletin*, 20, 580-591.
- Singelis, Theodore M., Micheal H. Bond, William F. Sharkey and Chris S.Y. Lai (1999), "Unpacking Culture's Influence on Self-Esteem and Embarrassability," *Journal of Cross-Cultural Psychology*, 30, 315-341.
- Solomon, Sheldon., Jeff Greenberg, and Tom Pyszczynski (1991), "A Terror Management Theory of Social Behaviour: The Psychological Functions of Self-Esteem and Cultural Worldviews," in *Advances in Experimental Social Psychology*, Vol. 24, ed. M. P. Zanna, San Diego, CA: Academic Press, 93-139.
- Swaminathan, Vanitha, Karen L. Page and Zeynep Gurhan-Canli (2007), "'My' Brand or 'Our' Brand: The Effects of Brand Relationship Dimensions and Self-Construct on Brand Evaluations," *Journal of Consumer Research*, 34(2), 248-259.

- Taubman Ben-Ari, Orit, Victor Florian and Mario Mikulincer (1999), "The Impact of Mortality Salience on Reckless Driving – A Test of Terror Management Mechanisms," *Journal of Personality and Social Psychology*, 76, 35-45.
- Taubman Ben-Ari, Orit, Victor Florian and Mario Mikulincer (2000), "Does a Threat Appeal Moderate Reckless Driving? – A Terror Management Theory Perspective," *Accident Analysis and Prevention*, 32, 1-10.
- Taubman Ben-Ari, Orit (2004), "Risk Taking in Adolescence -"To Be or Not To Be" Is Not Really The Question, " in *Handbook of Experimental Existential Psychology*, ed. J. Greenberg, S. L. Koole and T. A. Pyszczynski, the Guilford Press, New York.
- Taubman-Ben-Ari, Orit and Liat Katz-Ben-Ami (2008), "Death Awareness, Maternal Separation Anxiety, and Attachment Style Among First-Time Mothers - A Terror Management Perspective," *Death Studies*, 32, 737-56.
- Tedeschi, Richard G. and Lawrence G. Calhoun (1996), "The Posttraumatic Growth Inventory: Measuring the Positive Legacy of Trauma," *Journal of Traumatic Stress*, 9(3), 455-471.
- Thompson, Suzanne C. (1985), "Finding Positive Meaning In a Stressful Event and Coping," *Basic and Applied Social Psychology*, 6, 279-295.
- Thomas, Darwin L. and Henry C. Gwendolyn (1985), "The Religion and Family Connection: Increasing Dialogue in the Social Sciences," *Journal of Marriage and Family*, 47(2), 369-379.

- Triandis, Harry C. and Michele J. Gelfand (1998), "Converging Measurement of Horizontal and Vertical Individualism and Collectivism," *Journal of Personality and Social Psychology*, 74(1), 118–128.
- Van Boven, Leaf (2005), "Experientialism, materialism, and the pursuit of happiness," *Review of General Psychology*, 9, 132-142.
- Van Boven, Leaf and Thomas Gilovich (2003), "To Do or To Have? That is the Question," *Journal of Personality and Social Psychology*, 85 (6), 1193-202.
- Vinsel, Anne, Barbara B. Brown, Irwin Altman, and Carolyn Foss (1981), "Privacy Regulation, Territorial Displays, and Effectiveness of Individual Functioning," *Journal of Personality and Social Psychology*, 39, 1104-1115.
- Watson, David, Lee A. Clark and Auke Tellegen (1988), "Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales," *Journal of Personality and Social Psychology*, 54, 1063-1070.
- Zhang, Yinlong and L. J. Shrum (2009), "The Influence of Self-Construal on Impulsive Consumption," *Journal of Consumer Research*, 35(5), 838-850.

TABLE 1

PAST RESEARCH ON MORTALITY SALIENCE

		Manipulation		Second IV	DV	Results
		MS Group	Control Group			
Prosocial behavior	Ferraro, Shiv & Bettman (2005) ---exp3	MAPS	DP	Virtue-related esteem: High/Low	Donation to charity	Among individuals privileging virtue as a source of self-esteem, the decision to give to charity, the amount donated to the charity, and intentions to engage in socially conscious behaviors were higher when MS was high than when it was low.
	Hirschberger, Ein-Dor & Almakias (2008)	MAPS Death fliers	DP Pain fliers	1. Type of organization: evoking concerns about personal death or not 2. Person: In wheelchair or standing	1. Reported willingness to donate 2. Actual donation 3. Actual helping	MS increased charitable donations and increased help to a walking confederate. However, MS significantly decreased organ donation card signings and decreased help to a wheelchair-bound confederate.
	Joireman & Duell (2005)	MAPS	DP	Social value orientation	Evaluation towards prosocial behavior	MS made proselves more likely to endorse self-transcendent values (vs. a control group), whereas MS has no impact on the self-transcendent values of prosocials.
	Joireman & Duell (2007)	MAPS	DP	Self-transcendent values: High/Low	Evaluation of people-oriented charities	MS increased evaluations of charities, but only among participants scoring low in self-transcendent values.
	Jonas, Schimel, Greenberg & Pyszczynski (2002)	1. In front of funeral home 2. MAPS	1. three blocks away from the funeral home 2. DP	None	1. Ratings of charities 2. donation to U.S. vs. foreign charities	MS participants reported more favorably toward charities and gave more money to a charity supporting an American cause than control participants.
	Fransen et al. (2008)	Showing the logo for a life insurance company	Showing the logo for a personal care product	None	How much to donate to charity	MS participants gave more money to the charity foundation than control participants.
Food Consumption	Ferraro, Shiv & Bettman (2005) ---exp1,2	MAPS	DP	Body-esteem: High/Low	Choice between chocolate cake and fruit salad	High MS led to less indulgent food choices among participants who had high body esteem, and more indulgent choices for participants for whom body shape was not an important source of esteem.
	Goldenberg, Arndt & Brown (2004)	MAPS	DP	Body mass index scores: High / Low	Fattening snack food intake	MS decreases the intake of nutritious yet fattening snack food. This effect is especially prominent among women who had higher body mass index

						scores.
	Landau & Greenberg (2006)	MAPS	DP	Self-esteem: High / Low	Decision on high-gain/high risk and low-gain/low-risk choices	MS leads high, but not low, self-esteem participants faced with a risky decision to pursue opportunities for excellence despite substantial risks of failure.
Consumer's risk-taking behavior	Hansen, Winzeler & Topolinski (2010)	Death-related warning	Appearance-related warning	Smoking self-esteem	Attitude towards cigarette on-pack warnings	MS warnings increased the tendency to favor smoking among participants who considered smoking to be a means of self-esteem.
	Martin & Kamins (2010)	MAPS	DP	Smoking self-esteem	Likelihood of quitting smoking	MS interacts with self-esteem in terms of influencing the probability of smoking in the short run whereas social exclusion appeals have a stronger impact on reducing long-term smoking intentions.
	Miller & Taubman-Ben-Ari (2004)	MAPS	Food	Self-esteem: High / Low	Reported risky diving behaviors (mock scenarios)	Mortality salience led to a greater willingness to take risks in diving vs. control condition, but only among divers with low self-esteem and low diving related self-efficacy. No such effects were found for high self-esteem persons.
	Miller & Mulligan (2002)	Death survey	TV survey	Locus of Control: External / Internal	1. Reported risky behaviors (drink & drive) 2. Assessment of personal risk	Mortality salience increased the actual risk-taking and the assessed level of risk of individuals with an external locus of control. MS participants with an internal locus of control showed decreased risk-taking and increased risk assessment.
	Routledge, Arndt & Goldenberg (2004)	MAPS	DP / Uncertainty	1. Time delay or not 2. Ad featured: suntanned woman or beach ball	1. Interest in high SPF sunscreen 2. Interest in suntan products	<i>When thoughts about death were (not) the focus of attention, participants increased (decreased) intentions to protect themselves from dangerous sun exposure. MS participants primed to associate tanned skin with an attractive appearance have increased interest in tanning products and services.</i>
	Taubman-Ben-Ari (2004)	MAPS	TV	None	Willingness to engage in risky sexual behaviors	Making mortality salient led to higher willingness to engage in risky sexual behaviors, in comparison to a control conditions.
	Taubman-Ben-Ari, Florian & Mikulincer (1999)	MAPS FPDS	Food	Driving esteem: High / Low	1. Reported risky driving behaviors 2. Driving speed in video game	Mortality salience inductions led to more risky driving than the control condition only among individuals who perceived driving as relevant to their self-esteem.
	Taubman-Ben-Ari, Florian & Mikulincer (2000)	Car crash ad	Food ad	Driving esteem: High / Low	1. Reported risky driving behaviors 2. Driving speed	A road trauma film led to less reported intentions of reckless driving, but to higher driving speeds than a neutral film. These effects were only found

					in video game simulator	among participants who perceived driving as relevant to their self-esteem.
	Fransen et al. (2008)	Showing the logo for a life insurance company	Showing the logo for a personal care product	None	Consumers' preferences for domestic and foreign food products.	Individuals who unconsciously observe a life insurance brand rate domestic products more favorably and foreign products less favorably than individuals in the control condition.
Brand Preference	Cutright et al. (2011)	MAPS	DP	System threat on consumption choices	Consumers' choice of national versus international brand among three pairs of items (cars, beer mugs and duffle bags)	Mortality salience leads to greater choice of national brands than the control condition.
	Jonas, Fritzsche & Greenberg (2005)	1. MAPS 2. In front of funeral home	1. DP 2. three blocks away from the funeral home	None	1. Reactions of Germans towards new Euro and German Mark. 2. Preference of Germans towards German items and non-German items.	1. A mortality salience prime led to a decreased liking of the new European currency compared to a control prime and marginally increased liking of German Mark. 2. Mortality salience participants preferred German items over non-German items.
	Friese & Hofmann (2008)	MAPS	DP	None	Rating of local versus foreign brand (soft drinks and chocolate)	Relative to control conditions, MS led to more accentuated evaluative preferences and greater actual consumption for local as compared to foreign products.
	Kasser & Sheldon (2000)	MAPS	Music	None	1. Prediction of future financial worth 2. Greed	MS leads to higher financial expectations for participants, in terms of both their overall worth and the amount they spend on pleasurable items. MS participants became greedier and consumed more resources in a forest-management game.
	Mandel & Heine (1999)	FDS	Depression Scale	None	Valuing of high-status products (Rolex, Lexus)	High-status items are evaluated more favorably by individuals who are subtly reminded of their own mortality than by control subjects.
ten alis	Fransen, Fennis, Pruyn & Das (2008) –exp1	Insurance brand logo	No brand logo	None	Intention for excessive	Explicit exposure to an insurance brand increases the accessibility of death-related thoughts, which,

					spending	in turn, increases personal spending intentions.
	Rindflesch, Burroughs & Wong (2009)	FDS MAPS	DP	None	Brand connection	The fear of death encourages materialistic individuals to form strong connections with their brands.
	Choi, Kwon & Lee (2007)	Survey on fear of becoming a terrorist victim	The same survey	Self-esteem: High/Low Ego involvement in material: High/Low	Brand name consumption & compulsive consumption	People with a greater fear of becoming a terrorist victim showed a greater tendency for brand name consumption and compulsive consumption.
	Lee & Shrum (2008)	MAPS	DP	Self-esteem: High/Low	Extrinsic goal aspiration (financial success)	MS leads to stronger financial success goal orientation, especially among subjects with low self-esteem.
	Bonsu & Belk (2003)	Death of a loved one		None	Spending on the funeral	In the Asante society in Ghana, after someone dies, bereaved relatives spend outlandish amounts (the equivalent of five times their annual incomes) for ostentatious and highly competitive displays of material and social wealth in elaborate death-ritual performances.
	Christopher et al. (2006)	DPQ, high	DPQ, low	None	Materialism	Concerns about one's own death and materialism were positively related to each other. Personal insecurity partially mediated the relationship between concerns about one's own death and materialism.

Note: Abbreviations are listed in alphabetical order under the relevant column title. Blank cells mean that the information was not available in the original study. Heading abbreviations: DV=dependent variable; IV=independent variable; MS=mortality salience. Study abbreviations: exp=experiment. MS group abbreviations: DPQ=Death Perspectives Questionnaire (Spilka et al., 1997); FDS=Fear of Death Scale (Boyar, 1964); FPDS =Fear of Personal Death Survey (Florian & Kravetz, 1983); MAPS=Mortality Attitude Personality Survey (Rosenblatt, Greenberg, Solomon, Pyszczynski & Lyon, 1989), which asks participants to write one sentence about what first comes to mind when they think about their own death and about what will happen when they are literally dead.

TABLE 2

TYPE OF MORTALITY SALIENCE & PREFERENCE FOR CHOICE OPTIONS

(STUDY 1)

Preference	Type of mortality salience	Social status choice	Social experience choice	p-value (one-tailed)
Brand	MSS	4.85 (1.60)	4.03 (1.83)	$t(112)=3.02$; $p=.04$
Attitude	MSLO	3.58 (1.94)	4.43 (1.78)	$t(112)=3.41$; $p=.03$
Purchase	MSS	4.76 (1.54)	4.03 (1.67)	$t(112)=2.79$; $p=.05$
Intent	MSLO	3.66 (1.71)	4.46 (1.88)	$t(112)=3.28$; $p=.04$

Note: Numbers in the table are means (standard deviation).

TABLE 3

TYPE OF MORTALITY SALIENCE & PREFERENCE FOR CHOICE OPTIONS
(STUDY 2)

Brand	Preference	Type of mortality salience	Social status choice	Social experience choice	p-value (one-tailed)
Panasonic 3D TV	Brand Attitude	MSS	4.44 (1.78)	3.66 (1.83)	$t(190)=3.06$; $p=.04$
		MSLO	3.64 (1.87)	4.38 (1.76)	$t(190)=3.37$; $p=.03$
		Control	3.96 (1.73)	4.31 (1.83)	$t(190)=.44$; $p=.26$
	Purchase Intent	MSS	3.74 (1.42)	3.14 (1.53)	$t(190)=2.09$; $p=.08$
		MSLO	3.10 (1.47)	3.79 (1.46)	$t(190)=5.38$; $p=.01$
		Control	3.41 (1.31)	3.51 (1.48)	$t(190)=.09$; $p=.38$
iPad	Brand Attitude	MSS	4.97 (1.90)	4.06 (1.93)	$t(190)=3.91$; $p=.03$
		MSLO	3.84 (1.89)	4.82 (1.95)	$t(190)=5.19$; $p=.02$
		Control	4.44 (1.68)	4.31 (1.91)	$t(190)=.02$; $p=.45$
	Purchase Intent	MSS	4.43 (1.90)	3.61 (1.80)	$t(190)=3.18$; $p=.04$
		MSLO	3.40 (1.88)	4.16 (1.83)	$t(190)=3.10$; $p=.04$
		Control	3.80 (1.94)	4.11 (2.04)	$t(190)=.35$; $p=.28$

Note: Numbers in the table are means (standard deviation).

TABLE 4

INTERDEPENDENT SELF-CONSTRUAL & PREFERENCE FOR CHOICE OPTIONS IN
MSLO CONDITION (STUDY 3)

Brand	Interdependent self-construal	Social status choice	Social experience choice	p-value (one- tailed)
BMW	High	3.00 (1.69)	4.48 (1.55)	$t(64)=9.10, p=.002$
	Low	3.33 (1.36)	3.04 (1.38)	$t(64)=.32, p=.29$
iPad	High	2.38 (1.87)	4.37 (1.95)	$t(64)=10.74, p=.001$
	Low	2.64 (1.58)	3.21 (1.67)	$t(64)=.88, p=.18$

Note: Numbers in the table are means (standard deviation).

TABLE 5

INDEPENDENT SELF-CONSTRUAL & PREFERENCE FOR CHOICE OPTIONS
IN MSS CONDITION (STUDY 4)

Brand	Independent self-construal	Social status choice	Social experience choice	p-value (one-tailed)
Panasonic	High	4.68 (1.12)	3.71(1.34)	$t(97)=9.18, p=.002$
3DTV	Low	4.44(1.31)	4.30 (1.21)	$t(97)=.05, p=.41$
MacBook	High	5.21 (1.38)	4.10 (1.51)	$t(97)=8.1, p=.002$
Laptop	Low	4.89 (1.30)	4.60 (1.29)	$t(97)=.97, p=.16$

Note: Numbers in the table are means (standard deviation).

FIGURE 1

PROPOSED MODEL

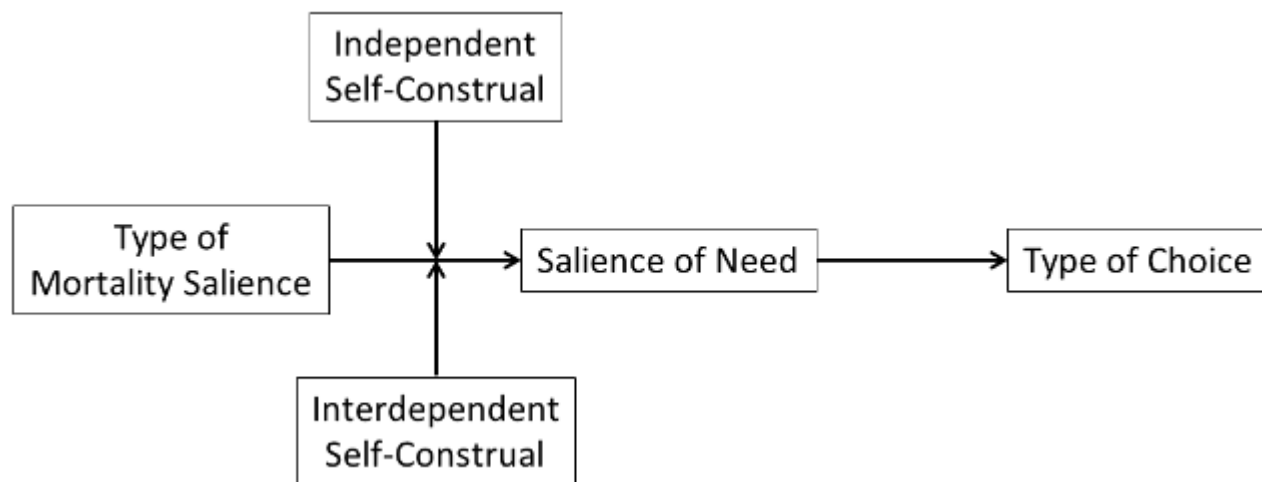
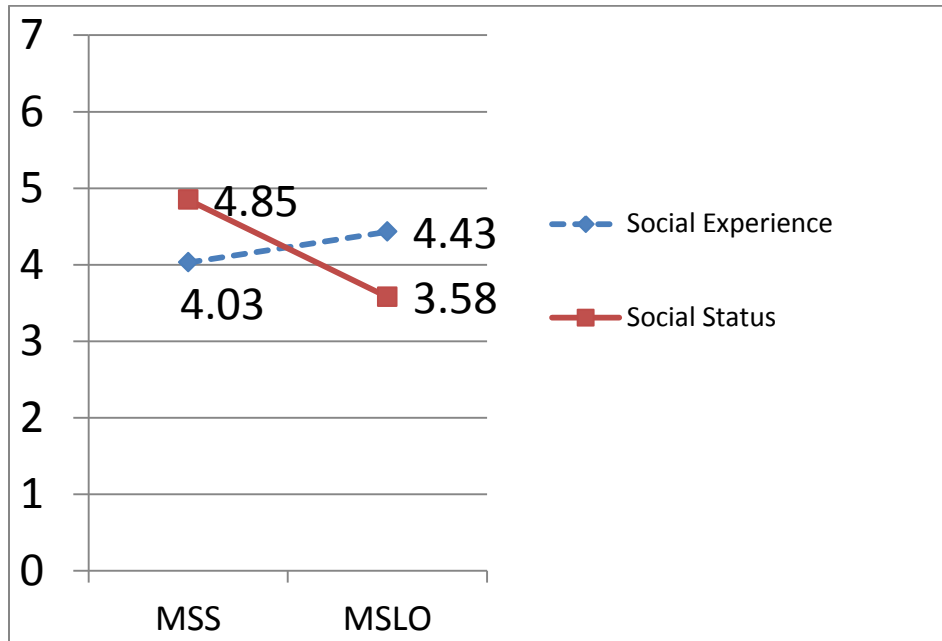


FIGURE 2

TYPE OF MORTALITY SALIENCE & TYPE OF CHOICE ON BMW (STUDY 1)

DV: Brand Attitude



DV: Purchase Intent

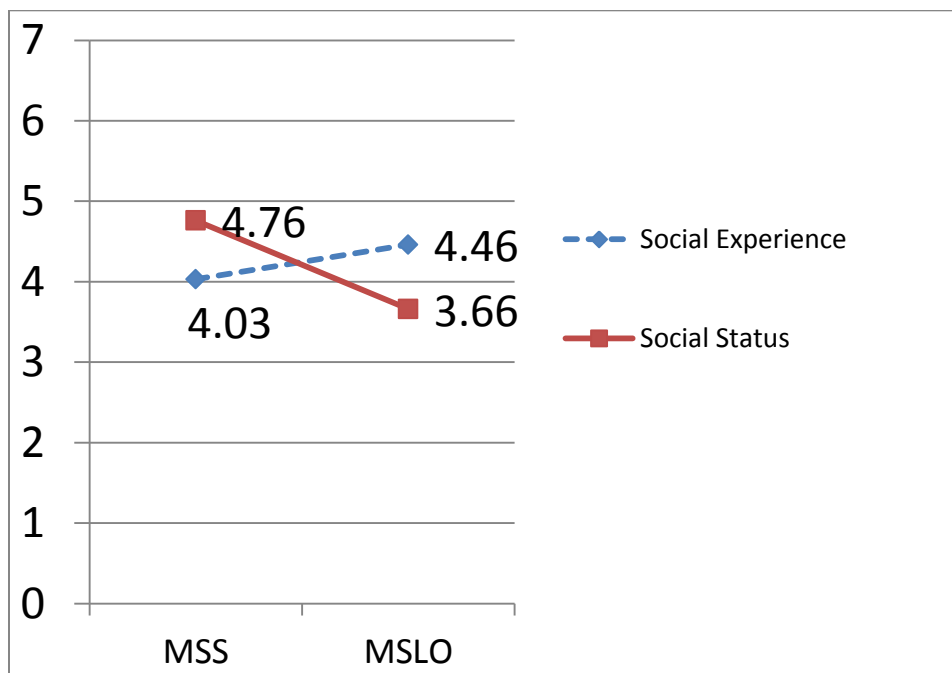
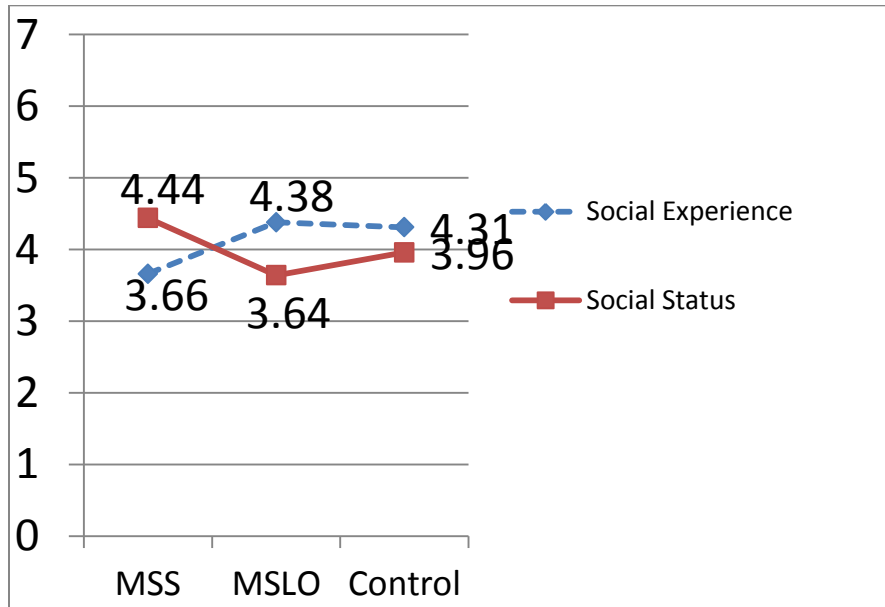


FIGURE 3

TYPE OF MORTALITY SALIENCE & TYPE OF CHOICE ON PANASONI3DTV
(STUDY 2)

DV: Brand Attitude



DV: Purchase Intent

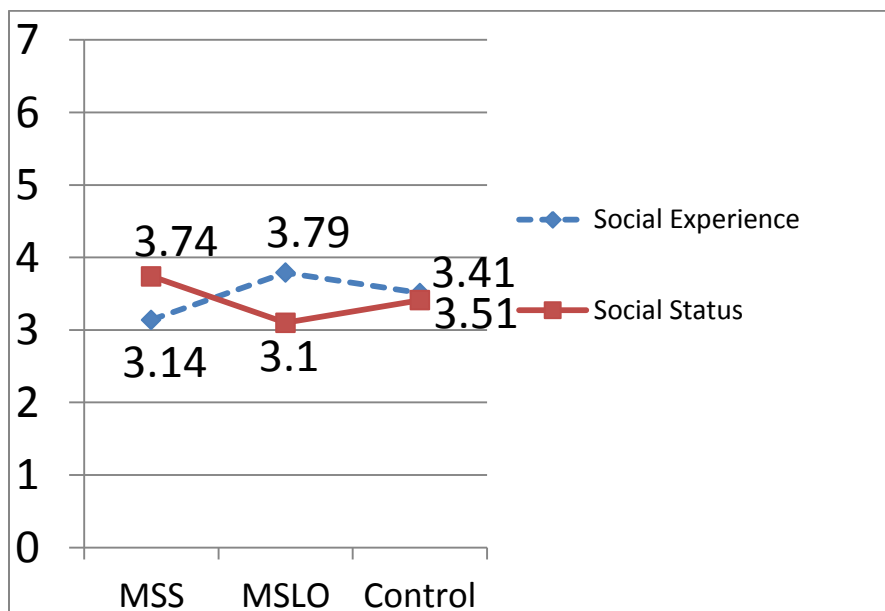
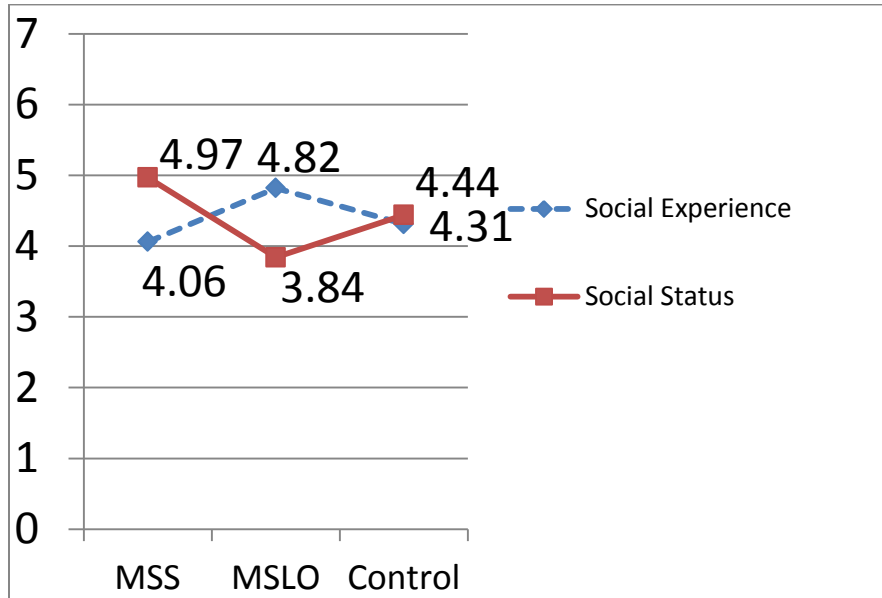


FIGURE 4

TYPE OF MORTALITY SALIENCE & TYPE OF CHOICE ON IPAD (STUDY 2)

DV: Brand Attitude



DV: Purchase Intent

