School of Professional Education
and Executive Development
專業進修學院

**SPEED**

**H**ONG **K**ONG
**C**OMMUNITY **C**OLLEGE
香港專上學院

| | |
|---|---|
| Title | Masculine or feminine: an experimental study of mortality salience effects on gender-stereotyped product evaluation |
| Author(s) | Kwok Way Leung |
| Issue Date | 2018 |
| Issue Number | 6 |
| Paper Number | 2 |
| Citation | Leung, K. W. (2018). *Masculine or feminine: an experimental study of mortality salience effects on gender-stereotyped product evaluation* (Working Paper Series No. 2, Issue 6, 2018). Hong Kong: The Hong Kong Polytechnic University, College of Professional and Continuing Education, Hong Kong Community College. Retrieved Aug 27, 2018 from http://weblib.cpce-polyu.edu.hk/apps/wps/assets/pdf/w20180602.pdf |
| Rights | Copyright for this paper is owned by the author(s). |

# Masculine or Feminine: An Experimental Study of Mortality Salience Effects on Gender-stereotyped Product Evaluation

**Kwok Way LEUNG**
Hong Kong Community College
College of Professional & Continuing Education
The Hong Kong Polytechnic University
Kowloon, Hong Kong
ccwleung@hkcc-polyu.edu.hk

**ABSTRACT**

Marketers are increasingly applying gender stereotypes to brands and products. From the perspective of terror management theory, reminders of mortality should increase stereotypic thinking to protect people against death-related concerns. For marketing researchers and practitioners, it is an important question whether death anxiety will trigger similar mechanism in consumer behaviour. Through three experimental studies, this paper seeks to investigate the impact of mortality salience on perception, evaluation, and purchase intention of gender-stereotyped products. It will be shown that once consumers' mortality was made salient, they believed that products perceived to be feminine were less competent and thus liked them less. However, respondents' locus of control rather than their gender influenced the mortality salience effect. Practical and theoretical implications are discussed.

**KEYWORDS:** Gender stereotypes, Product gender, Terror management, Mortality salience, Locus of control

# 1    INTRODUCTION

It has already been shown that individuals form strong connections to the gender stereotype of their products as a means of buffering existential insecurity that often accompanies with the awareness of one's mortality (Becker, 1973). No previous research has examined the effects of gender stereotypes on product perception in a situation involving mortality salience on brand perception and the subsequent influence on consumer purchase intention. The current research seeks to fill this gap by examining the influence of death anxiety on consumer attitudes toward gender-stereotyped products. Addressing a gap in the literature, the current study investigates the mediating role played by the product's perceived competence in a situational product-gender stereotypical judgment (masculine versus feminine) —given that bolstering self-esteem can help serve as a buffer against existential anxiety.

# 2    SELF-CONCEPT IN CONSUMPTION

Objects serve as a security blanket to reinforce one's identity. Most of us are attached to an object to the extent that we rely on it to maintain our self-concept. This self-concept is strongly connected to a sense of competence and self-esteem. When people are striving for their self-enhancement (Grubb & Grathwohl, 1967), it is a self-system imbued with conflict between the id and superego in the eyes of a psychoanalyst, or it can be seen through a cognitive approach as an outcome of information processing about the self. The self-concept is learned and evolves over time to protect and enhance one's ego. It can shift rapidly in response to every specific social situation.

Faced with the intensifying "existential tremors" (Bauman, 2007), many people today find that our traditional symbols and touchstones of immortality such as family and religion are rapidly losing their influence. Researchers of terror management theory revealed that people seek to buffer death anxiety by conforming to dominant cultural worldviews in our materialistic cultures through the possession of material objects (Arndt et al, 2004). In the area of consumer behaviour, researchers have explored the relevance of self-concept for privately versus socially consumed products (Dolich, 1969; Grubb & Hubb, 1968; Ross, 1971). With the different contexts of private or social consumption, there is a lack of clear conclusion as to whether product conspicuousness would have an effect on self-congruence with brand image, but Solomon (2006) and Hawkins et al. (2007) later concluded that brand images of socially expressive products would match with ideal self, and those of less socially expressive products are expected to match more with actual self. In addition to product use, the situational social context occurs with different "others" on different types of occasions. The multiple selves coexist in our memory, and a specific self will become more salient when activated by a particular social context (Jamal & Chapman, 2000). Consumers relate to their favourite brands as their friends (Fournier, 1998), and an extension of their selves (Belk, 1988). The theory of working self-concept is prompted by extensive research over the multidimensionality of the self-concept. The theory of working self-concept suggests that not every self-representation or identity in the total set of self-concept will be accessible at the same moment (Markus & Wurf, 1987). Depending on the social input from the environment and subject to the individual's affective or motivational state at the moment, some self-conceptions are "chronically accessible" whilst others have lesser accessibility (Higgins et al., 1982). Markus and Wurf (1987) describe the working self-concept as "a temporary structure consisting of elements from the collection of self-conceptions, organized in a configuration determined by ongoing social events" (Markus & Wurf, 1987).

The self-concept does not only reflect behaviour, but rather mediates and regulates behaviour by the active concept, which is the subset of chronic self-concept (Wheeler, Demarree, & Petty, 2007). The active-self is composed of temporary self-representations in working memory activated by external inputs such as primed construct through biased

retrieval of social information. As an organizing framework, the active-self account postulates that prime-to-behaviour effects are the results of priming effects on the self-concept, and that behaviour follows the self-concept (Wheeler et al., 2007).

## 3 ANTHROPOMORPHISM IN BRANDS AND PRODUCTS

People tend to apply human attributes and intentions to products and brands (Belk, 1988; Plummer, 1985). Consumers identify with the anthropomorphic qualities of the brand based on the congruity of self-concept and brand image (Puzakova et al., 2009). Anthropomorphism involves projecting human traits, motivations, intentions, or emotions onto the real or imagined behaviour of nonhuman entities (Brown, 2010; Epley, Waytz, & Cacioppo, 2007). Visual personification when embedded in an ad leads to more positive affect, more positive perceptions of brand personality, and greater brand evaluation (Delbaere, McQuarrie, & Phillips, 2011).

Although researchers have mostly focused on the anthropomorphized brands, product anthropomorphism has also been examined. The ease of consumers to anthropomorphize a product depends on the presence of human-like product features and consumers' perception of the product as human mediates the influence of feature type on product evaluation (Aggarwal & McGill, 2007). Kim and McGill's work (2011) allows for two distinct forms of anthropomorphism: one form of anthropomorphism relies on using the human schema to communicate nonhuman characteristics while another form of anthropomorphism goes beyond the surface similarities to attribute humanlike mental states to nonhuman objects which are seen as "really" human.

A long list of different marketing variables has been put forward to associate with brand personality (Aaker, 1997; Batra, Lehmann, & Singh, 1993; Keller, 1993; McCracken, 1993; Plummer, 1984). Consumers form relationships with products when consumers perceive personified products in a multi-dimensional construct (Aaker, 1997; Aggarwal & McGill, 2007; Fournier, 1998). Each of these dimensions encompasses human attributes which can be demographic such as age, gender, ethnicity, and socioeconomic status; or they can represent lifestyle features such as activities, interest, and opinions, or personality traits such as warmth, sincerity, competence, trustworthiness, and ruggedness (Aaker, 1997).

According to the Stereotype Content Model, warmth and competence are regarded as the two fundamental dimensions of perception of brand personality. Brands are considered to be warm when they are perceived to be helpful, generous, kind, sincere, thoughtful, and trustworthy; while brands are regarded as competent when they are seen as intelligent, skilful, effective, and competitive (Aaker, 1997). In a recently proposed Brands as Intentional Agents Framework, intentions (warmth) and ability (competence) are singled out to be two important dimensions underlying people's interaction with brands, just as they are for interactions with other people, with stereotypes, and in social groups (Fiske, 2012). A recent study has further examined the impact of warmth and competence on admiration, and in turn on purchase intent (Aaker, Garbinsky, & Vohs, 2012). It opened a new pathway to focus on emotion as an important mediator from perception to behaviour. Along these lines, three dimensions of favourability, clarity, and originality have been proposed for the perceived appeal of brand personality (Freling, Crosno, & Henard, 2011), which has a direct impact on consumer purchase intentions.

### 3.1 Product gender and gendered product

"Does a product have gender?" This question was answered affirmatively by Bem (1974), Iyer and Debevec (1986), Milner et al. (1990), and Milner and Fodness (1996), who all found that most products have gender, and even services have gender too (Stern et al., 1993). Many products have either a masculine or feminine identity. This perception allows

consumers to perceive information related to goods and services using the human traits of masculinity and femininity to help organize their product information. The stereotypical roles set for both genders are reflected in brands. Grohmann's (2009) scale measures gender dimensions of brand personality. Brands are typically categorized in different gender buckets. Some are strictly male or female brands. Some are gender-neutral and others are cross-gender brands. In other words, brands can be gender-specific, genderless, or gender-transcendent. Gender-specific brands are targeted to a male or female audience without any crossover. Unilever promoted feminine gentleness in the Dove Campaign for Real Beauty in 2004, while masculine strength is evident in almost all Harley Davidson commercials featuring an image of older overweight bearded men riding a loud Harley.

Consumer perception and judgment of brands and products are influenced by gender stereotypes (Alreck, Settle, & Belch, 1982). A product's gender image is related to the gender of its most likely user (Alreck, 1994). Those contributions to the literature confirm a consumer's need to communicate masculinity and femininity through their brand choices (Dolich, 1969), which become part of their self-concept. As one component of consumers' self-concept (Freimuth & Hornstein, 1982), when consumers make a brand choice for self-expression, they draw on gender traits associated with a brand to enhance their masculinity or femininity (Fournier, 1998; Sirgy, 1982). There is a positive relationship between a consumer's affect, attitude, and behavior responses and similarity between the brand and consumer gender. Milner and Fodness (1996) find that, to maintain gender-image congruency, consumers in the United State, Turkey, and Greece purchase products with gender identities consistent with their own. Studies established that gender stereotypes affect consumers' perception and judgment of products and brands (Alreck, Settle, & Belch, 1982). Therefore, there are many brands of consumer goods associated with gender identities (Allison, Golden, Mullet, & Coogan, 1979; Alreck, Settle, & Belch, 1982; McCracken, 1993). Marketers are increasingly applying product gender stereotypes to new product development. Positioning strategies are often designed to associate either masculine or feminine attributes with those brands. Gendered brands are not only popular in fashion and beauty industries but also in product lines with symbolic value such as tobacco and toys.

### 3.2   Mortality Salience on Gender Stereotyping

Terror management theory states humans have an unconscious existential anxiety arising from awareness of morality. Since death is inevitable regardless of our actions, its threat will arouse various defensive behaviours in us. They managed their fear of death by boosting their self-esteem and defending their worldviews (Pyszczynski, Solomon, & Greenberg, 2003). In order to bolster faith in a cultural worldview, people tend to hold a positive attitude toward groups upholding cultural values and a negative attitude toward groups violating cultural values (Rosenblatt et al., 1989). Stereotypes provide an orderly and stable conception of reality, and by doing so they are a part of people's cultural worldviews that offer protection from existential fear (Schimel et al., 1999). By viewing groups stereotypically and preferring stereotype-consistent individuals over stereotype-inconsistent individuals, people confirm the validity of their cultural worldviews, thereby strengthening their effectiveness as buffers against existential angst. Mortality salience is also associated with increased evaluations of and preferences for male leaders and decreased evaluations of and preferences for female leaders as a result of the gender-leader stereotype which has two components: 1) agentic gender traits are associated with leadership and 2) agentic gender traits are associated with men and are not associated with women (Eagly & Karau, 2002).

People are constantly exposed to incidental reminders of death (Pyszczynski et al., 1996) which is extensively displayed in modern mass media. In the entertainment media, death scenes are customary in war movies and detective TV series. In the news media, electronic media bring tragic events into our homes from every corner of the world (Hanusch, 2010). It would be intriguing to speculate and explore if and how different consumer

behaviours are triggered by one's awareness of death. Thus far, consumer behaviour research has not directly investigated the effect of mortality salience on consumers' attitude toward gender-stereotyped products. As a result, it remains largely unknown whether or not common gender stereotypes applied to consumer products can be triggered by priming mortality salience.

## 4    HYPOTHESES

According to terror management theory developed by Greenberg, Pyszczynski, and Solomon (1986), people use self-esteem as a means of coping with death anxiety. One way to bolster self-esteem is to connect oneself to products that can symbolize competence. Consumers' perceptions of masculine and feminine products differ in their different associations to warmth and competence. Masculinity is believed to be closely related to competence while femininity is closely related to warmth (Bakan 1966; Fiske, Cuddy, and Glick 2007; Judd, James-Hawkins, Yzerbyt, and Kashima 2005). Past research has shown that designing a product with gender-specific cues such as colors of blue and pink can influence perception of the product along the warmth and competence dimensions (Aaker, Garbinsky, and Vohs 2012) and, consequently, impact the product evaluation (Bennett & Hill, 2012). It is posited that mortality salience may lead consumers to prefer masculine products over feminine products, in order to better cope with death-related anxiety. Stated more formally:

H1: Mortality salience will lead to individuals to prefer masculine-designed products over feminine-designed products.

The hypothesized preference for masculine over feminine products among consumers primed with mortality salience leaves a significant question unresolved: whether mortality salience is triggering a more positive evaluation of a masculine product to gain positive outcomes, or whether mortality salience primarily leads to a more negative evaluation of the feminine product to avoid potential negative consequences. When confronted with death anxiety together with product choice, it is predicted that individuals would be more risk-averse and thus avoid a product with a potentially negative outcome rather than acquire a product with a predicted positive outcome. This motivation would result in a negative evaluation of a feminine product rather than a positive evaluation of a masculine product. Stated more formally:

H2: When mortality is made salient, consumers will have a less favourable attitude toward feminine-designed products. This effect will be mediated by the perceived competence of the product.

Individual differences in locus of control have been shown to moderate terror management processes. If externals believe that the mystery of death is outside their control, your life does not depend on your competence or perceptions of competence and control. Product usage as a coping strategy will not be effective since it won't change the inexplicable nature of death. Thus the effect of mortality salience on consumer attitude toward gender-stereotyped products is predicted to be weak or insignificant for consumers who believed in an external locus of control. Stated more formally:

H3: The effect of mortality salience on consumers' attitude toward feminine-designed products will be sustained if consumers are primed with an internal locus of control, but will be weak or insignificant if consumers are primed with an external locus of control.

## 5    RESEARCH METHODOLOGY

### 5.1    Pretest

A pretest was conducted in two different sessions of 30 minutes each to select two product categories, one for hedonic products and one for utilitarian products, both of which can be used by both male and female consumers and convey a believable, appropriate, gender-neutral product image (Grohmann, 2009).

First, taking into consideration the technical feasibility, the popularity among the student population, and actual existence of both masculine and feminine brands in the product category, thirty-five product categories were identified. The list of products and services (see Appendix A) was modified based on previous product gender research (Milner & Fodness, 1996). Some products were eliminated from the original study based on several criteria. One was to avoid product repetition or similarity, and another was to take away luxury products as well as or those which are less socially acceptable items such as cigarettes. The aim was to promote the relevance of products to respondents and to avoid boring them during the long classifying process.

Meanwhile, several product variations are included to determine if gender is a generalized construct regardless of a product's instrumental benefit (examples: pain reliever, stomach medicine, toilet paper, and facial tissue). Most research findings (Iyer & Debevec, 1986a; Milner & Fodness, 1993; Milner et al., 1990) conclude that products are mostly seen as masculine or feminine rather than androgynous or undifferentiated. Following this tradition of evaluating products for gender association, thirteen undergraduates (six males and seven females) voluntarily took part in the pretest to determine the product gender stereotype associated with the thirty-five product categories. Respondents were year-one, business students from Hong Kong Community College.

Each product category was evaluated in terms of masculinity/femininity (on a 7-point scale from 1 = Very feminine, to 7 = Very masculine) to select a utilitarian and a hedonic product category (Friedman & Friedman, 1979). A hedonic product is meant to provide emotional and self-expressive values. A consumer purchases a hedonic product to promote self-image and satisfy desire. A consumer does not purchase an expensive backpack just to serve the basic function of storage. Instead, he/she purchases it to maintain or improve her image as perceived by others. Conversely, purchase of a utilitarian product will not bring along much social and psychological value because it is meant to satisfy the basic function of the product. For example, a consumer would judge toothpaste primarily in terms of how well it cleans teeth and prevents cavities, being more concerned with the product's effectiveness than whether it improves his/her image.

Based on the pretest results, toothpaste was selected to represent the utilitarian product and backpack was selected to represent the hedonic product, because the two product categories carry similar and neutral gender association for both males and females. Services were removed from the study at this stage since this research is primarily concerned with the tangible cues related to presentation of gender, such as package design and brand name. Services could prove to be a fruitful later investigation in terms of gender associations, but complicating factors include the less tangible nature of a service as compared to a product and the consumer's involvement with a service provider.

### 5.2    Experiment 1

A total of 103 participants (62 men, Mage = 36.16) from the United States were recruited via Amazon's Mechanical Turk in one week's time. Participants received a small monetary reward, and were randomly assigned to a mortality-salient or a control condition in a between-subjects design.

The first task of the study was described as a personality survey and consisted of a few filler questionnaires followed by the mortality salience manipulation. The latter utilized the same open-ended questions that have been used in numerous prior experiments (e.g. Solomon, Greenberg, & Pyszczynski, 1991). After the mortality salience manipulation and control condition, participants completed the 20-item Positive and Negative Affect Scale (PANAS) designed to measure participants' self-perceived feelings and emotions.

Following the PANAS questionnaire, participants were presented simultaneously with two purported package designs for the same toothpaste product, shown side by side (see Picture 1). The gender stereotype of the product design was manipulated through use of two gender-specific colors: blue in design A and pink in design B. The two package designs, apart from the color difference, are identical in other elements. After viewing the two designs, participants reported their relative preference between these two on three 8-point scales.



| Design A | Design B |

**Picture 1** Paired Gendered Product Designs (Masculine versus Feminine)

A within-subject analysis of variance (ANOVA) revealed that participants believed that the blue design A was more masculine (M = 4.91, SD = .95) than the pink design B (M = 2.29; SD = 1.02, F (1, 102) = 237.5, p = .000). Moreover, t-tests comparing cell means to the mid-point of the scale confirmed that the blue design A was considered masculine (t (102) = 9.8, p < .001); and the pink design B was considered feminine (t (102) = -16.9, p < .001).

As expected, participants in the mortality salience condition indicated a stronger preference toward masculine design A (M = 2.69, SD = 1.87) than did those in the control condition (M = 3.55, SD = 2.18, F (1, 101) = 4.51, p = .036). (Figure 1)
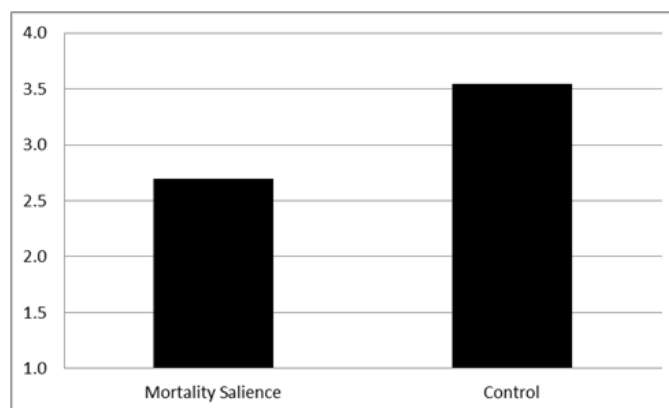


**Figure 1** Effect of Mortality Salience on Choice of Gender-Stereotyped Products

A between-subjects analysis of variance (ANOVA) was conducted on the two subscales of the PANAS. The analyses did not reveal any significant effects on either the

positive affect subscales (F (1,101) =1.73, p = .191) or negative affect subscales (F (1,101) = .002, p = .966). This result is consistent with most other TMT research (e.g. Pyszczynski et al., 1996) at large, finding that the mortality salience manipulation has no effect on self-reported mood. Experiment 1 confirmed the basic hypothesis (H1), which predicted that consumers with their mortality made salient would prefer a feminine product less than a masculine product. This effect is not caused by a negative mood from thinking about one's death, and is not influenced by demographic variables such as gender and age.

## 5.3 Experiment 2

One hundred forty-five undergraduate students from The Hong Kong Polytechnic University participated in the experiment for a fast-food restaurant coupon in five days. Participants were randomly assigned to one of two conditions in a 2 (priming: mortality salience vs. control) x 2 (product gender stereotype: masculine vs. feminine) between-subjects design.

The same mortality salience manipulation tasks were conducted. In contrast to Experiment 1 in which all participants were presented with two toothpaste pictures simultaneously, each participant in Experiment 2 was shown only one of the two pictures. Then participants were asked to indicate their impression of this toothpaste on three 7-point scales. Then participants were asked to indicate their feelings about the warmth and competence of the product (Aaker, Vohs, & Mogilner, 2010), all on 7-point scales. A 2 x 2 ANOVA revealed a significant interaction effect between gender stereotype and mortality salience (F (1, 141) = 4.31, p = .040). Planned comparisons showed that participants in the mortality salience condition had a lower evaluation of the feminine toothpaste (M = 3.39, SD = 1.02) than did their peers in the control condition (M = 4.33, SD = 1.42, F (1, 141) = 8.73, p = .004). This effect, however, was not present for the masculine toothpaste (M = 4.0, SD = 1.20 vs. M = 4.0, SD = 1.46, respectively, F (1, 141) = .000, p = .982). (Figure 2)
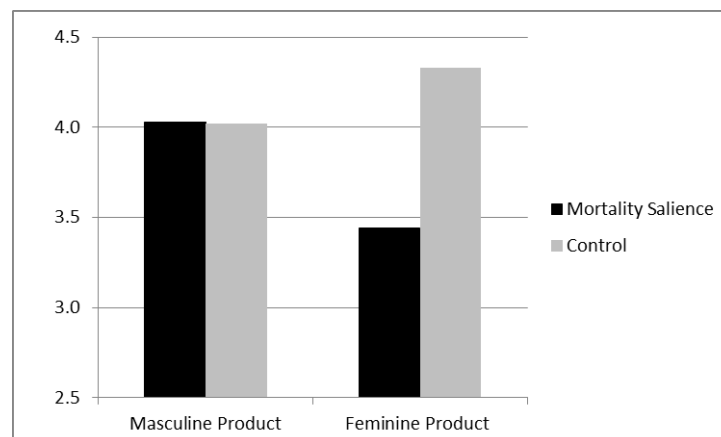


**Figure 2** Effect of Mortality Salience on Evaluation of Gender-Stereotyped Products

Consistent with expectations, a 2 x 2 ANOVA revealed a marginally significant interaction effect between gender stereotype and mortality salience on perceived product competence (F (1, 141) = 3.78, p = .054). Planned comparisons showed that participants in the mortality salience condition believed the feminine toothpaste was less competent (M = 2.93, SD = .97), compared to their peers in the control condition (M = 3.44, SD = .96, F (1, 141) = 4.52, p = .035). The perceived competence of the masculine toothpaste, however, did not differ across mortality salience and control conditions (M = 3.69, SD = .97 vs. M = 3.54, SD = 1.20, respectively, F (1, 141) = .416, p = .520). In addition, a 2 x 2 ANOVA revealed no significant interaction effect between gender stereotype and mortality salience on perceived product warmth (F (1, 141) = 1.44, p = .233).

The potential mediating role of perceived product competence was further tested with regression analyses. For the feminine toothpaste, mortality salience significantly influenced product evaluation ($\beta$ = .89, p = .003). Mortality salience also significantly influenced perceived competence of the feminine product ($\beta$ = .51, p = .027). When both mortality salience and perceived competence were used as predictors, the effect of mortality salience on product evaluation became insignificant ($\beta$ = .47, p = .051), whereas the effect of perceived competence remained significant ($\beta$ = .82, p = .000). The conclusion that perceived competence mediated the effect of mortality salience on the evaluation of the feminine product was further supported by a bootstrapping test (with 5000 bootstrapping resamples, 95% CI = .07 to .82). A between-subjects analysis of variance (ANOVA) was conducted on the two subscales of the PANAS. The analyses did not reveal any significant effects on either the positive (F (1,143) = .059, p = .808) or negative affect subscales (F (1,143) = 1.37, p = .243). The mortality salience manipulation in this experiment did not influence participants' mood. Experiment 2 confirmed H2: The effect of mortality salience on attitudes toward a gender-stereotyped product was mediated by perceptions of the product's competence. While the competence of feminine products was questioned after activation of death-related thoughts, the perceived competence of masculine products seemed intact.

## 5.4   Experiment 3

The results of Experiment 1 and 2 suggest that priming people with mortality salience decreased their evaluation of products perceived to be feminine, and this effect was mediated by perceived competence of the product. Experiment 3 was designed to test H3 by determining whether this effect is moderated by consumers' locus of control.

A total of 197 participants (111 men, Mage = 33.90) from the United States were recruited via Amazon's Mechanical Turk in two weeks' time. Respondents participated for a small monetary reward and were randomly assigned to conditions of a 2 (priming: mortality salience vs. control) x 2 (locus of control: internal vs. external) between–subject factorial design. The same mortality salience manipulation was conducted as in previous experiments. Then, participants' locus of control was primed. In the internal-control condition, participants were asked to write down the most important individual causes for three issues: poverty, drug abuse, and violence; in the external-control condition, participants were asked to write down the most important social causes for the same three issues (Kong & Shen, 2011). Since this locus-of-control manipulation served as a filler task between the mortality salience manipulation and dependent variables, no PANAS scores were collected in this study.

**Picture 2** Feminine-designed backpack

Participants then took part in a purported new product evaluation task in which they judged a backpack based on its picture. The backpack shown in this experiment is a feminine-

designed backpack with a pink-red colour theme (Picture 2). Participants evaluated this backpack on three 7-point scales. They also indicated their intention to purchase this backpack and their willingness to pay for it in US dollars. A 2 x 2 ANOVA revealed a significant interaction effect between locus of control and mortality salience (F (1, 193) = 7.02, p = .009). Planned comparisons showed that in the internal-control condition, mortality salience participants had a lower evaluation of the feminine backpack (M = 3.6, SD = 1.50) than did their control peers (M = 4.4, SD = 1.46, F (1, 193) = 6.09, p = .014). This effect, however, was not present in the external control condition (M = 4.3, SD = 1.73 vs. M = 3.9, SD = 1.57, respectively, F (1, 193) = 1.61, p = .206). (Figure 3)
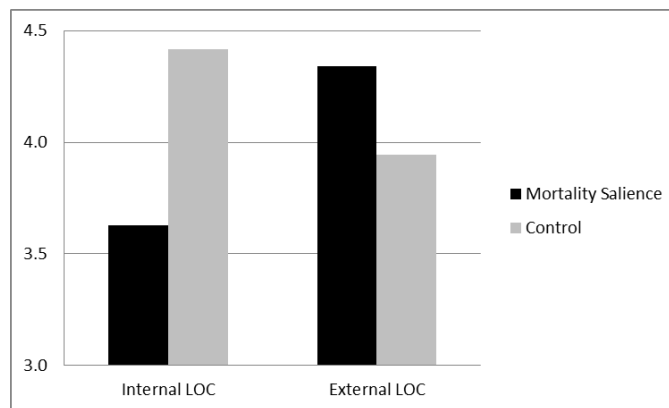


**Figure 3** Interactive Effect of Mortality Salience and Locus of Control on Product Evaluation

A similar data pattern was found for participants' purchase intention. A 2 x 2 ANOVA revealed a significant interaction effect between locus of control and mortality salience (F (1, 193) = 3.91, p = .050; see Figure 4). Planned comparisons showed that in the internal control condition, mortality salience participants had a lower purchase intention for the feminine backpack (M = 2.22, SD = 1.49) than did their control peers (M = 2.94, SD = 1.54, F (1, 193) = 4.94, p = .027). This effect, however, was not present in the external control condition (M = 2.56 SD = 1.73 vs. M = 2.38 SD = 1.60, respectively, F (1, 193) = .312, p = .577). (Figure 4)
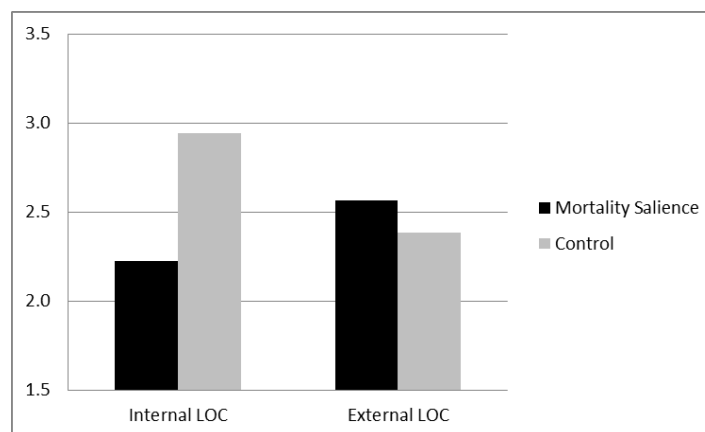


**Figure 4** Interactive Effect of Mortality Salience and Locus of Control on Purchase Intent

The willingness-to-pay data showed a similar pattern. A 2 x 2 ANOVA revealed a significant interaction effect between locus of control and mortality salience (F (1, 193) = 5.66, p = .018). Planned comparisons showed that in the internal control condition, mortality salience participants were not willing to pay as much for the feminine-designed backpack (M = $12.7, SD = 9.83) than were their control peers (M = $21.2, SD = 10.40, F (1, 193) = 11.6,

p = .001). This effect, however, was not present in the external control condition (M = $17.5, SD = 15.6 vs. M = $17.7, SD = 12.5, respectively, F (1, 193) = .005, p = .941). (Figure 5)
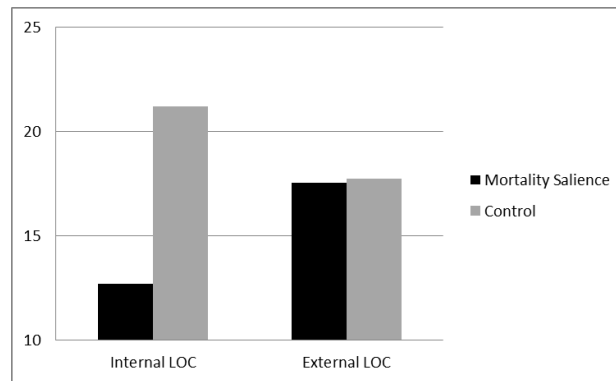


**Figure 5** Interactive Effect of Mortality Salience and Locus of Control on Willingness to Pay

Results of this experiment supported H3 by showing that consumers' locus of control moderated the effect of mortality salience on their attitude toward feminine-designed products. When consumers were made aware of mortality, the dislike of feminine-designed products was due to the lower perceived competence of those products, and this concern was alleviated if consumers believed that death was more likely to be caused by external reasons and human beings can do nothing about it. In other words, when death is exogenous and inevitable, the competence one possesses cannot help the individual to overcome death. By shifting from a utilitarian product (tooth paste) to a hedonic product (backpack) as the experimental stimuli, further support to the external validity of the observed effect is provided.

## 6    CONCLUSION

Results of our three experiments showed that when mortality was made salient, consumers had a lower evaluation of feminine products. This effect was found to be mediated by the perceived competence of the product, and moderated by consumers' locus of control. The current research contributes to the marketing literature by documenting consumers' attitude toward gender-stereotyped products as a novel marketing consequence of mortality salience. Although mortality salience has been intensively investigated in the social psychology literature (e.g., Greenberg et al. 1986; Solomon et al. 1991), its role in consumption-related context is still largely unknown. Following Arndt and colleagues (2004)'s call for further investigation of mortality salience in consumer psychology, this paper looked at its impact on consumers' attitude toward gender-stereotyped products. Hopefully this research will stimulate and contribute to a deeper understanding of implications of mortality salience in the marketing domain.

Findings of this paper also have implications for the understanding of product gender stereotype. The work adds to recent research on product anthropomorphism (e.g., Aggarwal and McGill 2007, 2012; Kim and McGill 2011) and gender stereotype (e.g., Grohmann 2009; Iyer and Debevec 1986; Milner and Fodness 1996), and demonstrates that not only products can be seen as humans; they can also possess gender-related characteristics. Consistent with gender-specific human characteristics (e.g. Fiske et al. 2007; Judd et al. 2005), masculine products are also perceived as more competent but less warm than feminine products. These gender-specific stereotypes, once activated, have profound impacts on consumers' judgment and purchase of products. The current research provides the first demonstration that consumer attitude toward gender-stereotyped products can be influenced by psychological factors such

as mortality salience. Clearly more research is needed to explore this and other types of product stereotypes and corresponding product perceptions in the marketing context.

To manipulate product gender perception, the current study employed mainly color (e.g., blue vs. pink) as cues to differentiate masculine versus feminine products. Other gender cues (such as brand names, fonts, languages, spokespersons; see Grohmann 2009) are available and can be included in future research to test the generalizability of the effect. In addition, the focus of the current study is on the effects of mortality salience on evaluation of gender-stereotyped products with the conceptual scope in terror management theory. The underlying mechanism, however, has yet to be fully revealed. Though perceived competence is tested to be a mediator for the impact of mortality salience, the role of warmth should be further tested as a parallel mechanism for the role of feminine products in other product categories or service domains such as hospitality or non-profit organizations.

The present study offers marketing practitioners supporting evidence that consumer acts can be irrational, and their decisions are largely driven by the unconscious processing of the external environment. The finding that incidental exposure to death reminders has subconscious influences on consumer choices may carry some practical marketing implications. As marketers are increasingly applying product gender stereotypes to new product development, however, the broad array of incidental influences on consumer consciousness may interfere with the setting and implementing of product-gendering strategies.

Practical implications of the findings for both product designers and marketers are worth noting. Although companies have come to realize the importance of a product's appearance, the shape or color of products is often designed based on pure aesthetic or ergonomic criteria. The findings suggest that this design approach may not be optimal. In fact, the appearance of a product should be designed in a way that can strategically match the consumer's belief about (or need for) the product's function. For example, in contexts when mortality-related thought is likely to be activated, as shown in the current research, building a more masculine impression for the product (e.g. using colors, shapes, and other product characteristics which may symbolize masculinity) in consumers' mind may potentially benefit the company more.

Investigations of the combined influence of mortality salience with product gender perception on consumer decisions can suggest some practical tips in the retail context too. During a death-themed festival like Halloween, would brands with masculine logos and colors appeal more to consumers? Could companies generate better results in promoting feminine products by distancing them from death-related electronic games or symbols such as skeletons?

The current study provides some preliminary insights for a media strategy of media context and content. Any subtle changes in the media context can drastically shape consumer choice and decisions beyond their conscious awareness. A media context triggering the audience's mortality salience would sometimes be detrimental to an ad's effectiveness for products perceived as feminine. Since fictional cinematic scenes about dying can elicit mortality salience or otherwise engage the viewer with reminders of death, it is expected that death-theme television programs will reduce the appeal of products perceived to be feminine, so this is not a good placement for ads attempting to convey femininity.

**Appendix A**

Product Category Pretest Result (from 1 = *Very feminine* to 7 = *Very masculine*)

|  | With Definition | | Without Definition | |
|---|---|---|---|---|
|  | Male | Female | Male | Female |
| Hotels | 4.67 | 3.67 | 3.60 | 4.14 |
| Cosmetics | 3.00 | 1.83 | 2.40 | 2.29 |
| Toothpaste | 4.00 | 4.00 | 3.80 | 4.00 |
| Language School | 4.50 | 3.83 | 3.80 | 3.71 |
| Athletic Shoes | 5.50 | 5.00 | 5.00 | 5.00 |
| Juice | 3.83 | 2.17 | 4.00 | 3.86 |
| Bank | 4.67 | 4.50 | 4.40 | 4.43 |
| Computer | 4.83 | 5.50 | 4.80 | 5.00 |
| Jeans | 4.33 | 4.30 | 4.40 | 4.40 |
| Petrol Station | 5.67 | 5.83 | 5.20 | 5.00 |
| Sports Drink | 5.00 | 5.50 | 4.80 | 4.86 |
| Furniture | 4.67 | 3.67 | 4.20 | 3.71 |
| Hospital | 4.00 | 4.33 | 4.00 | 4.00 |
| Facial Tissue | 2.83 | 3.00 | 3.20 | 3.42 |
| Television | 4.5 | 3.83 | 4.00 | 4.00 |
| Laundry Shop | 3.17 | 3.50 | 3.40 | 3.43 |
| Airlines | 3.83 | 4.17 | 3.60 | 4.14 |
| Vodka | 4.83 | 5.00 | 5.60 | 4.71 |

| | | | | |
|---|---|---|---|---|
| Credit Card | 4.00 | 3.67 | 3.80 | 4.14 |
| Bottled Water | 4.17 | 3.67 | 4.40 | 4.29 |
| Ice Cream | 3.67 | 2.50 | 3.20 | 2.86 |
| Shopping Mall | 3.83 | 2.83 | 3.20 | 3.57 |
| Handbag | 2.00 | 2.00 | 2.40 | 2.29 |
| Toilet Paper | 3.67 | 3.67 | 3.80 | 3.14 |
| Beer | 5.00 | 5.00 | 5.00 | 5.00 |
| Fast Food Shop | 5.00 | 4.33 | 4.80 | 4.14 |
| Eyewear | 4.17 | 4.33 | 4.60 | 4.57 |
| Soap | 4.17 | 3.33 | 4.20 | 4.29 |
| Sunglass | 4.50 | 4.17 | 4.00 | 4.29 |
| Convenience Stores | 4.00 | 4.17 | 4.00 | 4.00 |
| Bottled Tea | 4.00 | 4.17 | 4.00 | 3.86 |
| Back Pack | 4.67 | 5.00 | 5.20 | 4.86 |
| University | 4.33 | 4.17 | 4.00 | 4.00 |
| Shampoo | 3.67 | 3.50 | 4.00 | 3.57 |
| Coffee | 3.83 | 4.83 | 4.40 | 4.43 |

# REFERENCES

Aaker, J. L. (1997). Dimensions of brand personality. *Journal of Marketing Research*, *34*(3), 347-356.

Aaker, J., Vohs, K. D., & Mogilner, C. (2010). Nonprofits are seen as warm and for-profits as competent: Firm stereotypes matter. *Journal of Consumer Research, 37*(2), 224-237.

Aaker, J. L., Garbinsky, E. N., & Vohs, K. D. (2012). Cultivating admiration in brands: Warmth, competence, and landing in the "golden quadrant". *Journal of Consumer Psychology*, *22*(2), 191-194.

Aggarwal, P., & McGill, A. L. (2007). Is that car smiling at me? Schema congruity as a basis for evaluating anthropomorphized products. *Journal of Consumer Research*, *34*(4), 468-479.

Arndt, J., Cook, A., Goldenberg, J. L., & Cox, C. R. (2007). Cancer and the threat of death: The cognitive dynamics of death thought suppression and its impact on behavioral health intentions. *Journal of Personality and Social Psychology*, 92(1), 12—29.

Arndt, J., Solomon, S., Kasser, T., & Sheldon, K. M. (2004). The urge to splurge: A terror management account of materialism and consumer behavior. *Journal of Consumer Psychology*, *14*(3), 198-212.

Batra, R., Lehmann, D. R., & Singh, D. (1993). The brand personality component of brand goodwill: some antecedents and consequences. In: D.A. Aaker & A.Biel (eds), *Brand Equity and Advertising* (pp. 83-96). Hillsdale, NJ: Lawrence Erlbaum Associates.

Bauman, Z. (2007). Uncertainty and other liquid modern fears. *Liquid society and its law*, 17-40.

Belk, R. (1988). *Possessions and self*. John Wiley & Sons, Ltd.

Bennett, A. M., & Hill, R. P. (2012). The universality of warmth and competence: A response to brands as intentional agents. *Journal of Consumer Psychology*, *22*(2), 199-204.

Brown, S. (2010). Where the wild brands are: Some thoughts on anthropomorphic marketing. *The Marketing Review*, *10*(3), 209-224.

Delbaere, M., McQuarrie, E. F., & Phillips, B. J. (2011). Personification in advertising. *Journal of Advertising*, *40*(1), 121-130.

Dolich, I. J. (1969). Congruence relationships between self images and product brands. *Journal of Marketing Research*, *6*(1), 80-84.

Epley, N., Waytz, A., & Cacioppo, J. T. (2007). On seeing human: A three-factor theory of anthropomorphism. *Psychological Review*, *114*(4), 864-886.

Fiske, S. T. (2012). Warmth and competence: Stereotype content issues for clinicians and researchers. *Canadian Psychology/Psychologie Canadienne*, *53*(1), 14.

Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2002). A model of (often mixed) stereotype content: competence and warmth respectively follow from perceived status and competition. *Journal of Personality and Social Psychology, 82*(6), 878.

Fournier, S. (1998). Consumers and their brands: developing relationship theory in consumer research. *Journal of Consumer Research*, *24*(4), 343-353.

Fournier, S., & Alvarez, C. (2012). Brands as relationship partners: Warmth, competence, and in-between. *Journal of Consumer Psychology*, *22*(2), 177-185.

Greenberg, J., Pyszczynski, T., & Solomon, S. (1986). The causes and consequences of a need for self-esteem: A terror management theory. In R. F. Baumeister (Ed.), *Public self and Private Self* (pp. 189-212). New York, NY: Springer.

Grohmann, B. (2009). Gender dimensions of brand personality. *Journal of Marketing Research*, *46*(1), 105-119.

Grubb, E. L., & Grathwohl, H. L. (1967). Consumer self-concept, symbolism and market behavior: A theoretical approach. *The Journal of Marketing*, 22-27.

Grubb, E. L., & Hupp, G. (1968). Perception of self, generalized stereotypes, and brand selection. *Journal of Marketing Research*, *5*(1), 58-63.

Hastings, G., Stead, M., & Webb, J. (2004). Fear appeals in social marketing: Strategic and ethical reasons for concern. *Psychology & Marketing*, *21*(11), 961-986.

Hanusch, F. (2010). *Representing death in the news: Journalism, media and mortality*. Palgrave Macmillan.

Hawkins, D. I., Mothersbaugh, D. L., & Best, R.J. (2007). *Consumer behavior: Building marketing strategy*. Boston: McGraw-Hill/Irwin.

Higgins, E. T., King, G. A., & Mavin, G. H. (1982). Individual construct accessibility and subjective impressions and recall. *Journal of Personality and Social Psychology*, *43*(1), 35.

Jamal, A., & Chapman, M. (2000). Acculturation and inter-ethnic consumer perceptions: Can you feel what we feel? *Journal of Marketing Management*, *16*(4), 365-391.

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *The Journal of Marketing*, *57*(1), 1-22.

Kim, S., & McGill, A. L. (2011). Gaming with Mr. Slot or gaming the slot machine? Power, anthropomorphism, and risk perception. *Journal of Consumer Research, 38*(1), 94-107.

Lii, S. Y., & Wong, S. Y. (1982). A cross-cultural study on sex-role stereotypes and social desirability. *Sex Roles, 8*(5), 481-491.

Markus, H., & Wurf, E. (1987). The dynamic self-concept: A social psychological perspective. *Annual Review of Psychology*, *38*(1), 299-337.

McCracken, G. (1993). The value of the brand: an anthropological perspective. In: D.A. Aaker & A. Biel (eds.), *Brand Equity and Advertising* (pp.125-139). Hillsdale, NJ: Lawrence Erlbaum Associates.

Plummer, J. T. (1985). How personality makes a difference. *Journal of Advertising Research*, *24*(6), 27-31.

Puzakova, M., Kwak, H., & Rocereto, J. (2009). Pushing the envelope of brand and personality: Antecedents and moderators of anthropomorphized brands. *NA-Advances in Consumer Research Volume 36*.

Pyszczynski, T., Wicklund, R. A., Floresku, S., Koch, H., Gauch, G., Solomon, S., & Greenberg, J. (1996). Whistling in the dark: Exaggerated consensus estimates in response to incidental reminders of mortality. *Psychological Science*, *7*(6), 332-336.

Ray, M. L., & Wilkie, W. L. (1970). Fear: The potential of an appeal neglected by marketing. *The Journal of Marketing*, 54-62.

Ross, I. (1971). Self-concept and brand preference. *Journal of Business*, *44*(1), 38-50.

Solomon, M. R. (2006). Consumer behavior: a European perspective. Pearson Education.

Solomon, S., Greenberg, J., & Pyszczynski, T. (1991). A terror management theory of social behavior: The psychological functions of self-esteem and cultural worldviews. *Advances in Experimental Social Psychology, 24*, 93-159.

Wheeler, S. C., DeMarree, K. G., & Petty, R. E. (2007). Understanding the role of the self in prime-to-behavior effects: The active-self account. *Personality and Social Psychology Review*, *11*(3), 234-261.

Witte, K., & Allen, M. (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. *Health Education & Behavior*, *27*(5), 591-615.