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Materialism moderates the impact of mortality salience on impulsive tendencies toward luxury brands

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ABSTRACT

Luxury goods have been shown to help individuals coping with death-related anxiety. However, the extent to which the symbolic value allocated to possessions (i.e., materialism) moderates this effect is still unclear. Here, we investigated the impact of materialism on impulsive approach tendencies toward luxury clothing brands in a context of mortality salience. Results showed that the impact of mortality salience was moderated by materialism with lower impulsive approach tendencies toward luxury clothing brands observed in non-materialistic participants. These findings highlight how materialism values may impact luxury consumption through impulsive pathways in a situation of death-related anxiety.

Introduction

Recently, studies have demonstrated that evoking individuals' own death influences consumption in general (Allen & Wilson, 2005; Arndt, Solomon, Kasser, & Sheldon, 2004; Friese & Hofmann, 2008) and consumption of status-related products in particular (Arndt et al., 2004; Fransen, Fennis, Pruyn, & Das, 2008). These findings are supported by terror management theory (Greenberg et al., 1990; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989), which posits that individuals whose life is being threatened strive for their culture to enhance their self-esteem and potentially their immortality. In capitalistic societies, wealth and possessions are part of the culture. Accordingly, individuals may reinforce these aspects of their culture when their own death is evoked. Interestingly, some researchers focusing on explicit processes have suggested that the impact of mortality salience may vary, depending on individual differences (Zaleskiewicz, Gasiorowska, & Kesebir, 2013). In this study, we investigated (1) the extent to which death-related anxiety influences impulsive processes in the context of luxury clothing brands and (2) whether such effect is moderated by the symbolic value allocated to possessions (i.e., materialism).

Self-preservation instinct vs. awareness of mortality: The terror management theory

Like any other species, humans are biologically programmed to survive and to prolong their lives

(Burgin, Sanders, vanDellen, & Martin, 2012). Thus, on one hand, humans are instinctively driven to continue their existence (Greenberg, Pyszczynski, & Solomon, 1995; Greenberg et al., 1990), following their biological proclivity to survive (Arndt et al., 2004). On the other hand, they possess sufficient intellectual abilities to be aware of their unavoidable mortality (Greenberg et al., 1990; Greenberg et al., 1995). Humans know that they can perish at any time from various causes such as diseases, natural disaster, or terrorist attack (Arndt et al., 2004). Terror management theory posits that the juxtaposition of the self-preservation instinct with the awareness of mortality may result in a conflict leading to a paralyzing anxiety or terror (Greenberg et al., 1995).

Cultural worldview and self-esteem as a two-component buffer

To deal with the anxiety resulting from juxtaposition of self-preservation instinct and awareness of mortality, terror management theory suggests that humans have set up a “cultural anxiety buffer” (Greenberg et al., 1995). The cultural anxiety buffer helps individuals to transcend their fear of death and provides them with psychological equanimity (Zaleskiewicz, Gasiorowska, Kesebir, Luszczynska, & Pyszczynski, 2013). This buffer has two components: cultural worldview and self-esteem (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997). The former component refers to symbolic

“beliefs about the nature of reality,” which are shared by groups of people (Arndt et al., 2004, p. 199). Particularly, cultural worldviews are related to the meaning and purpose of life and death (Hirschberger, Ein-Dor, & Almakias, 2008). Cultural worldviews are based on social norms, religions, and/or moral values ((Zaleskiewicz et al., 2013) and structure the immaterial environment in an intelligible and symbolic way (Hayes, Schimel, Arndt, & Faucher, 2010). Cultural worldviews also set the standards of symbolic values (Greenberg et al., 1990). Reaching these standards would drive people to self-esteem, the second component of the anxiety buffer (Arndt et al., 1997). In sum, to transcend the fear of their own death, individuals reduce mortality salience by getting closer to their cultural worldview and/or increasing their self-esteem (Hayes et al., 2010; Mandel & Heine, 1999).

Mortality salience and consumption

Mortality salience has been linked to a variety of behaviors (see Burke, Martens, & Faucher, 2010, for a review) including consumer behaviors (Arndt et al., 2004; Maheswaran & Agrawal, 2004). Arndt et al. (2004) suggested that threats of death can lead to an “urge to splurge,” where consumption helps individuals to distance themselves from the awareness that they will die. Cultural worldviews could be one of the mechanisms underlying the urge-to-splurge process. When individuals feel threatened, activation of defenses may drive them to hold to the dominant culture. As nowadays, consumerism and materialism are particularly central features of several cultural worldviews (Arndt et al., 2004), threats of death may lead to enhanced consumption or materialistic tendencies (Zaleskiewicz et al., 2013). Notably, when mortality is salient, individuals look for more money (Kasser & Sheldon, 2000), form stronger association with their favorite brands (Mandel & Smeesters, 2008; Rindfleisch, Burroughs, & Wong, 2009), are more interested in luxury cars or watches (Mandel & Heine, 1999), and show enhanced willingness to possess high-status products (Fransen et al., 2008), suggesting that materialism could be related to death salience. As described above, another mechanism could be related to self-esteem. As defenses drive individuals to strive for their self-esteem, individuals focus on areas that they consider as central such as their physical appearance or success at work (Ferraro, Shiv, & Bettman, 2005; Jong, Halberstadt, & Bluemke, 2012). Therefore, materialistic tendencies may be upregulated in individuals for whom possessions represent a “salient barometer of self-worth” (Arndt et al., 2004, p. 204).

Materialism as a moderator

Individuals allocating high symbolic value to possessions are defined as materialistic individuals (Belk, 1985; Kasser, 2003, 2016). Zaleskiewicz et al. (2013) revealed that individuals allocating higher value to money were more reactive to mortality salience. Specifically, they alleged higher gratification for delayed payment and had higher standards for richness. These results suggest that symbolic attitudes toward possessions and money may moderate the effect of mortality salience on consumer behaviors.

Luxury goods appear particularly appealing to individuals allocating high value to material possessions (Gil, Kwon, Good, & Johnson, 2012; Kasser, 2003; Prendergast & Wong, 2003; Wong & Ahuvia, 1998). Indeed, materialistic individuals are particularly sensitive to their social image and are more likely to look for prestigious goods or for products displaying a high social status (Fournier & Richins, 1991; Wang & Wallendorf, 2006). Thus, luxury possessions provide the social image and status display materialistic individuals are looking for (Fournier & Richins, 1991).

In the present study, we investigated the extent to which materialism influences the effect of mortality salience on impulsive processes toward luxury clothing brands. In line with previous work on explicit processes (i.e., Jong et al., 2012; Zaleskiewicz et al., 2013), we hypothesized that materialism moderates the effect of mortality salience on impulsive processes toward luxury brands with higher materialistic values being associated with higher impulsive approach tendency toward luxury (IAL) brands.

Methods

Participants

A power analysis (conducted through GPower), which assumed a medium effect size between 0.30 and 0.35 (based on the meta-analyses from Burke et al., 2010; Yen & Cheng, 2013), indicated that a total of 90 participants (45 per condition) were required to reach 80% power of detecting a significant effect at p -value of 0.05. Allowing for the possibility of missing data, 100 female undergraduate students (mean age = 20.860 years, SD = 3.867) were selected among an initial sample of 192 students who completed the Aspiration Index to determine their level of materialism (Grouzet et al., 2005). Only females were included as they have been found to be more sensitive to luxury than males (Stokburger-Sauer & Teichmann, 2013).

Measures

Aspiration index

Materialistic tendencies were assessed using the Aspiration Index (Grouzet et al., 2005). Participants were instructed to assess the importance of 57 goals on a scale ranging from 1 (“not important at all”) to 9 (“extremely important”). These goals refer to 11 aspirations. The aspiration subscales have good psychometric properties, with internal consistencies between 0.70 and 0.90 (Cronbach’s α ; Grouzet et al., 2005). Aspirations can be separated into two main dimensions, i.e., intrinsic and extrinsic dimensions; these are below along with internal consistency reliability figures from our data. Extrinsic dimensions refer to the importance that one gives to one’s image (e.g., “I hope for the future that my image will be one other’s find appealing”; Cronbach’s $\alpha = 0.758$), popularity (e.g., “I will be admired by many people”; Cronbach’s $\alpha = 0.673$), financial success (e.g., “I will have expensive possessions”; Cronbach’s $\alpha = 0.869$), and conformism (e.g., “I will live up to the expectations of my society”; Cronbach’s $\alpha = 0.575$). The higher the score, the more an individual is materialistic and allocates high symbolic value to how they are perceived by others (Truong, 2010, p. 656). Based on these materialism scores, we selected the upper and lower quartiles of the initial sample of participants to classify the respondents and “achieve a clear separation” (Richins, 1994, p. 524): people scoring in the upper quartile were considered as materialistic (mean = 6.869, SD = 0.436) and people scoring in the lower quartile were considered as non-materialistic (mean = 4.126, SD = 0.551).

Mortality salience manipulation

For the mortality salience manipulation, 15 pairs of words were presented on the screen one after the other. Participants were instructed to press the key “1” if the words were semantically linked and the key “2” if they were not. For example, they had to press “1” for the pair “chair” and “office” and “2” for the pair “tree” and “clothes”. Each word was presented for 356 ms and served as a mask for the subliminal primes that were flashed between the presentations of the pair of words. These primes were flashed for 28.5 ms (Arndt et al., 1997; Mahoney, Saunders, & Cain, 2014). Between each mask, i.e., for 15 trials, the words “death” and “fail” was presented in the mortality salience and nonmortality salience condition, respectively. We selected the word “fail” for the control condition, because this word also has a negative valence, but is not related to death (Arndt et al., 1997). Before leaving, awareness of the purpose of the experiment was tested with a

funneled interview (Holland, Hendriks, & Aarts, 2005) containing general questions (“What do you think this study was about?”) and specific questions (“Did you see some flashed words in the first task? If yes, what do you think these words were?”). No participants reported any suspicion about the flashing word, nor thought that mortality salience could have influenced their behavior.

Impulsive approach tendencies toward luxury

Pilot task

A pilot study was performed on an independent sample of female participants to identify familiar logos of luxurious and nonluxurious clothing brands to be included in the manikin task. One hundred sixty-five participants with the same characteristics (i.e., female students in the first year of a psychology degree at the same university) were asked to rate if they knew 106 brands of ready-to-wear products. These brands were categorized as luxurious or non-luxurious *a priori*, depending on their mention in official rankings such as the GenY Prestige Brand Ranking (L2 Think Tank, & NYU Stren, 2010), which ranks the top luxurious clothing brands for women. For each brand, a logo was presented and each participant was asked to click on “1” if they knew the brand and “0” if they did not. We computed scores of brand familiarity by summing the “1”s for each brand to select the most well-known brands. The height most well-known luxury (i.e., Chanel, Gucci, Dior, and Louis Vuitton) and non-luxury (i.e., H&M, Zebra, GAP, and Forever21) clothing brands were selected.

Manikin task

Impulsive approach tendency toward luxury (IAL) was assessed using a manikin task (Cheval, Sarrazin, Isoard-Gauthier, Radel, & Friese, 2015; De Houwer, Crombez, Baeyens, & Hermans, 2001; see Figure 1). Each trial started with a fixation cross. Participants could press the key “5” when they were ready to start the trial. A manikin that was supposed to represent the participants themselves was then presented on the screen. The manikin could appear either on the upper half or on the lower half of the screen and it could be moved upward or downward by pressing the keys “8” or “2.” A brand logo was shown in the center of the screen 750 ms after the presentation of the manikin. In half of the trials, participants had to move the manikin toward luxurious clothing brands or away from non-luxurious clothing brands. In the other half, they were instructed to move the manikin away from luxurious brand logos and toward nonluxurious brand logos. The order of the conditions was randomized between

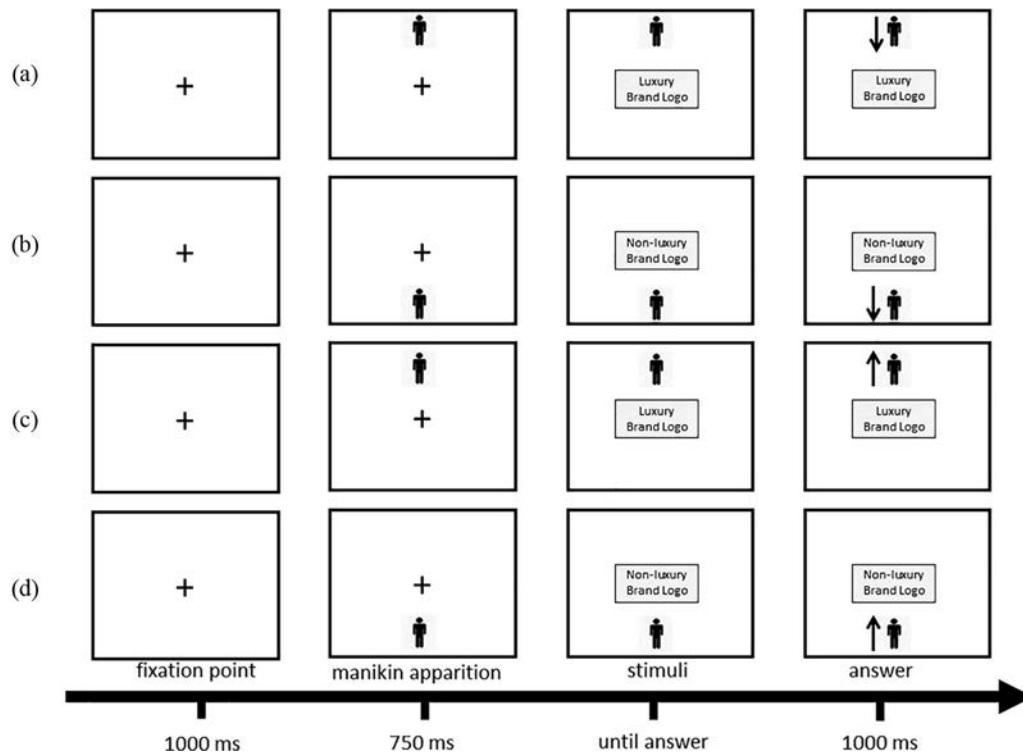


Figure 1. Illustration of the manikin task. (a) The participant is instructed to approach luxury brand logos (16 trials). (b) The participant is instructed to avoid nonluxury brand logos (16 trials). (c) The participant is instructed to avoid luxury brand logos (16 trials). (d) The participant is instructed to approach nonluxury brand logos (16 trials). The up and down arrows indicate the keyboard key associated with the appropriate answer.

participants. Participants were instructed to respond as fast and as accurately as possible. If they gave an incorrect answer, they received an error feedback and were presented with a white screen for 1000 ms until the beginning of the following trial. For each condition, participants first completed eight practice trials and then completed 32 experimental trials (i.e., 16 in each condition).

Incorrect responses and responses below 200 ms were excluded as recommended by (Krieglmeyer & Deutsch, 2010). As previously done (Cheval et al., 2015; Krieglmeyer & Deutsch, 2010), for each participant, we computed the median reaction time for approaching and avoiding luxury brand logos. Further, we subtracted the median reaction time needed to approach luxury brand logos from the median reaction time necessary to avoid luxury brand logos. A positive score indicates a tendency to approach rather than avoid luxury brands. Computed measures reflected individuals' IAL (De Houwer et al., 2001; Krieglmeyer & Deutsch, 2010).

Procedure

Participants were invited to participate to the study in exchange for course credits and were randomly assigned

to the mortality salience or control condition using a random number generator. Fifteen students did not show up, resulting in 34 participants in the mortality salience group (17 materialistic; 17 nonmaterialistic) and 51 participants in the control group (28 materialistic; 23 non-materialistic). When coming to the laboratory, participants were seated in front of a computer screen in a cubicle to complete the mortality salience manipulation and the manikin task (De Houwer et al., 2001).

Statistical analyses

To investigate the extent to which materialism moderates the effect of mortality salience on IAL brands, a 2 (mortality salience vs. nonmortality salience) \times 2 (materialistic vs. non-materialistic) between-subject ANOVA was conducted on IAL.

We further conducted four ANCOVAs to evaluate how each component of materialism (i.e., image, financial success, popularity, and conformism) could impact the importance of mortality salience on IAL. Notably, while our groups had noncontinuous scores for the global score of materialism, participants' scores were however normally distributed for the subscales involved in materialism score computation. Each model

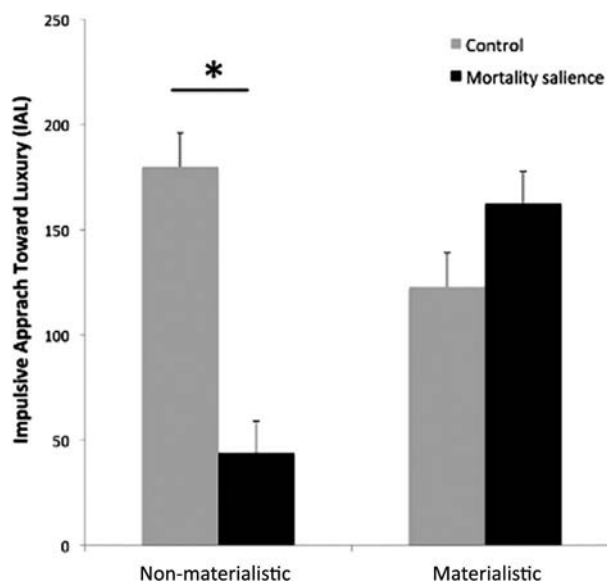


Figure 2. Impulsive approach tendency toward luxury clothing brands as a function of participants' materialism in the control (gray) and mortality salience (black) condition. Bars represent standard errors.

contained the subscale of the aspiration index as a continuous predictor, mortality salience as a factor as well as the interaction term.

Results

As hypothesized, results revealed a significant interaction effect between mortality salience and materialism [$F(1, 81) = 6.296, p = 0.014, \eta^2_{\text{part}} = 0.072$], but no other significant effects were found ($F_s < 1.894$, all $p_s > 0.172$, $\eta^2_{\text{part}} = 0.022$)¹ (Figure 2). The significant interaction indicated that the effect of mortality salience on IAL significantly differed between materialistic and non-materialistic participants. Post hoc analyses using Tukey HSD correction indicated that materialistic and non-materialistic participants did not significantly differ in the control situation (mean_{materialistic} = 122.7, SE = 29.83; mean_{non-materialistic} = 162.35, SE = 38.29, $p = 0.372$). Interestingly, non-materialistic participants showed a lower IAL in the mortality (mean = 44.00 ms, SE = 38.29) compared to the nonmortality condition (mean = 180.02 ms, SE = 32.92; $p = 0.042$). Contrary to our hypotheses, in materialistic participants, the IAL was not statistically different between the mortality (mean = 162.36, SE = 38.29) and the control conditions (mean = 122.73, SE = 29.84; $p > 0.05$).

Results from the analysis of covariance (ANCOVA) integrating the components of materialism revealed a

significant interaction between mortality salience and conformism [$F(1, 81) = 4.473, p = 0.038, \eta^2_{\text{part}} = 0.052$] and a trend toward an interaction effect between mortality salience and popularity [$F(1, 81) = 3.879, p = 0.052, \eta^2_{\text{part}} = 0.046$]. The other effects were not significant [all $F(1, 81) < 2.835, p > 0.096, \eta^2_{\text{part}} = 0.034$].

Discussion

This study investigated for the first time the extent to which materialism influences the effect of mortality salience on IAL. Our results showed that the impact of symbolic value allocated to possessions on IAL was different, when participants were primed with “death” vs. “fail.”

The moderation of mortality salience effect by materialism supports previous findings showing that individuals' values moderate the explicit processes activated in the context of mortality salience (Jong et al., 2012; Zaleskiewicz et al., 2013). Specifically, Zaleskiewicz et al. (2013) showed that individuals' attitudes toward money (symbolic vs. instrumental) moderated the effect of mortality salience on gratification for delayed payment and standards for richness. Our results support this view as individual differences in attitudes toward materialism moderate the impact of mortality salience in the context of luxury brands. However, unlike Zaleskiewicz et al. (2013), the current study examines impulsive (largely automatic) rather than reflective (largely cognitively controlled) form of processes.

The current findings provide evidence that mortality salience may differently impact impulsive processes toward luxury clothing brands depending on individuals' values, i.e., their explicit level of materialism. Specifically, in line with previous studies, results revealed that mortality salience had, on average, no impact on IAL (Frieze & Hofmann, 2008). Nevertheless, as for explicit processes, the current findings reveal that individual differences in materialism tendencies may explain for whom mortality salience will impact impulsive processes. This interaction revealed that when threatened, individuals low in materialism showed lower IAL, whereas individuals high in materialism tended to show enhanced IAL. Two mechanisms may explain these results.

The first mechanism underlying our results is described by Zaleskiewicz et al. (2013). In their study, they revealed that mortality salience may enhance individuals' tendency to save money instead of spending it. In our study, such pattern may be observed in individuals low in materialism, as they avoid expensive luxury clothing brands. Our results thus provide

¹The same model was also tested with the mean RT and showed the same interaction.

supplementary evidence to Zaleskiewicz, Gasiorowska, and Kesebir's hypothesis, suggesting that attitudes toward money and possessions may mediate the impact of mortality salience on behaviors.

A second mechanism offering an interesting explanation for our results is related to the definition of materialism *per se*: non-materialistic individuals do not perceive possessions as a central concept to their selves, and instead favor other goals (Kasser, 2003). For them, buying could result in a conflict expressed by a feeling of tension and anger. Therefore, possessions and buying should not be associated to a decrease in anxiety and may even produce its increase in non-materialistic participants. Our results reveal that under threatening situation, nonmaterialistic participants present a lower IAL, suggesting that non-materialistic tend to avoid luxury in such situation. Conversely, individuals with higher materialistic values perceive luxury and possessions as central to their lives, and for them IAL should increase reflecting the importance of possessions and status goods to diminish anxiety and tension. Although there was no significant change in IAL between the control and experimental conditions, these results are promising because they are in line with the expected tendencies (i.e., higher materialistic tendencies leading to higher IAL). These behaviors are in line with the "urge to splurge" phenomenon (Arndt et al., 2004), stating that "concerns about mortality should often intensify materialistic desires in people for whom such pursuits are a salient barometer of self-worth" (Arndt et al., 2004, p. 204).

Interestingly, complementary analyses demonstrated that the "conformity" and "popularity" dimensions of materialism were particularly important in predicting participants' IAL clothing brands. This reveals that the more people allowed importance to conformity and popularity, the more they approached luxury clothing brands when they are threatened. This specific result echoes the strong social dimension of luxury consumption, as much research has shown that people consumed luxury for demonstrative aspects, such as status or conspicuous consumption (Nia & Lynne Zaichkowsky, 2000; Richins & Rudmin, 1994; Vigneron & Johnson, 1999, 2004), and that this type of consumption was mostly directed to others' reaction to one's possessions. Thus, our results suggest that when threatened, people's materialism in general but more specifically conformity and popularity get to approach luxury clothing brands to diminish their anxiety.

The strength of this study includes: (a) the use of an impulsive processes as a dependent variable; (b) the study of mortality salience in the context of luxury clothing; (c) the consideration of individuals'

differences in this context. Nevertheless, at least four limitations should be noted. First, our sample was strictly restricted to female students. Future research should examine whether the results will generalize to a more heterogeneous population with respect to gender, age, and levels of education. Second, we did not control for the cultural dimension embedded in the brands presented in our manikin task. Thus, an alternative explanation of our results could be to consider cultural aspects. Much evidence has been found in the terror management theory literature that when threatened, people favor cultural in-group (Greenberg et al., 1990) have more negative evaluation of out-group people and objects (Bradley, Kennison, Burke, & Chaney, 2012; Castano, Yzerbyt, Paladino, & Sacchi, 2002; Greenberg et al., 1990; Nelson, Moore, Olivetti, & Scott, 1997) and prefer and consume more in-group products (Frieze & Hofmann, 2008). In our case, luxury brands were from France and Italy, while the study was conducted in Switzerland. Accordingly, even if the brands belonged to the European culture, our results could suggest that people having low materialistic values may decrease their valuation of luxury brands not belonging to their own culture after the induction of mortality salience. However, people having stronger materialistic values were not sensitive to such prejudice. While we are not able to clearly extricate whether this interpretation or the one provided earlier were true, future studies should control for the cultural aspect of the items presented, to clearly distinguish effects driven by the culture from other potential mechanisms. Third, there was no significant difference in the IAL between materialistic and non-materialistic groups in the control condition. This result is at first sight surprising as materialism and preference for luxury goods are assumed to be intrinsically related. However, in health-related behaviors, previous studies suggested a dissociation between impulsive tendencies and explicit behaviors, which prevents to differentiate groups of individuals based on their impulsive reactions (Papies, Stroebe, & Aarts, 2009; Roefs, Herman, MacLeod, Smulders, & Jansen, 2005; Roefs et al., 2011). Future studies should consider how specific dimensions of impulsive tendencies (i.e., more cognitive or affective aspects) may predict overt behavior (Trendel & Werle, 2016) and how they could be related to overt evaluations of the components of the impulsive tendencies such as desirability. Fourth, in line with previous studies, we focused on two experimental conditions (i.e., mortality salience and non-mortality salience, using the word "fail"). An interesting study could compare mortality salience to both a negative and a neutral nonmortality condition. This neutral condition could be

of interest to evaluate the global effect (not only related to death or negative thoughts) of anxiety on impulsive tendencies toward luxury brands. Although using neutral situation as control condition is likely to produce similar results and effect size (Burke et al., 2010), adding such neutral condition to the failure condition could be useful in future research.

To conclude, our results reveal that the effect of mortality salience on impulsive tendencies toward luxury brand clothing consumption depends on individuals' materialism. These findings highlight how individuals' characteristics such as materialism impact luxury brand clothing consumption through impulsive pathways in a death-related context.

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