RUNNING HEAD: Mortality Salience and Consumptive Behavior

What Would You Have as a Last Supper? Thoughts about Death Influence Evaluation and Consumption of Food Products

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Abstract

Terror Management Theory posits that after thinking about their own deaths, people take sides with and defend their culture by either increasing their support for worldview-consistent examples, decreasing support for worldview-threatening examples, or both. We tested the hypothesis that mortality salience leads to an increased preference for products from one's own culture as compared to products from a foreign culture in terms of evaluation and consumption. In a product test, participants sampled local and foreign soft drinks (Study 1) or local and foreign chocolates (Study 2). As expected, relative to a control condition, mortality salience led to more accentuated evaluative preferences for local as compared to foreign products. Furthermore, the preference for the local product in terms of actual consumption was greater under mortality salience. In addition, in Study 2 an implicit reaction time measure predicted total chocolate consumption as expected for participants who had dealt with death thoughts, but not for participants who had thought about a control topic.

Keywords: terror management theory, consumer behavior, death, mortality, product evaluation, consumption, predictive validity, implicit measures, self-regulatory resources, self-control

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What Would You Have as a Last Supper? Thoughts about Death Influence Evaluation and Consumption of Food Products

According to the U.S. Department of Commerce, the personal expenditure of American consumers soared by 37.4% for durable goods and by 4.9% for nondurable goods in the quarter following the terrorist attacks of 9/11 when compared to the third quarter of 2001. Apparently, American consumers went shopping in the aftermath of 9/11 (Arndt, Solomon, Kasser, & Sheldon, 2004). What did they buy? Just anything? Despite the increase in consumer expenditures, in the same quarter, imports of goods and services dropped by 3.4% (U.S. Department of Commerce, 2008). These data seem to suggest that after 9/11, American consumers primarily relied upon domestic products to fulfill their needs while they simultaneously decreased their spending on foreign products. Why?

Admittedly, there are a myriad of different variables influencing the consumption and import rates of the American economy. According to Terror Management Theory (TMT; e.g., Greenberg, Solomon, & Pyszczynski, 1997; Solomon, Greenberg, & Pyszczynski, 1991), one variable influencing American consumer behavior following 9/11 is the dramatically increased awareness of mortality (Arndt et al., 2004; Pyszczynski, Solomon, & Greenberg, 2003). In this paper we will pursue the idea that the accessibility of death thoughts in general may influence people's evaluation and consumption of consumer products.

TMT states that the awareness of one's mortality is aversive and poses a serious threat to individuals. A person's own culture provides a psychological buffer against this threat, and compliance with it enhances feelings of security and self-esteem, which is of crucial importance in coping with the anxiety aroused by death thoughts. TMT

proposes that individuals whose mortality is salient to them devalue persons who threaten their cultural values and appreciate persons who live up to these values (e.g., Greenberg et al., 1990). For example, mortality salience led to higher reward recommendations for a person who upheld cultural values (Rosenblatt et al., 1989, Study 3). In another study, mortality salience led judges to suggest a more severe punishment for a prostitute who violated their cultural worldview as compared to judges in a control group (Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989, Study 1). Thus, there are at least two ways by which people can defend their cultural worldviews: First, by increasing support for worldview-consistent persons, actions, and symbols, and second, by decreasing support for worldview-threatening persons, actions, and symbols.

Several studies investigated the implications of TMT associated with behavior toward companies and consumer products (for an overview, see Arndt et al., 2004). For example, mortality salience decreased the consumption of fattening food for women with a high body mass index, presumably in an attempt to bolster one's self-esteem by complying with societal norms of thinness (Goldenberg, Arndt, Hart, & Brown, 2005; see also Ferraro, Shiv, & Bettman, 2005). More direct evidence for worldview defense comes from a study in which participants viewed films of fatal car crashes. In line with TMT, U.S. American participants who were reminded of their mortality blamed the car manufacturer more for the crash if the manufacturer was Japanese as opposed to American (Nelson, Moore, Olivetti, & Scott, 1997). Finally, Jonas, Fritsche, and Greenberg (2005) asked several questions referring to diverse cultural items (cars, cuisine, preferred European capital, etc.). They combined these diverse items into a compound score and found that German participants in the mortality salience condition

preferred German alternatives to foreign alternatives significantly more strongly than control participants. Because at least a few of the items used by Jonas and colleagues referred to consumer products, this study provides preliminary evidence for the notion that mortality salience may accentuate a preference for consumer products from a person's own culture relative to a foreign culture.

The present research tested this assumption directly. In addition, we extended past research on TMT by assuming that cultural defense might not only be expressed by accentuated self-reported evaluations, but also by actual *consumption* of a local product relative to a foreign product. In two studies, participants were assigned to either a mortality salience or a control condition. Later, they engaged in a product test in which they rated and tasted two products, a local and a foreign product. Based on TMT we pursued two hypotheses:

H1: Relative to the foreign products, participants in the mortality salience condition will *evaluate* the local products as better than will participants in a control condition.

H2: Relative to the foreign products, participants in the mortality salience condition will *consume* more of the local products than will participants in a control condition.

Previous research on TMT in diverse domains such as stereotyping, aggression, economic issues, or prosocial behavior has shown that worldview defense may take the form of increased evaluation of worldview-consistent examples (e.g., Castano, Yzerbyt, Paladino, & Sacchi, 2002; Jonas, Schimel, Greenberg, & Pyszczynski, 2002), decreased evaluation of worldview-threatening examples (e.g., Jonas, Fritsche, & Greenberg, 2005), or both increased support for worldview-consistent examples and decreased

support for worldview-threatening examples simultaneously (e.g., Greenberg et al., 1990; McGregor et al., 1998). Consequently, we examined whether the preference for local over foreign products following mortality salience was primarily driven by an increase in liking and consumption of the local product, a decrease in liking and consumption of foreign products, or driven primarily by both responses.

Study 1

Both studies were conducted in Switzerland. In Study 1, participants tested a Swiss soft drink (Rivella) and an American soft drink (Dr. Pepper). Rivella is a whey-based soft drink that is only available in Switzerland. It is recognized as typically Swiss.

Method

Sixty-nine (55 female) Swiss participants were invited to participate in a study on personality and taste perception. They were randomly assigned to one of two conditions, mortality salience or dental pain. Ages ranged from 20 to 42 years (M = 23.03, SD = 4.13).

First, participants filled out a couple of personality questionnaires, including the experimental manipulation and a German version of the PANAS mood scale (Krohne, Egloff, Kohlmann, & Tausch, 1996). The manipulation was introduced as a new projective personality assessment. In the mortality salience condition, participants answered two open-ended questions related to death ("Please briefly describe the emotions that the thought of your own death arouses in you."; "Jot down, as specifically as you can, what you think will happen to *you* as you physically die and once you are physically dead."; e.g., Greenberg et al., 1990). Participants in the control condition answered the same questions with regard to dental pain.

Next, participants engaged in a filler task unrelated to the present purposes that served to put some time between the experimental manipulation and the dependent variables, because research has shown that subtle defense reactions only occur after a delay (e.g., Greenberg, Arndt, Simon, Pyszczynski, & Solomon, 2000). Finally, participants were asked to sample as much as they liked of two soft drinks, a Swiss (Rivella) and an American (Dr. Pepper) brand.[1] During the 8-minute product test, participants answered a number of questions related to several attributes of the soft drinks (e.g., color, foam formation, packaging, etc.). Embedded in this questionnaire was a question representing our first dependent variable, product evaluation of both Rivella and Dr. Pepper (on a 20-point rating scale ranging from "very bad" to "perfect").

Before the session, the experimenter measured the initial weight of each beverage with a high-precision scale. After the session, the experimenter used a funnel to pour back any remaining beverages into the respective container and determined each participants' consumption of each soft drink by subtracting the final weight from the initial weight.

Results and Discussion

The essays that were written by participants as part of the experimental manipulation were screened to make sure that participants in the mortality salience condition had written about their deaths and participants in the control condition had not written about death.[2]

We expected participants in the mortality salience condition to show a stronger preference for the Swiss soft drink relative to the American soft drink than participants in the control condition, either through enhanced liking of the Swiss soft drink,

decreased liking of the foreign soft drink, or both effects contributing simultaneously. To test this hypothesis we ran a 2 (condition: mortality salience vs. dental pain) × 2 (Evaluation: Swiss soft drink vs. American soft drink) mixed ANOVA with repeated measures on the second factor (see Table 1 for descriptive statistics). The main effect of condition was non-significant, $F(1, 67) = 2.39$, $p = .127$, $\eta_p^2 = .034$. Overall, participants evaluated the Swiss soft drink much better than the American soft drink, $F(1, 67) = 116.84$, $p < .001$, $\eta_p^2 = .636$. However, as expected, this effect was pronounced more strongly in the mortality salience condition, as was reflected in a marginally significant interaction between condition and type of soft drink, $F(1, 67) = 3.82$, $p = .055$, $\eta_p^2 = .054$ (see Figure 1). Additional analyses showed that this interaction was primarily driven by a decreased evaluation of the American soft drink, $F(1, 67) = 7.19$, $p = .009$, $\eta_p^2 = .097$, and not by an increased evaluation of the Swiss soft drink, $F(1, 67) < 1$, $p = .826$, $\eta_p^2 = .001$.

Similarly, we expected participants in the mortality salience condition to consume more of the Swiss soft drink relative to the American soft drink when compared to participants in the control condition. Again, we ran a 2 (condition: mortality salience vs. dental pain) × 2 (Consumption: Swiss soft drink vs. American soft drink) mixed ANOVA with repeated measures on the second factor. The main effect of condition was non-significant, $F(1, 67) = 1.22$, $p = .274$, $\eta_p^2 = .018$, suggesting that, overall, both experimental conditions consumed equal amounts. Participants consumed significantly more of the Swiss soft drink than of the American soft drink, $F(1, 67) = 34.18$, $p < .001$, $\eta_p^2 = .338$. Importantly, in line with the second hypothesis, the interaction between the experimental condition and type of soft drink was significant, $F(1,67) = 5.18$, $p = .026$, $\eta_p^2 = .072$ (see Figure 1). Participants consumed more of the

Swiss relative to the American soft drink when they had thought about their own death when compared to participants in the control condition. Follow-up analyses revealed that this interaction was more strongly driven by enhanced consumption of the Swiss soft drink under mortality salience as compared to the control condition, $F(1,67) = 3.59$, $p = .063$, $\eta_p^2 = .051$, and less strongly by decreased consumption of the American Soft drink, $F(1,67) < 1$, $p = .429$, $\eta_p^2 = .009$.

Study 2

In Study 2 we aimed to replicate the results from Study 1 with different products, a different behavior (eating), and with a different cultural contrast. In particular, participants sampled two kinds of chocolate, one coming from Switzerland and the other from Germany. Note that the production of the worldwide famous chocolate is viewed as a distinctly Swiss field of expertise in Switzerland. We expected participants in the mortality salience condition to evaluate the local chocolate (relative to the foreign chocolate) as better, and also to consume more of the local chocolate (relative to the foreign chocolate) than participants in the control condition.

In addition, we pursued a supplementary third hypothesis. With this hypothesis we aimed to investigate a consequence of mortality salience on behavior regulation that was independent from effects of worldview defense.

In their model of self-regulation, Muraven and Baumeister (2000) proposed that the capacity for self-control is a limited resource. Usage of this resource leads to a state of ego-depletion with the consequence that any further action requiring self-control will likely be less successful. Instead, impulses will more strongly influence behavior.

Recently, Gailliot, Schmeichel, and Baumeister (2006) suggested that the activities people commonly engage in after an induction of mortality salience—

suppression of thoughts about death or redirection of attention to other topics (Arndt, Greenberg, Solomon, Pyszczynski, & Simon, 1997; Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994)—draw on these limited self-regulatory resources (see also Ferraro et al., 2005, for a similar view). Consequently, mortality salience should lead to impaired self-control and an increased impact of impulses on subsequent behavior. Importantly, this effect should be independent from any worldview defense reactions in response to mortality salience, because self-regulatory resources are assumed to be domain-free and required for *any* kind of self-regulatory behavior (Muraven & Baumeister, 2000). In line with these predictions Gailliot et al. (2006) found mortality salience (as compared to a control condition) to decrease performance on a number of self-regulatory tasks that were irrelevant to death such as the color Stroop task, analytical reasoning, or solving anagrams. These effects emerged even after participants engaged in worldview defense and could not be attributed to increased death though accessibility. In sum, these results suggest that mortality salience a) not only triggers worldview defense reactions, but that it b) also depletes self-regulatory resources, and that c) these two mechanisms are independent and may occur simultaneously with different consequences.

Consistent with the self-regulation model (Muraven & Baumeister, 2000), contemporary dual-process models in social psychology, such as the reflective-impulsive model (Strack & Deutsch, 2004; see also Epstein, 1994; Fazio & Towles-Schwen, 1999), assume that impulsive processes are more important in guiding behavior when control resources (such as cognitive capacity or self-regulatory resources) are scarce when compared to conditions of full resources. Again, these

models do not refer to TMT or worldview defense mechanisms to account for these predictions.

According to dual-process models, implicit reaction time measures (e.g., Fazio & Olson, 2003) tap into such impulsive processes. In line with this reasoning, in a series of studies, implicit measures predicted consumption of tempting foods such as candy, potato chips, or beer (Friese, Hofmann, & Wänke, in press; Hofmann, Rauch, & Gawronski, 2007). However, as predicted by dual-process models, this predictive validity emerged only for participants who had previously been depleted of self-regulatory resources, but not for participants with full resources. Based on these considerations we expected that an implicit measure relating to chocolate would predict *total* chocolate consumption for participants in the mortality salience condition, but less so in the control condition. Importantly, because this resource-depleting effect is hypothesized to be independent from worldview defense mechanisms, the effect should not be moderated by product origin.

Method

Forty-nine (39 female) participants were invited to participate in a study on personality and taste perception. They were randomly assigned to one of two conditions, mortality salience or dental pain. Ages ranged from 17 to 34 years (M = 21.71, SD = 3.29).

The procedure followed that of Study 1 with the following exceptions: After the personality questionnaires and before the filler task, participants completed a Single Category Implicit Association Test (Karpinski & Steinman, 2006) to measure their spontaneous reactions toward chocolate. In the first (second) critical block, “pleasant” (“unpleasant”) words and pictures shared a response key with pictures of chocolate (no

specific brand was perceptible). Since we were interested in individual differences, the order of blocks was held constant for all participants (e.g., Egloff & Schmukle, 2002; Gawronski, 2002). Each combined block contained 70 trials in a predetermined random order. For each category, the number of stimuli per block was determined such that the proportion of left and right key responses was 3:4 in the first combined block and 4:3 in the second combined block. SC-IAT scores were calculated using the D-algorithm (Greenwald, Nosek, & Banaji, 2003) such that more positive values indicate a more positive reaction toward chocolate. In order to estimate reliability, we divided each combined block into four sub-blocks and calculated the SC-IAT effect for each sub-block. Cronbach's alpha across the four items was .72. Participants sampled two bars of milk chocolate, a Swiss (Lindt) and a German (Milka) brand.[1] Two items for the product evaluation were embedded in the product test: "I find the product Lindt (Milka)…" on 5-point rating scales ranging from "negative" to "positive" and "Concluding evaluation: Altogether I like the product "Lindt" ("Milka")…" on 5-point rating scales ranging from "not at all" to "very much," α = .73 (.74) for Lindt (Milka). After the session, the experimenter measured how much each participant had eaten of each type of chocolate.

Participants' consumption was determined with the same scale and the same procedure as in Experiment 1 by subtracting the final weight from the initial weight of each chocolate. Total consumption was computed by adding the consumption of both chocolates.

Results and Discussion

For H1 and H2, we excluded all participants who indicated non-Swiss nationality, because these hypotheses only apply to individuals who could protect their Swiss culture in the product test.

Again, the essays that were written by participants as part of the experimental manipulation were screened to make sure that participants in the mortality salience condition had written about their deaths and that participants in the control condition had not written about death.[3]

We expected participants in the mortality salience condition to show a stronger preference for the Swiss chocolate relative to the German chocolate than participants in the control condition. To test this hypothesis we ran a 2 (condition: mortality salience vs. dental pain) × 2 (Evaluation: Swiss chocolate vs. German chocolate) mixed ANOVA with repeated measures on the second factor (see Table 1 for descriptive statistics). The main effect of condition was non-significant, $F(1, 40) < 1$, $p = .782$, $\eta_p^2 = .002$. Moreover, participants evaluated the Swiss chocolate much better than the German chocolate, $F(1, 40) = 42.31$, $p < .001$, $\eta_p^2 = .514$. As expected, this effect was qualified by a significant interaction between condition and type of chocolate, $F(1, 40) = 6.98$, $p = .012$, $\eta_p^2 = .149$, indicating that the difference in consumption between the two products was accentuated in the mortality salience condition (see Figure 2). More specific analyses revealed that this interaction was driven both by a non-significant tendency to decrease liking for the German chocolate, $F(1, 40) = 1.43$, $p = .239$, $\eta_p^2 = .034$, and increase liking for the Swiss chocolate, $F(1, 40) = 2.36$, $p = .132$, $\eta_p^2 = .056$, in the mortality salience as compared to the control condition.

Similarly, we expected participants in the mortality salience condition to consume more Swiss relative to German chocolate as compared to participants in the

control condition. Again, we ran a 2 (condition: mortality salience vs. dental pain) × 2 (Consumption: Swiss chocolate vs. German chocolate) mixed ANOVA with repeated measures on the second factor. Neither the main effect of condition, $F(1, 40) < 1$, $p = .700$, $\eta_p^2 = .004$, nor the main effect of type of chocolate, $F(1, 40) = 1.33$, $p = .256$, $\eta_p^2 = .032$, was significant, suggesting that the total amount of chocolate consumed was equal in both conditions and that overall, neither chocolate was preferred over the other as reflected by consumption. However, in line with the second hypothesis, the interaction between the experimental condition and type of chocolate was significant, $F(1,40) = 5.37$, $p = .026$, $\eta_p^2 = .118$ (see Figure 2). Participants consumed more Swiss relative to German chocolate when they had thought about their own deaths as compared to participants in the control condition. Follow-up analyses revealed that this interaction was primarily driven by a non-significant tendency to decrease consumption of the German chocolate, $F(1, 40) = 2.09$, $p = .156$, $\eta_p^2 = .050$, and less by a non-significant tendency to increase consumption of the Swiss chocolate, $F(1, 40) < 1$, $p = .638$, $\eta_p^2 = .006$, in the mortality salience as compared to the control condition.

These results conceptually replicate the findings from Study 1. Participants who had thought about their deaths showed accentuated preferences for the local chocolate in terms of evaluation and consumption as compared to participants in a control condition. The simple effects for increased support for the local product and decreased support for the foreign products were non-significant for both dependent variables. However, together they led to the predicted interaction reflecting the accentuated preference in terms of evaluation and consumption of the Swiss chocolate relative to the German chocolate under mortality salience.

Next, we tested the supplementary third hypothesis that was based on the model of self-regulation and dual process theories. One participant committed 20% errors in the SC-IAT and was therefore dropped from these analyses. The experimental manipulation did not affect performance on the SC-IAT as there was no differences in mean effects (M_{MS} = .39, *SD* = .50 vs. M_{DP} = .43, *SD* = .33, *t*(46) = -.34, *p* = .736) or errors (M_{MS} = 6.43%, *SD* = 3.28 vs. M_{DP} = 6.14%, *SD* = 3.27, *t*(46) = .31, *p* = .760). As expected, the zero-order correlation between the SC-IAT and total chocolate consumption (independent of the brand) was significant in the mortality salience condition (*r* = .47, *p* = .015), but non-significant in the control condition (*r* = -.20, *p* = .364). To test the hypothesis that mortality salience moderates the predictive validity of the implicit measure more adequately, we regressed the z-standardized overall consumption of chocolate on the experimental condition (0 = mortality salience condition, 1 = control condition), the z-standardized SC-IAT effect and their two-way interaction. The main effect of condition was not significant, β = .04, *t*(44) = .13, *p* = .898, indicating a similar overall amount of consumption in both conditions. Importantly, the interaction between the experimental condition and the implicit measure was significant, β = .68, *t*(44) = 2.17, *p* = .036. Simple slope tests (Aiken & West, 1991) revealed that, as expected, the implicit measure was a significant predictor in the mortality salience condition, β = .44, *t*(44) = 2.71, *p* = .009, but not in the control condition, β = -.24, *t*(44) = -.88, *p* = .382. Corroborating the assumption that this effect was independent of worldview defense effects, this interaction was not qualified by the factor origin of the chocolates (*F* < 1, *p* = .773 for the three-way interaction). These results support the view that a preoccupation with one's death demands self-regulatory

resources (Gailliot et al., 2006), leading to an increased impact of impulsive processes on behavior that may occur independently from worldview defense responses.

General Discussion

The present research tested the hypothesis that thinking about one's death can influence the evaluation and consumption of consumer products. Past research found preliminary evidence for the assumption that people might accentuate their preferences for products from their own culture after being reminded of their mortality (Jonas et al., 2005). In contrast to previous research, participants in the present studies did not answer abstract, general questions. They actually sampled the products and directly experienced their taste, appearance, and other sensual qualities. As expected, when compared to participants in a control condition, participants who had thought about their deaths showed a stronger preference for tasted products from their culture relative to a foreign product. This preference carried over to consumptive behavior. Relative to a foreign product, mortality salience led to more consumption of a local product. From the perspective of TMT, participants defended their culture through these amplified preferences in terms of evaluation and consumption.

We found support for our hypotheses using two different sets of products (soft drinks and chocolate), two different consumptive behaviors (drinking and eating) and with two different cultural contrasts to the local Swiss culture (the U.S. and Germany). In both studies it was obvious to all participants that we were interested in a comparison of the two offered products. However, post-experimental interviews provided no evidence that participants were aware of the hypotheses regarding the mortality salience manipulation. This suggests that the effect of thinking about one's death on the

evaluation and consumption of the products does not necessarily depend on conscious deliberation.

Over two studies the results were consistent with regard to accentuated preferences for the local as compared to the foreign products in terms of evaluation and consumption. In contrast, results are more difficult to interpret with regard to the specific simple effects leading to these patterns. In Study 1, participants under mortality salience decreased liking of the foreign soft-drink and increased consumption of the local soft-drink compared to the control condition. In Study 2, both processes contributed simultaneously for both evaluation and consumption of the chocolates. We can only speculate about the reasons behind these different patterns. Although the general procedure was similar in both studies, there were important differences as well: First, the two soft drinks were more easily distinguishable than the two chocolates. The Swiss soft drink Rivella, but not Dr. Pepper, contains about one third of whey, which is reflected in a distinguishable taste and appearance. In contrast, the Lindt and Milka chocolates both contain largely similar ingredients and differences in taste and appearance are therefore less pronounced. Second, the U.S. and Germany represented two very different foreign cultures to our Swiss participants. In addition, when contrasting the respective foreign culture with the local culture during the product tests, these differences between the U.S. and Germany also may have evoked slightly different temporary construals of the own Swiss culture. Third, the consumptive behaviors drinking and eating may have triggered somewhat different processes that may impact on evaluation and consumption. Unfortunately, the present data do not allow testing the impact of these and other potential moderator variables. Future research should systematically investigate which factors primarily lead to enhanced

liking and consumption of a local product and which factors lead to a decreased liking and consumption of a foreign product under mortality salience.

It may be valuable to reconcile the results from Study 2 with research by Goldenberg et al. (2005). As mentioned previously, these authors reasoned that mortality salience should foster behavior in line with the social norm to stay thin. They found that female participants with a high body mass index tend to eat less of a fattening product as compared to control participants. Indeed, participants in our mortality salience condition in Study 2 may have experienced conflicting behavioral tendencies. On the one hand, mortality salience may have activated the tendency to side with a person's own culture (e.g., Greenberg et al., 1997) and eat more local as compared to foreign chocolate. On the other hand, mortality salience may have activated the tendency to adhere to the social norm of thinness (i.e., to eat very little chocolate). Interestingly, there was no difference in absolute consumption between conditions, indicating that only the relative weights of both kinds of chocolate changed between conditions. Furthermore, there are several notable differences between the two lines of research. First, because Goldenberg et al. used only one snack without mention of origin, worldview defense by means of eating was impossible. Second, our sample was comprised of both sexes, whereas Goldenberg et al. found their effect only for women. Third, we used partition walls between participants to create privacy during the product test whereas Goldenberg et al. placed all participants at a round table to enhance the social norm of thinness in some of their studies.

Could concerns with health serve as an alternative explanation for our effects? If local products were perceived as healthier than foreign products, and if mortality salience enhanced concerns with health, the effects may not have been triggered by

worldview defense. We doubt that this was the case. If health concerns were a significant factor driving our effects, we should have found less overall consumption under mortality salience as compared to control conditions. However, in both studies the main effect of experimental condition on consumption was clearly not significant.

In addition to the hypotheses referring to altered preferences as a consequence of mortality salience, we found that a SC-IAT (Karpinski & Hilton) predicted total chocolate consumption for participants who had thought about their own deaths, but not for control participants. As expected, this effect emerged independently from the origin of the chocolates. This result lends support to the view that independent from cultural worldview-defense mechanisms, a preoccupation with thoughts of death depletes self-regulatory resources (Gailliot et al., 2007), leading to an increased impact of impulsive processes on behavior. Implicit measures such as the SC-IAT tap into such impulsive processes. The results are in line with prominent dual-process models (Fazio & Towles-Schwen, 1999; Strack & Deutsch, 2004) in general and with recent research on the prediction of self-regulatory behavior in particular (Friese et al., in press; Hofmann et al., 2007).

One may wonder if the absence of a main effect in total chocolate consumption speaks against our interpretation of more impulsively driven behavior following death thoughts. In most research testing the self-regulation model, the success of the ego-depletion manipulation was inferred by mean differences between experimental conditions (e.g., Muraven, Collins, & Nienhaus, 2002; Vohs & Heatherton, 2000). In contrast, in Study 2, we focused on varying predictive validities, not on mean differences. Importantly, impulsive behavior does not necessarily reflect in higher consumption. While consumption may increase for those participants with positive

spontaneous reactions toward the target product as indicated by the implicit measure, consumption may decrease for participants with negative spontaneous reactions. These tendencies can (but do not have to) cancel each other, leading to small and nonsignificant differences between groups.

In sum, we would like to stress the diverse and far-reaching implications that thoughts about death have in many different domains. Our research shows that these effects extend to differential evaluation and consumption of consumer products. These findings have both applied as well as theoretical implications. From an applied perspective, being exposed to cigarette packets with a reminder of death, or watching movies or commercials with death-related content can increase preferences for national products and could influence consumer choices among different brands of cigarettes as well as consumption of other products such as snacks and drinks. Future studies should address the question of whether thoughts about death also influence product choice and actual buying behavior. The data from the U.S. Department of Commerce that were reported in the introduction of this article provide first anecdotal support for this reasoning. From a theoretical perspective, the present findings on moderated predictive validity of an implicit measure suggest that TMT should take into account the resource-depleting effects of mortality salience that may lead to more impulsively driven self-regulatory behavior. In closing, we would like to come back to the question posed in the title of this article. What would you have as a last supper? In the end, death may have more to do with the answer than you initially thought.

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Footnotes

[1] In a pretest 25 different participants correctly identified Rivella and Lindt as Swiss products. Twenty-one (23) identified Dr. Pepper (Milka) as an American (German) product. The remaining 4 (2) classified Dr. Pepper (Milka) as British (Austrian). Thus, we could be sure that the Swiss products were identified as Swiss and the foreign products as foreign.

[2] Conditions neither differed with regard to positive nor negative mood (positive mood (α = .85): M_{MS} = 3.03, *SD* = .66 vs. M_{DP} = 2.95, *SD* = .61, $t(66) = .52$, $p = .604$; negative mood (α = .74): M_{MS} = 1.27, *SD* = .29 vs. M_{DP} = 1.35, *SD* = .39, $t(66) = -1.04$, $p = .303$). Changes in degrees of freedom are due to one participant failing to complete the PANAS scale.

[3] Conditions neither differed with regard to positive nor negative mood (positive mood (α = .89): M_{MS} = 3.16, *SD* = .73 vs. M_{DP} = 3.23, *SD* = .70, $t(40) = -.34$, $p = .740$; negative mood (α = .81): M_{MS} = 1.54, *SD* = .54 vs. M_{DP} = 1.36, *SD* = .40, $t(40) = 1.20$, $p = .238$).

Table 1

Descriptive Statistics of the Evaluation and Consumption of Local and Foreign Products as a Function of Experimental Condition

	Study 1				Study 2			
	Evaluation Swiss soft drink	Evaluation American soft drink	Consumption Swiss soft drink (g)	Consumption American soft drink (g)	Evaluation Swiss chocolate	Evaluation German chocolate	Consumption Swiss chocolate (g)	Consumption German chocolate (g)
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
Mortality salience	12.69 (4.90)	3.57 (3.23)	156.37 (123.50)	56.77 (51.11)	4.40 (.75)	3.15 (.87)	21.37 (20.00)	14.58 (13.94)
Dental pain	12.44 (4.28)	6.12 (4.56)	111.85 (60.27)	68.09 (66.20)	3.97 (1.04)	3.44 (.71)	18.67 (15.83)	20.94 (14.37)
Total	12.57 (4.57)	4.83 (4.12)	134.43 (99.46)	62.35 (58.87)	4.21 (.90)	3.27 (.81)	20.21 (18.17)	17.31 (14.31)

Note. n_{MS} = 35, n_{DP} = 34 in Study 1; n_{MS} = 24, n_{DP} = 18 in Study 2. The scales for the evaluation of the products ranged from 1 to 20 (Study 1) and 1 to 5 (Study 2), respectively.

Figure Captions

Figure 1. Evaluation (top panel) and consumption (bottom panel) of soft drinks as a function of condition (mortality salience vs. control) and product origin (local vs. foreign) in Study 1.

Figure 2. Evaluation (top panel) and consumption (bottom panel) of chocolate as a function of condition (mortality salience vs. control) and product origin (local vs. foreign) in Study 2.

Figure 1

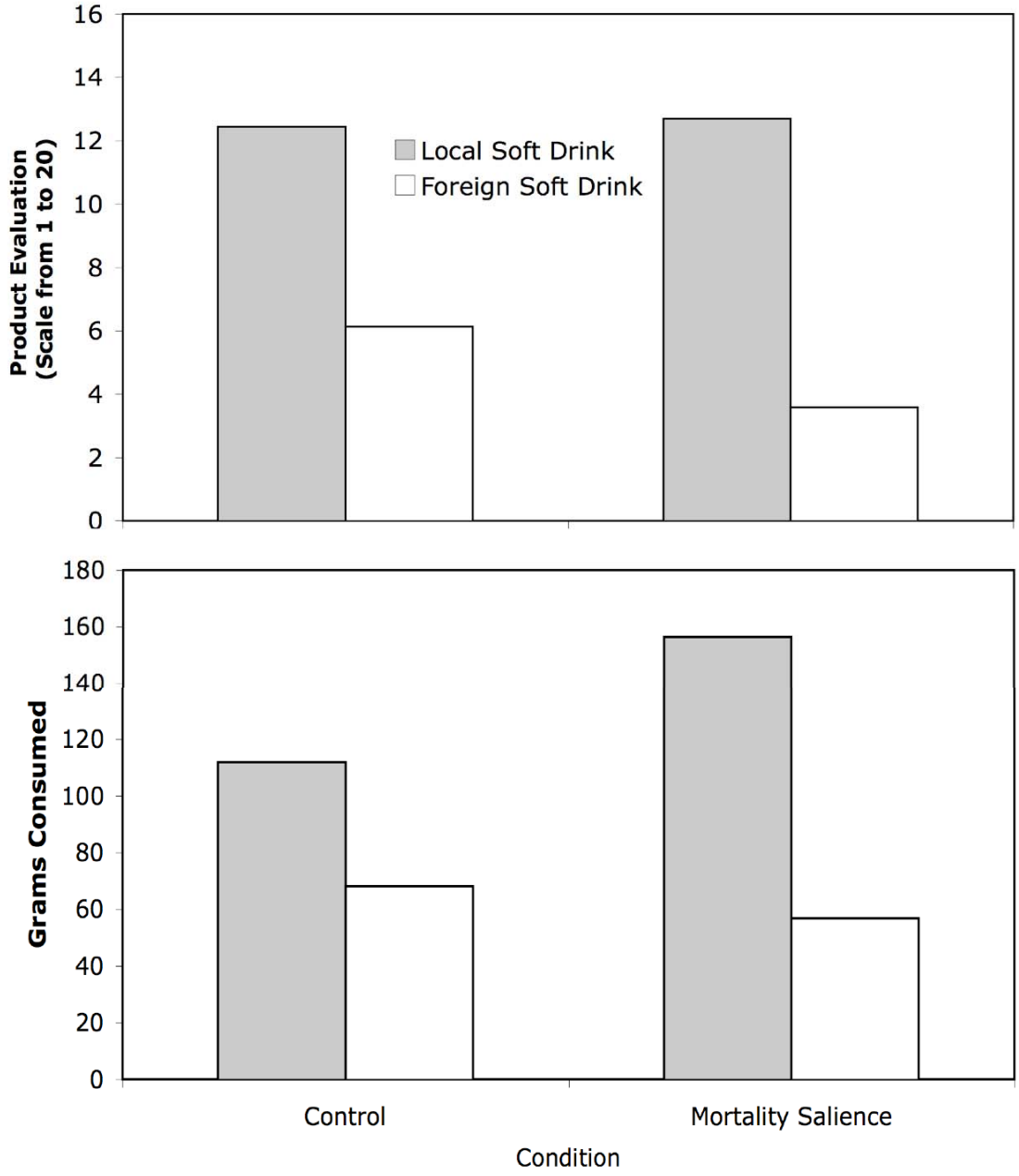
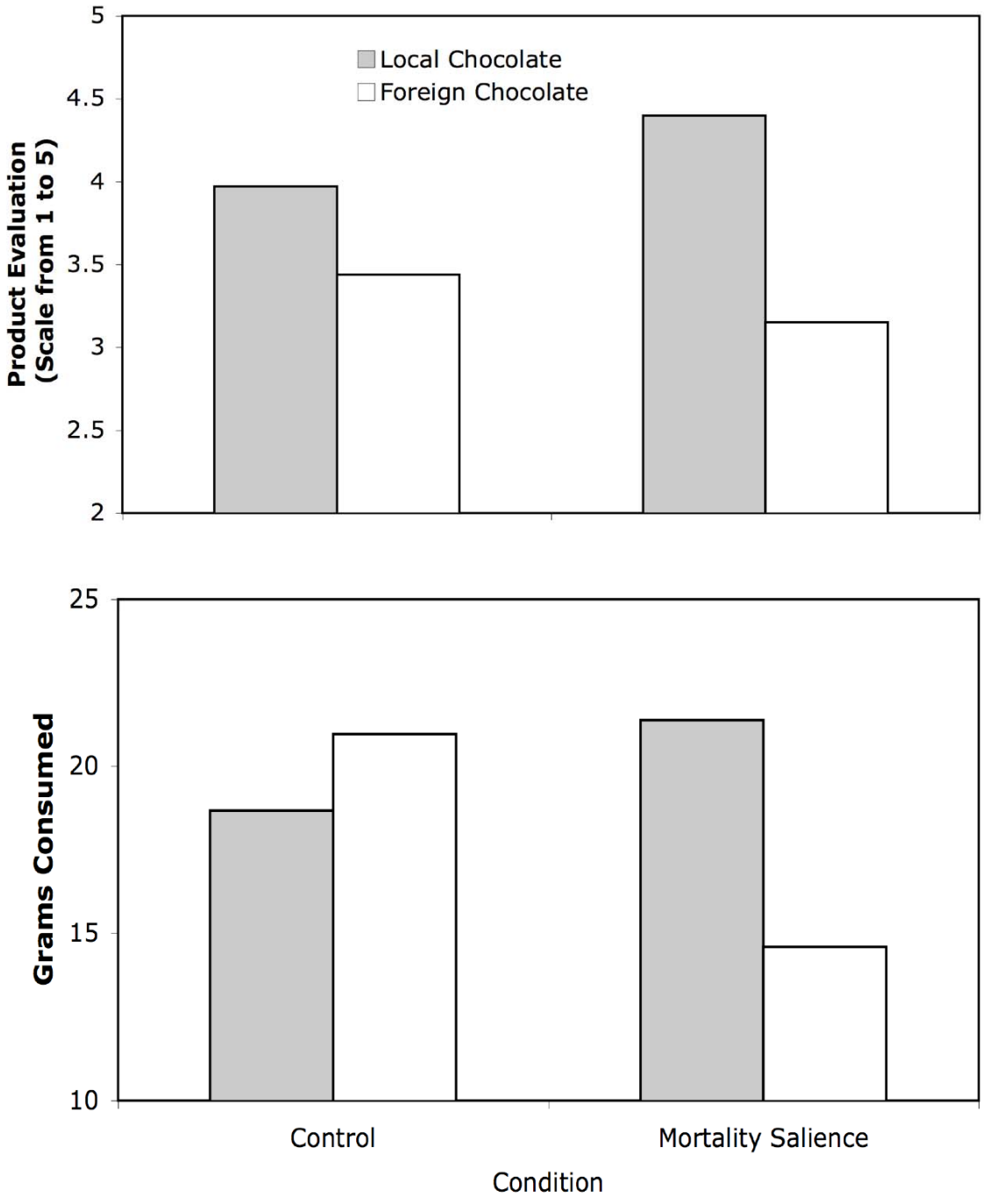

Product Evaluation (Scale from 1 to 20)
16
14
12
10
8
6
4
2
0
Local Soft Drink
Foreign Soft Drink
Grams Consumed
180
160
140
120
100
80
60
40
20
0
Control
Mortality Salience
Condition

Figure 2


Local Chocolate
Foreign Chocolate
Product Evaluation (Scale from 1 to 5)
5
4.5
4
3.5
3
2.5
2
Grams Consumed
25
20
15
10
Control
Mortality Salience
Condition