Does Health Anxiety Influences Brand Engagement? An Experimental Approach on Healthcare Brands during COVID-19 Pandemic in Indonesia

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Abstract

COVID-19 pandemic delivers unprecedented impacts on human life. This study aims to investigate the effect of mortality threat on attitude and intention to buy healthcare brands during the pandemic. Grounded on Terror Management Theory, the current study assumes that ones' attitude and intention to buy a premium healthcare brand will increase when reminded of their death. This study deploys an experimental approach in Indonesia involving two groups of participants: high and low mortality saliences. The former group receives scenarios about the accident and natural disaster news followed by death tolls, while the latter receives similar news without human casualties. Subsequently, the participants are asked to view a premium healthcare brand advertisement and answer questions on attitude and intention to purchase the brand. The study finds a significant difference between the high-mortality-salience group and the low-level one in their responses to premium healthcare brands. Furthermore, the low-level group shows their increasing attitude and intention to buy economical brands. These indicate health anxiety influences healthcare-brand engagement in general, yet the response is different between the high and low mortality-salience groups.

Keywords: mortality salience, attitude, intention, healthcare brand, engagement, experiment

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Introduction

COVID-19 outbreak has been changing the world. Millions of people have been infected and have died. These numbers are still increasing, causing people to suffer from anxiety and worry that this disease may separate them from their relatives (Liu et al., 2021). As of 9 July 2021, World Health Organization reported 2,455,912 confirmed cases of COVID-19 with 64,631 deaths in Indonesia[2]. The threat of this disease impacts the consumption pattern of goods, such as the significant sales increase of masks, hand sanitisers, and vitamins (Dammeyer, 2020). On the contrary, many other businesses sales and the buyers' purchasing power dropped as fears of unemployment raised (Campbell, 2020).

Research shows the changing consumption pattern could be predicted using Terror Management Theory or TMT (Greenberg et al., 1997). Terror refers to general mortality, which may stem from accidents, diseases, outbreaks, natural disasters, and terrorism. Further, TMT explains how individuals feel trapped in a contradiction. On the one hand, they thrive to survive, whilst on the other hand, they have to encounter the fact of death. These may create a significant terror to their mental health (Pyszczynski et al., 2015). TMT emanates that when individuals are reminded of their demise, they will tend to implement two coping mechanisms for reducing the anxiety of death: cultural worldview and self-esteem (Pyszczynski et al., 2015). Both mechanisms have an anxiety-buffer function which becomes a psychological basis of personal security (Greenberg et al., 1997). The individual's environment and culture could help them develop a concept of symbolic reality, which could help manage terror. Belief preservation within such an individual's cultural worldview and how they deliver life commensurate with value standards would assist in developing the concept (Greenberg et al., 1986). In this sense, culture becomes a guide to life and acts as a defence mechanism in reducing death anxiety through group communities, reading activities, positive affirmations, writing activities, etc.

In addition, the self-esteem of an individual would serve as a buffer on the anxieties of death. Higher self-esteem will lessen the anxieties of death, vice versa. The acts to increase self-esteem are varied, such as purchasing luxurious products as a sign of social status (Gutierrez, 2006). However, the latest researches on TMT remain unclear on the impact of mortality salience on an individual's worldview (Frandsen et al., 2019; Gasiorowska et al., 2018; Maheswaran & Agrawal, 2004). Even though people around the world have diverse worldviews, most studies on the effects of mortality salience on consumer behaviour are conducted in the Western world, making it difficult to conclude potential differences between cultures (Frandsen et al., 2019) or the

impact of money exposure on one's worldview (Gasiorowska et al., 2018). In addition, studies based on TMT's death-related stimuli, although media-related, are pertinent to the participants themselves. Therefore, future research should investigate self-relevant death anxiety and shed light on the conditions under which people may experience existential anxiety in response to death-related information in media (Huang et al., 2018) and other areas outside China (Liu et al., 2021).

Mandel and Heine (1999) experimented to see if mortality salient individuals are more interested in buying high-status products than low- to no-status products as a coping mechanism. The study uses student participants and divides them into high and low groups of mortality salience. The former group is measured on its anxiety of death scale, while the latter is measured on its depression scale. The findings reveal most participants choose to buy high-status products over low-status ones. The research findings show Axelrod (1963) 's study is not accepted. Axelrod (1963) reveals that participants exposed to movies on NAZI violence show more negative behaviour on the advertised products than non-violence movies. On the contrary, Mandel and Heine (1999) find most participants opt for high-status products within the high mortality salience setting. These contradicting results motivated the authors to further investigate the impacts of health anxiety on brand engagement.

COVID-19 pandemic seems to has influenced mortality salience, and as such, it may have stimulated increasing sales of ordinary and luxury wellness products, which may improve body immunities. However, since the pandemic generally impacts lower people's purchasing power, there is a possibility that people will only buy ordinary or budget products to adjust their current expenses. This may lead a company to reconsider whether to retain its product positioning view or shifts its focus on producing inexpensive products. Accordingly, this current research aims to test the effects of mortality threat on attitude and intention to buy branded health products in the era of the COVID-19 pandemic. Hence, the problem of the study is there is a lack of further research on the impacts of mortality salience on brand engagement.

Accordingly, this research explores multiple research questions: (1) Is there a difference between attitude and intention to buy premium wellness products in a setting of increasing mortality salience? (2) Does the scenario on point (1) conversely apply to low-status products? (3) is the difference between attitude and intention to buy consistent with the concept of TMT?

The current study adapts Mandel and Heine (1999)' study since this research assumes similarity in luxury goods' consumption pattern with the wellness-luxury goods. This research hypothesises that individuals who are reminded of their mortality will choose premium wellness products over low-status ones.

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[2] https://covid19.who.int/region/searo/country/id

Literature Review

Mortality Salience

Human nature has a desire to be immortal. In this sense, humans often forget the fear of death. When natural disasters, outbreaks, traffic accidents, and homicides occur, the individual experiences enormous anxiety and tries to against the facts (Pyszczynski et al., 1999). A sudden fear of death may significantly disturb the feeling of security. One way to reduce such fear is rooted in an individual's cultural worldview (Becker, 1975). A cultural worldview is a picture of specific facts in a culture. The other mechanism is self-esteem. All cultures have social protocols to govern either individual or group life order. The individual who complies with the social protocol could earn self-esteem or self-confidence that gives their life meaning.

Humans require self-esteem to create peace in facing life and encountering death. Body image is one mechanism to fulfil self-esteem. In this sense, individuals could find confidence when their physical appearance appears to be in line with society standards (Ferraro et al., 2005; Arndt et al., 2002).

The threat of death felt by an individual is usually resulted in two reactions: proximal and distal. Proximal refers to a short time individual's reaction to the death warning. Whereas distal was a long-term individual's reaction when they observed death events and the events occurred a long time ago, and the locations were far away from him or herself (Pyszczynski et al., 2020). For instance, the immediate impact of the COVID-19 pandemic is the need for a healthier lifestyle and safety. Likewise, the long-term impact could be the decreasing sales of transport businesses and the increasing need for healthiness equipment and vitamins.

As mentioned in the earlier sections, TMT is a theory that could be used to understand human perception of death. The theory argues the level of human thinking on immortality could create paralysing terror. Notwithstanding, humans possess coping mechanisms to reduce death anxiety (Pyszczynski et al., 2020). Essentially, this ability is a form of self-defence mechanism against mortality.

The TMT benefits marketing science; for instance, Mandel and Heine (1999) find high mortality stimulation on an individual impacts the attitude and intention to buy luxury products. Hence, a higher level of mortality salience will increase the intention to purchase luxury products as a self-defence mechanism against death. Such level correlates with an individual's body image and will influence their consumption choices such as diets and food (Ferraro et al., 2005). Here, an individual who feels a high mortality salience tends to relieve foods and sweets such as chocolate cookies, hot milk chocolate, and chocolate sweet.

Self-Esteem

TMT shows that increasing an individual's self-esteem will enhance the function of cultural anxiety buffer and deliver protection of mortality (i.e., self-esteem should help reduce the impacts of mortality salience in worldwide defence). Essentially, self-esteem as an anxiety buffer is a part of the parenting process and reflects the established cultural standards. Each individual requires self-worth since it enables self-relaxation, albeit they know that one day everybody will die.

TMT argues an individual's existential anxiety will increase when they feel death is getting close. Self-esteem is used to protect against potential terror threats. Individuals with high self-esteem can act better to reduce their anxiety and maximise their activities effectively. Conversely, in a low self-esteem context, they will often feel agitated and becomes more defensive (Greenberg et al., 1986; Pyszczynski et al., 2020). Self-esteem acts as a defence mechanism against death since the individual owns a cultural worldview and values living standards.

Cultural Worldview

In TMT, an individual could reduce their anxiety of death when they can incept cultural worldview. Cultural worldview delivers a belief to individuals that rules are governing human life. Each individual has an intention to control and show its superiority and competencies in improving abilities to detect event possibilities, avoiding frustration and inabilities to deliver assistance.

Becker (1975) finds intellectual ability could identify the threat of death, which may raise sustainable terror within individuals. Such ability basically could assist in diminishing anxieties by returning to a cultural worldview. TMT adapts this unique mechanism, and as such, TMT explains culture could deliver protection through two concepts: (a) an idea that the world is a convenient place and (b) a promise that immortal symbols can be found in local cultures (Greenberg et al., 1994).

Pyszczynski et al. (2015) use TMT to comprehend one's reaction in accepting honesty. The study finds that participants think about mortality; they will negatively react against criminal acts and express positive perceptions of cultural norms and the inhabitant's values. According to the theory, one will implement cultural worldview and self-esteem as the coping strategies to reduce anxieties on mortality, provided they are reminded about their mortality (Pyszczynski et al., 2015).

Cultural worldview and self-esteem are titled as dual defence model since it refers to survival actions of an individual as their immediate psychological reaction against anxiety to death. In detail, such actions are avoiding current problems, avoiding the near-threat-of-death state, or temporary alienate from problems (Pyszczynski et al., 2015). When mortality is not a major concern, albeit it can be felt, TMT views it with distal

defences by improving trust toward worldview or leveraging self-esteem.

People are routinely motivated to preserve high self-esteem levels to protect themselves from mortality threats. Implicit high self-esteem could trigger an individual to implement self-affirmation as a way to increase self-integrity and safeguard him or herself from own ego. The assumption is a high self-esteem individual would possess low anxiety on mortality, and as such, they do not need coping strategies against death (Pyszczynski et al., 2015). On the contrary, a low self-esteem individual would have a higher anxiety level on mortality, and hence they will try to find a way to combat anxiety.

Method

This study is causal research aiming to determine cause-and-effect relationships by manipulating one or more independent variable(s) and controlling extraneous variables (Aaker et al., 2001). Causal research refers to relationships between a set of independent variables and their influence on dependent variables (Aaker et al., 2001). The study uses an experimental method to ensure the existence of a cause-and-effect relationship among variables.

According to the number of experimented treatment factors, the design of the experiment utilises a 2^3 factorial design. Here, the factor treatment in each study comprises two levels. Consequently, hypotheses tests will be conducted through the following experimental design: 2 (mortality salience: high versus low) x 2 (self-esteem: high versus low) x 2 (product category: premium versus non-premium) factorial design between participants.

The study participants are 18-24 years old male and female university students who recognise branded products and have a positive attitude toward the branded products (Carpenter et al., 2012). Such criteria are based on the assumption that participants who possess knowledge of branded products would be more rational in delivering judgment. In addition, the age range is considered as adequately exposed by marketing stimulus, and emotionally, it is a suitable range to identify consumer responses to specific events (Raskovic et al., 2016; Smith Speck & Peterson, 2010).

The basis of the thinking of the study is the impacts of mortality salience on brand engagement can be determined by the level of mortality salience and self-esteem. In marketing, such a state is considered to correlate with certain product categories (Lancaster, 1966; Assael, 1998; Solomon, 2020). This study includes product category as a variable that can influence the impacts of mortality salience on brand engagement.

As above, this study expects to deliver the construction of specific behavioural patterns. The existence of different responses could be portrayed through the tests of hypothesis 1 (H1), hypothesis 2 (H2), hypothesis 3 (H3), and hypothesis 4 (H4).

Study Procedures

This study consists of two steps. The first step is participants' recruitment and screening, while the second is running the main study. The first step starts with the recruitment of participants and the measurement of self-esteem. The measurement is conducted earlier to create an equal number of participants in each cell, 30 participants. In this stage, we sought approximately 260 participants who are then divided into two groups based on the product categories: premium-brand product and non-premium-brand product.

The measurement process starts with the filing of participants' data. Then, the experimenter will present an introductory script of self-esteem and asking participants to fill in statement points that measure self-esteem level. Last, the experimenter asks participants to fill consent on involvement in further study within the stated timeframe. The consent lists mobile phone numbers for access easiness and randomisation of division across the participant groups.

Having collected the approximated 260 data, an analysis is then conducted to exclude ineligible candidates, including reluctant participants, to contribute to further research. The successfully screened data will then be analysed using median-split to split data into two groups: high self-esteem and low self-esteem.

The following process is a further division based on the planned priming. The high self-esteem group will be divided into two cells based on the given priming: high mortality salience and low mortality salience. Similar treatment applies to the low self-esteem group. As such, eventually, this study produces eight groups. Each group consists of 30 participants.

Since there is a difference in scenario content and manipulation check in the main study, then each group receives a booklet commensurate with the given manipulation treatment. Consequently, the total number of booklets is eight pieces, and this is equal to the number of the groups that will be studied.

Ethics process

Following the university Ethics process, and prior to research treatments, each participantis provided an informed-consent paper. The paper consists of approval on the experimental nature of the treatment, services that will or will not be available to the treatment groups, how participants will be assigned to treatment groups, available treatment alternatives, and compensation or monetary costs of participation (Smith, 2003).

Results

Recruitment of Participants and Self-Esteem Measurement

The recruitment process is conducted to screen candidates based on the required criteria and the measurement of self-esteem. The process is needed as each cell ought to have a similar number of participants after randomisation.

Out of 260 recruits, 16 participants are not re-attending the experiment, and one participant resigns. Hence, the participants are 245 people. To simplify statistics calculations, we equalise the number of participants in each cell, and as such, we reach 30 people in each cell. In all, the total number of participants is 240 people.

Based on the median split in recruitment data, we have 120 people for both premium and non-premium products. To identify the consistency of participant responses in each item of self-esteem measure, a manipulation check was conducted prior to median-split action. The manipulation check reveals the consistency of participant responses in each item. The median split of recruitment data produces the average point of self-esteem in each product category, as shown in Table 1.

Table 1. Self-esteem measurement

Product Category	Self-Esteem	Average
Premium	High	4.86
	Low	1.93
Non-Premium	High	4.44
	Low	1.87

Table 1 shows the average point of self-esteem in the high groups outweighs the low one. Further, based on the contrast analysis of the one-way ANOVA technique, the significant differences among the groups are displayed in Table 2 as follows.

Table 2. Significant differences of means among groups

Product Category		Levene Test	Anova Test	Contrast Test	
				t-Value	Sig.
Premium	High-Low	F = 2.222 Sig = 0.138	F = 1089.877 Sig = 0.000	32.034	0.000
	Low-High			-32.034	0.000
Non-Premium	High-Low	F = 0.062 Sig = 0.800	F = 708.009 Sig = 0.000	26.565	0.000
	Low-High			-26.565	0.000

Based on Levene test, Table 2 shows Premium Group has homogeny variance ($F_{premium}$ = 2.222, p-value = 0.138 which is > 0.05). Likewise, the Non-Premium Group reveals a similar result ($F_{nonpremium}$ = 0.062, p-value = 0.800).

Based on ANOVA test, the Premium Group displays significant differences in all cell averages ($F_{premium}$ = 1089.877, p-value = 0.000 which is < 0.05). Here, the average values of self-esteem within the High group significantly differ from the Low group since the t-value is 32.034 and the p-value is below 0.05, and the average value of each group is 4.86 and 1.87. A similar result occurs in the Non-Premium Group.

To summarise, the self-esteem values in high or low groups across the premium and non-premium groups reveal significant differences.

Manipulation Check

This test aims to ensure that all mortality-salience treatments will be responded to by participants as expected. The check is measured with two questions: (1) the current state is closely near to mortality, and (2) it is extremely difficult to survive in the current state. This study expects the participant group with high mortality-salience priming will think that their death is significantly close, compared to the participant group with low mortality salience.

The study finds differences among both groups, as shown by the average values of the manipulation check. Here, the value of the group with high mortality-salience priming is higher than the low mortality one. The results are displayed in Table 3.

Table 3. Results of the manipulation check

Priming	Manipulation Check [1]	Manipulation Check [2]	Average
High Mortality Salience	4.38	2.21	3.30
Low Mortality Salience	4.54	4.95	4.75

Furthermore, contrast analysis in the One Way Anova test produces significant differences among the two groups, as shown in Table 4.

Table 4. Significant differences of means in manipulation check among priming

	Levene Test	Anova Test	Contrast Test		
			Nilai-t	df	Sig (2-tailed)
Low to High Mortality Salience	F = 2.187 Sig 0.138	F = 524.888 Sig = 0.000	-22.875	238	00
High to Low Mortality Salience			22.875	238	000

Table 4 shows the data has homogeneity of variance since the F value is 2.187 and the p-value is 0.138 (> 0.05),

based on the Levene test. The Anova test reveals the average values of all cells have significant differences. Here, the average value of the low mortality-salience group (3.30) significantly differs from the high group (4.75).

In summary, the priming stimulus on both groups is successful as the high mortality-salience group thinks that mortality is very close to their lives. On the other hand, the low mortality-salience group may think that their life would be normal.

Validity and Reliability Tests

The participants' perceptions are measured with two dependent variables; repurchase intention and willingness to recommend, which reflect brand engagement. Cronbach's Alpha values reflect the test, and these are shown in Table 5.

Table 5. Results of validity and reliability tests

Dependent Variable		Validity	Reliability
Brand Behavioral Intention	Repurchase Intention	0.933	0.960
	Willingness-to-Recommend	0.923	

Table 5 shows the values that fulfil the recommendation of Aaker et al. (2001), and as such, participants' answers on the given statements within each construct is consistent.

Main Effect Test

The main effect test examines the influence of main factors (mortality salience, self-esteem, and product category) on brand engagement factors (repurchase intention and willingness-to-recommend). The results reveal the impacts are significant, and thus, this indicates the dominant influence of the three factors on repurchase intention and willingness-to-recommend. In addition, the interaction effects do significant among the factors. Table 6 displays the results.

Table 6. Analysis of variance

Brand Behavioral-Intention		F	Sig.
Repurchase Intention			
Main Effect	Mortality Salience (A)	198.135 *	0.000
		437.000 *	0.000
		42.563 *	0.000
	Self-Esteem (B)	2.243	0.127
Interaction Effect	Product Category (C)	2.888	0.089
		4.229 *	0.041
		4.654 *	0.033
	A X B		
	A X C		
	B X C		
	A X B X C		
Willingness-to-Recommend			
Main Effect	Mortality Salience (A)	205.562 *	0.000
		471.433 *	0.000
		58.216 *	0.000

		F	Sig.
Interaction Effect	Self-Esteem (B)	2.489	0.118
	Product Category (C)	0.007	0.922
		0.111	0.776
		6.200 *	0.013
	A X B		
	A X C		
	B X C		
	A X B X C		

*significant at 0.05 level

Hypotheses Testing

This study tests four hypotheses. Hypothesis 1 tests the comparison of brand engagement in the high mortality salience and low mortality salience levels and within two states of self-esteem and two different product categories. The t-test shows that engagement is higher in the high mortality salience level. Table 7 shows the results in each state.

Table 7. Comparison of participants' brand engagement with high self-esteem on premium product and received different treatment of mortality salience (cells 1 and cell 5)

Brand Engagement	Cell	Mean	Mean difference	Test Results	
				t-value	Sig.
Repurchase Intention	1 5	7.032 5.763	1.266	4.577	0.000
Willingness-to-Recommend	1 5	7.033 5.555	1.465	4.543	0.000

Table 7 reveals Hypothesis 1 is accepted. Here, in the premium product category and high self-esteem state, brand engagement will be higher in the high mortality salience level than in the low one.

Hypothesis 2 states brand engagement of consumer who possesses low self-esteem on premium product, will be higher in the high mortality salience level than in the low mortality salience level. This indicates the hypothesis compares the participants' brand engagement in cells 2 and 6 in the premium product category ($\mu112-\mu212$). Table 8 shows the results.

Table 8. Comparison of participants' brand engagement that possesses low self-esteem on premium product and is received different treatment of mortality salience (cell 2 and cell 6)

Brand Engagement	Cell	Mean	Mean difference	Test Results	
				t-value	Sig.
Repurchase Intention	2 6	4.135 1.723	2.415	8.752	0.000
Willingness-to-Recommend	2 6	4.498 1.788	2.698	11.300	0.000

Table 8 reveals Hypothesis 2 is accepted. This indicates the premium product category and low self-esteem state; brand engagement will be higher in the high mortality salience level than in the low one.

Hypothesis 3 states brand engagement of consumer who possesses high self-esteem on the non-premium product, will be higher in the high mortality salience level than in the low mortality salience level. This indicates the hypothesis compares the participants' brand engagement in cells 3 and 7 in the non-premium product category ($\mu121-\mu221$). Table 9 shows the results.

Table 9. Comparison of participants' brand engagement with high self-esteem on non-premium product and received different treatment of mortality salience (cells 3 and cell 7)

Brand Engagement	Cell	Mean	Mean difference	Test Results	
				t-value	Sig.
Repurchase Intention	3 7	6.400 3.899	2.588	7.601	0.000
Willingness-to-Recommend	3 7	6.343 4.099	2.223	6.998	0.000

Table 9 shows Hypothesis 3 is accepted. This indicates in the non-premium product category and high self-esteem state; brand engagement will be higher in the high mortality salience level than in the low one.

Hypothesis 4 states brand engagement of consumer who possesses low self-esteem on the non-premium product, will be higher in the high mortality salience level than in the low mortality salience level. This result indicates the hypothesis compares the participants' brand engagement in cells 4 and 8 in the non-premium product category ($\mu122-\mu222$). Table 10 shows the results.

Table 10. Comparison of participants' brand engagement with low self-esteem on non-premium product and received different treatment of mortality salience (cells 4 and cell 8)

Brand Engagement	Cell	Mean	Mean difference	Test Results	
				t-value	Sig.
Repurchase Intention	4 8	3.377 1.203	2.232	7.533	0.000
Willingness-to-Recommend	4 8	2.877 1.000	1.890	7.320	0.000

Table 10 shows Hypothesis 4 is also accepted. This result indicates in the non-premium product category and low self-esteem state; brand engagement will be higher in the high mortality salience level than in the low one.

Conclusion

This research aims to test the effects of mortality threat on attitude and intention to buy branded health products in the era of COVID-19 pandemic, grounded in Terror Management Theory (TMT). The results show mortality salience, self-esteem, and product category deliver significant main effects on repurchase intention and willingness-to-recommend as the representations of brand engagement. This finding is in line with former researches that mortality salience affects product innovations (Boeuf, 2019), mortality salience stemmed from COVID-19 increases consumers' preferences for more expensive options (Kim et al., 2021), and that mortality salience decreases materialism and, as such resulting in less marketing stimuli (Huang et al., 2018).

In addition, there is an interaction among mortality salience, self-esteem, and product category within both brand engagement variables (repurchase intention and willingness-to-recommend). This indicates the dominant role of the independent factors and the impacts of mortality salience and self-esteem on brand engagement factors are influenced by product category. This is consistent with the former finding that mortality salience increases quantified self behaviour or self-esteem (Liu et al., 2021). In this sense, people tend to develop compensatory behaviour as a product category representative and increase charitable contributions when suffering control loss (Liu et al., 2021).

The results indicate the relevance of Terror Management Theory in understanding phenomenon within the consumer-brand relationship, especially in the use of self-esteem concept to elaborate on the different impacts of mortality salience on consumer judgments as a brand user. Mortality salience effects specific consumer choices under certain circumstances (Frandsen et al., 2019). Therefore, consumers' self-esteem may contribute to consumer preferences toward brands when they encounter mortality salience states. The judgment of a brand of a consumer with low self-esteem under mortality threats most likely differ from one with high self-esteem without such threats. The study's findings likely extend the discussion of branding strategy in terms of the elaboration of perception patterns and consumer acceptance of a brand when terrors in the form of mortality news occur.

Finally, the study shows the different impacts of mortality salience on brand engagement in different product categories. The hypotheses tests support the argument that in specific mortality salience settings, the brand engagement within the premium product category possesses higher value than in the non-premium product. This is in line with explaining the loyalty concept in the consumer behaviour approach, which emanates the level of consumer loyalty in high-involvement products generally higher than in the low-involvement product (Assael, 1998).

Based on the results, further studies on elaborating the impacts of mortality salience on brand

engagement, especially within the premium product category, are important.

Limitations and Future Research

The limitation of this study can be grouped into three issues: research design, the unit of analysis, and the research setting.

First, the cross-sectional design in the study cannot explain the shift of participants' behaviour over time. The observed behaviour may enable interpretation biases since the participants only deliver answers suitable to their current psychological state. This may result in situational and temporary answers. For example, the participants who own high emotional tension stemming from external factors' impacts prior to the experiment could potentially reveal different things than in the stable emotional state. Consequently, future research should analyse the dynamics of the participants with time-series data or using longitudinal field experiments.

Second, the participants are students of a university. As university students are more inclined toward innovations (Raskovic et al., 2016), they may be biased into the emotional hype of branded products and disregard the rational benefits of non-branded products. As such, future research should use wider demographical segments and consist of non-university students. This could produce more comprehensive findings.

Last, the current study setting is in one industry, which makes the results difficult to generalise on other industries with different characteristics. Thus, future research should test the research model on several industries or conducting comparisons across different contexts.

Acknowledgements

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