

# Exploring consumers' attitude formation toward their own brands when in crisis: cross-national comparisons between USA and China

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## Abstract

**Purpose** – This study aims to examine how culture influences consumer attitudes toward the brands of products they own during a product-harm crisis. To this end, average consumers from two countries - the USA, representing a highly individualistic society and China, a less individualistic (i.e. collectivist) society – are compared.

**Design/methodology/approach** – The study conducts an invariance test of the measurement model for a more rigorous comparison of the two countries. Structural equation modeling is performed to identify how average consumers respond to a product-harm crisis (e.g. iPhone explosion) based on survey results of 188 American and 197 Chinese consumers.

**Findings** – These results reveal that in both countries, an individual's susceptibility to a normative interpersonal influence determines their brand consciousness, which, in turn, enhances consumer attachment to well-known brands, resulting in favorable brand attitudes. During a brand crisis, an owned brand's buffering effect is observed among consumers high in brand consciousness in collectivistic but not in individualistic societies. The moderating role of feelings of betrayal on the brand attachment-consumer attitude relationship is also reported.

**Originality/value** – Culture shapes consumer behavioral patterns. In today's global market, a company's decisions are no longer limited by borders and many companies experience product failures. Thus, findings that show consumers' distinguishable psychological experiences between different cultures contribute to crisis management literature.

**Keywords** Brand consciousness, Crisis management, Brand attitude, Cross-cultural research, Brand attachment, Product-harm crisis, Feeling of betrayal, SNII

**Paper type** Research paper

## Introduction

"I will be as loyal and supportive to Toyota as they have been to me (despite their massive recalls)."

Gilbert Villanueva, a consumer who owned Toyotas for 32 years.

Product-harm crises such as product recall, are widely known to deteriorate a manufacturer's brand reputation, reduce perceived product value and decrease sales (Cleeren *et al.*, 2017; Hegner *et al.*, 2018; Whelan and Dawar, 2016). However, it appears that this is not true at all times, particularly when the consumer-brand relationship is especially strong (Khamitov *et al.*, 2020). For example, even though Toyota faced several massive recall crises over the past decade, the company was rated the most loved brand in the USA (PR Newswire, 2017). Another survey similarly revealed that, even after a massive recall, 33.2% of Toyota owners still perceived Toyota as better than other domestic automotive brands, while

only 13.2% of non-Toyota owners did (Mora, 2010). This result was unexpected, given that these incidents directly impacted only Toyota owners, but did not impact non-owners.

Researchers into consumer-brand relationships describe this phenomenon as characteristic of the positive role played by brand owners' psychological attachment to a brand (Britton and Fuendeling, 2005; Chiou *et al.*, 2013; Schmalz and Orth, 2012). Although a brand might do something bad, the brand users, if they have a deep attachment to the brand, are less concerned than non-users about such transgressions or harmful accidents (Aaker *et al.*, 2004; Thomson, *et al.*, 2005). Another interesting way to understand this phenomenon is "a possessed product as an extended self." Belk (1988) asserted that every individual expands his or her core self (e.g. body, ideas) through the possession of products and/or brands by which

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they create a self-identity. In the example previously discussed, Toyota was an object that owners used to mentally expand their self-identity, and thus, any fault attributable to Toyota would transfer to themselves. Therefore, Toyota owners tend to consider the social blame cast on Toyota less seriously in an effort to protect their core selves. One very important perspective to consider is that the self is a subjectively assessed construct and how one extends the self varies between cultures (Belk, 1988). That is, to fully understand how consumer utilization of products and brands extends the self, it is essential to identify how cultural influences shape the way such consumers construct and extend the self.

Following Belk's idea (1988), this study assumes that the dominant culture to which he or she belongs determines each individual consumer's perception about his or her own brand when it undergoes a product-harm crisis. Among diverse cultural variables, this study explores the cultural prism of "susceptibility to normative interpersonal influence" (SNII) and its sequential influence on brand consciousness. SNII indicates the degree to which each individual is influenced by others is known to be constructed differently across cultures, for example, Asian consumers are more susceptible to interpersonal influence than Western consumers (Shukla, 2011; Yim *et al.*, 2014). Consequently, each individual's motivation to use a well-branded name to decorate the self, namely, brand consciousness, is significantly affected by SNII, leading to other relevant constructs, including brand attachment and brand attitude, in the context of a product-harm crisis. Another important psychological variable included in this model is a consumer's *feeling of betrayal*. Even though many reports revealed that consumers experienced a high level of attachment toward the Toyota brand, Toyota was sanctioned not because of their frequent recalls, but because they were aware of - but hid and did nothing about - the fact that their products were faulty (Ross, 2010). Conversely, a proactive recall in the car industry is known to have a positive impact during crises (Souiden and Pons, 2009). That is, how consumers perceive a company's intent to betray them is believed to seriously threaten all the benefits that a company derives from strong brand attachment.

This proposed model is empirically tested using observations from two countries: the US, generally known as an individualistic country low in SNII and China, known as a collectivistic country high in susceptibility to normative interpersonal influence (SNII). To the best of our knowledge, only a few cross-cultural studies previously considered how culture shapes consumer responses to product-harm crises (Baghi and Gabrielli, 2019; Muralidharan *et al.*, 2019). Moreover, given that a limited number of studies have explored consumer-based cues such as pre-crisis attitude toward a company, gender, uncertainty avoidance or brand attachment style in the context of product-harm crises (Ahluwalia *et al.*, 2000; Dawar and Pillutla, 2000; Kim and Atkinson, 2014; Laufer and Coombs, 2006; Whelan and Dawar, 2016), it is deemed imperative that the role of another consumer-based cue - SNII and related constructs (i.e. brand consciousness) during brand crisis - should be investigated as a means of expanding this line of research. The examination of the consumer characteristics influenced by culture is expected to provide further practical implications, provided that a

company's decisions are no longer limited by geographic borders in today's global market.

## Theoretical background

### Role of culture in product-harm crises

Wang and Laufer (2020) suggest that it may not be valid to apply western-based frameworks of crisis management to crisis contexts in eastern cultures because cultural differences work in this mechanism. Despite such cultural influences in crisis management, in the domain of product-harm crises, few studies examined the impact of cultural factors within a country or between countries. It is surprising that a systematic review of research on product-harm crises in marketing literature overlooked the identification of culture as an antecedent that affects consumer responses (Cleeren *et al.*, 2017). Only a handful of studies considered cultural variables in product-harm crises. Some studies conducted individual comparisons of cultural factors such as self-construal, individualism/collectivism and uncertainty avoidance within a country (Laufer *et al.*, 2005; Akpınar *et al.*, 2018; Yu *et al.*, 2019; Wu *et al.*, 2020). For example, Laufer *et al.* (2005) discovered that consumers living in countries with the cultural dimension of a high level of uncertainty avoidance (e.g. Germany, Mexico and South Korea) tend to consider an ambiguous product-harm crisis more seriously, resulting in a greater amount of blame for a product-harm crisis being accorded to a company than to a country that ranks low on the uncertainty avoidance scale (e.g. Denmark, Singapore and Sweden). Unfortunately, their study only tested the hypothesis considering individual differences within a single country, Mexico, so their study cannot be termed a cross-cultural or cross-national comparison.

Other studies focused on cultural comparisons between countries. For instance, Baghi and Gabrielli (2019) examined how cultural belonging (i.e. collectivistic vs individualistic) moderates the effects of the crisis typology (i.e. value-related crisis vs performance-related crisis) on consumers' negative emotions and behavioral intentions (i.e. negative word-of-mouth, purchase intention) by comparing Italian and Filipino consumers. The findings of this experimental study suggest that people in collectivistic cultures (e.g. the Philippines) generate greater negative behavioral intention by producing stronger negative emotions when faced with a value-related crisis compared with a product-related crisis. This observation was not discovered in individualistic cultures (e.g. Italy). Using data from Hong Kong and Canada, Muralidharan *et al.* (2019) further found that individuals in a collectivistic culture (e.g. Hong Kong) generate a greater perception of fairness and subsequently yield higher consumer satisfaction when a firm solves product failure complaints in a timely manner, relative to those in individualistic cultures (e.g. Canada).

### Susceptibility to normative interpersonal influence and brand consciousness

In consumer research, SNII is a well-known consumer trait shown to influence each individual's decision-making process (Fan *et al.*, 2019; Mourali *et al.*, 2005; Sharma and Klein, 2020; Shukla, 2011; Yim *et al.*, 2014). This construct is manifested largely as consisting of two dimensions - normative and informational influences (Deutsch and Gerard, 1955). The

normative dimension is defined as a consumer's tendency to comply with others' expectations (e.g. utilitarian influence) or a consumer's desire to strengthen his or her own self-identity by conforming to referent identification (Burnkrant and Cousineau, 1975). The informational dimension pertains to a consumer's tendency to seek information from others or make inferences by observing the behavior of others (Park and Lessig, 1977).

Scholars in previous social and cultural studies have paid more attention to the role of SNII (Liu *et al.*, 2018; Shukla, 2011; Yim *et al.*, 2014) because it is value-expressive in explaining behavioral outcomes and attitude formation processes. For instance, higher SNII leads to more involvement in purchasing decisions regarding fashionable clothing (Khare *et al.*, 2012), favorable attitudes toward luxury brands (Gentina *et al.*, 2016), higher behavioral intentions for luxury goods (Shukla, 2011; Kautish *et al.*, 2020) and greater purchase intentions for counterfeit goods (Malik *et al.*, 2020). From a social identity perspective, individuals attempt to build a social affiliation by acquiring goods that are approved by others deemed significant (Gentina *et al.*, 2016). Such acceptance and recognition of, social groups is a strong driver, particularly for individuals with higher levels of SNII (Clark and Goldsmith, 2006). Thus, individuals having that belief pay more attention to the socially visible attributes of products (Batra *et al.*, 2001) because those socially visible attributes contribute to conspicuous consumption and reflect one's social status (O'Cass and McEwen, 2004). In this regard, the desire for social acceptance within an individual's social group motivates them to possess branded goods that can be recognized and appreciated by significant others. Accordingly, an individual with a high SNII is more likely to be conscious about owning a specific brand-name product that can demonstrate his or her self-identity to significant others. A theoretical construct that reflects this consumer psychology is called brand consciousness (BCO).

BCO refers to a consumer's psychological orientation of "well-known and highly advertised brands" (Liao and Wang, 2009, p. 990). Brand sensitivity is sometimes used interchangeably with brand consciousness, as they have been found to be highly correlated with each other (Workman and Lee, 2013). BCO represents a consumer's motivational desire to express his or her self-concept or identity and, accordingly, determines a consumer's approach to making consumption choices (Jiang and Shan, 2016). That is, consumers higher in BCO are more concerned about how others view themselves and, therefore decorate themselves using branded products approved by others, whereas those lower in BCO are likely to choose brands that they personally prefer without consideration for others might evaluate them (Solomon, 1983; Nan and Heo, 2007; Mainolfi, 2020). As such, BCO is affected by the degree to which an individual is influenced by others (Yim *et al.*, 2014) and motivates him or her to comply with the social and cultural rules imposed by their reference group (Douglas and Isherwood, 1979).

In short, as a general human characteristic across countries and cultures, a branded good is generally utilized to establish one's self-identity in interpersonal relationships (Solomon, 1983; Keller, 1993). Thus, this study proposes that SNII is an antecedent of BCO, as follows:

H1. For both American and Chinese consumers, SNII positively affects brand consciousness.

### The impact of brand consciousness on brand attitude in product-harm crisis situations across cultures

Then, how does BCO affect consumers' attitude formation processes, particularly when a well-known brand they use faces a crisis? Will it provide a buffer because brand owners' BCO activates their defensive psychological systems to protect the brand from the owners' negative evaluations? Or will it intensify their disappointment with the brand? Given the argument that BCO is influenced by the degree to which an individual is influenced by others (Douglas and Isherwood, 1979; Yim *et al.*, 2014), the greater culture should also be considered in a rigorous examination exploring the role of BCO in brand evaluation during a brand crisis.

An individual's self-concept can be perceived in different ways according to culture. While people in an individualist culture might view each person as an autonomous entity with unique attributes that are distinctively independent of others, those in collectivistic cultures perceive an individual's self-concept as being derived from social relationships (Markus and Kitayama, 1991). That is, the self-identity that consumers attempt to build and express by consuming branded goods is more likely to be affected by others in a collectivistic society than in an individualistic society. Applying this logic to the current context of product failure, in a collectivist culture (e.g. China), brand-name goods approved by others are more likely to be used to embellish one's self-concept would be less vulnerable to any adverse effects that a crisis may have on brand evaluation. This assumes that the brand is still accepted or approved unless a majority of significant others reject the brand as a result of the brand crisis. On the contrary, in a highly individualistic society (e.g. the US), one's brand evaluations are independently and immediately determined based on an individual's subjective judgment, regardless of how others view the brand in terms of a product-harm crisis. That is, the positive buffering effect of BCO on the product in crisis might not be manifest in a highly individualistic society.

A social environment different by culture further determines one's style of thinking. The examinations of the style of thinking in cross-cultural contexts suggest that in the collectivistic culture, individuals are likely to be holistic thinkers that view an object based on contexts and situations surrounding it. However, in the individualistic culture, those are likely to be analytic thinkers that have a tendency to detach it from social contexts and focus on its attributes (Nisbett *et al.*, 2001). Such a different thinking style by cultural environments affects consumer's cognitive process and brand evaluations in a brand crisis. According to the attribution theory (Weiner, 1985), consumers attempt to attribute an event to internal or external factors. While holistic thinkers (e.g. collectivistic people) have a preference for assigning a causality of a brand crisis to contextual factors that result in less blame on the brand, analytic thinkers (e.g. individualistic people) have an inclination to make causal explanations of the crisis based on its internal factors resulting in more devastating effects on brand evaluations (Klein and Dawar, 2004; Monga and John, 2008).

This difference in the *locus* of attribution by thinking style would also affect the role of BCO in the current context of the study. Applying it to the product-harm crisis context, it is expected that collectivistic consumers who are more concerned about branded goods may try to find causal explanations from situational factors whereas individualistic consumers with greater BCO may place more emphasis on internal factors including brand attributes. As a result, in the collectivistic society, for consumers higher in BCO, the brand would be less responsible for the crisis thereby generating less attitude change toward the brand in crisis. Conversely, in the individual society, the brand would be evaluated in a more objective manner and receive more blame thereby eliminating such buffering effect of BCO.

The USA is known to be a significantly more individualistic society than China, as evidenced by their individual index scores – 92 and 20, respectively (Hofstede and Bond, 1984; Hofstede and Hofstede, 2004). It may be inferred from such scores that relative to the US, China is significantly more susceptible to others' influence (Mourali *et al.*, 2005; Shukla, 2011; Yim *et al.*, 2014). Taken all these ideas together, we predict the following hypothesis:

*H2a.* In times of product-harm crisis, the greater BCO of American consumers will not lead to more positive brand attitudes.

*H2b.* In times of product-harm crisis, the greater BCO of Chinese consumers will lead to more positive brand attitudes.

The underlying mechanism behind brand owners' BCO impacting the brand attitude formation process can be better understood with respect to another important psychological construct, brand owners' brand attachment. In the next section, we discuss its mediating role in the relationship between owners' BCO and brand attitudes.

### The mediating role of owner attachment to the brand

According to Beggan (1992), a mere ownership effect suggests that individuals evaluate an object more favorably merely because they own it. The mere ownership effect is not related to the frequency of using or degree of exposure to the owned object but to their psychological tendency to make self-enhancing judgments based on their possession compared to others' (Nesselroade *et al.*, 1999). The history of ownership of an item also functions to increase the value attached to it, suggesting that a psychological sense of ownership may persist, even after an item is physically lost (Strahilevitz and Loewenstein, 1998). In the context of consumer behavior, prior research shows that brand ownership generates brand supportive behaviors (Chen and Tsai, 2021). For instance, Kirmani, Sood and Bridges (1999) demonstrated that owners of a particular brand have more favorable responses to that brand's extensions than do non-owners, implying that owning a brand is not a static condition but a dynamic activity generating attachment to the brand.

As such, it is basically assumed that brand owners would have a certain level of attachment once they own it (Dommer and Winterich, 2021), namely, a *brand attachment* that is defined as “the strength of the cognitive and emotional

bond connecting the brand with the self” (Park *et al.*, 2006, p. 3). Once the brand attachment is formed, it is not easily broken by external factors such as a brand crisis and even it serves as a buffer to alleviate aggravating effects by the crisis (Torres *et al.*, 2020). This is because people are inclined to retain the self-concept intact that positive emotions attached to a brand are conducive to activate a motivation to justify the crisis (Lee, 2016; Schmalz and Orth, 2012). By activating defensive information processing, people who are strongly attached to a brand tend to resist attitude and/or behavior changes resulting from negative information about the brand and consequently protect the emotion-laden bondage to the brand (Britton and Fuendeling, 2005; Chiou *et al.*, 2013; Jeon and Baeck, 2016; Lee, 2016; Schmalz and Orth, 2012).

In summary, brand-dependent consumers who often own brand-name products used to decorate themselves for others are likely to deepen their cognitive and emotional bond to the brand (Nan and Heo, 2007; Solomon, 1983). Consequently, a much stronger attachment to the brand would alleviate negative changes in brand evaluation when a brand is faced with a product-harm crisis. Thus, the mediating role of brand attachment in this process is hypothesized as follows.

*H3.* In times of product-harm crisis, for both American and Chinese consumers, the brand attachment will mediate the relationship between BCO and brand attitudes.

### Moderating role of feelings of betrayal

One possible human psychological trait that can be evoked during a product-harm crisis is a *feeling of betrayal*. Betrayal is commonly defined as a human feeling generated from a violation of expectations or a psychological contract significant in personal relationships (Jones and Burdette, 1994; Morris and Moberg, 1994). Feelings of betrayal result in negative emotional reactions (e.g. psychological loss, anger) (Rachman, 2010; Reimann *et al.*, 2018), negative attitudinal and behavioral responses (e.g. negative change of attitude, brand avoidance, loss of purchase intention, negative word-of-mouth) (Wang and Huff, 2007; Li, 2015; Sohn and Lariscy, 2015; Ward and Ostrom, 2006; Kim *et al.*, 2017; Tan *et al.*, 2021) and even retaliatory consumer behavior (e.g. revenge, boycott) (Grégoire *et al.*, 2009; Omar *et al.*, 2018; Hai-Ming *et al.*, 2020; Tan *et al.*, 2021).

Prior research suggests that factors including failure severity (Sakulsinlapakorn and Zhang, 2019), attributed responsibility, consumer-company relationship, company's defining attribute and customer-company identification (Ma, 2018) are likely to increase consumers' negative emotions (e.g. feelings of betrayal). Ma's (2018) findings demonstrate that consumers have a tendency to perceive betrayal when a brand crisis is directly related to the brand's defining attribute and when they identify strongly with the brand. This evidence supports why companies should address feelings of betrayal along with brand owners' attitude formation processes when a product fails. Under this context, feelings of betrayal can be activated when brand owners who were previously identified with their owned brands by consuming them are confronted with a violation of the brand's defining attribute (e.g. battery explosion). Expectancy violation theory (Jackson *et al.*, 1993) suggests that

the expectation of a company associated with corporate ability/competence could be violated by a product-harm crisis thereby leading to feelings of betrayal. For product owners who expect product quality from the company with which they have a positive corporate ability association, a product-harm crisis (e.g. battery explosion) can be perceived as an unexpected and surprising event that may violate their expectations. That is, consumers' positive expectations of the company, which are infused with corporate associations (i.e. corporate ability such as product competence) in a non-crisis situation, might be threatened by a product-harm crisis closely related to the corporate associations, resulting in feelings of betrayal.

As addressed earlier, people who are strongly attached to a brand are inclined to process negative information in a biased manner to protect their emotion-laden bondage to the brand, thereby resulting in resisting attitude and/or behavior changes in brand crisis. Interestingly, however, past research shows that the cushioning effect is limited to a moderate crisis, and thus, the brand attachment would work only within a specific zone of tolerance (Schmalz and Orth, 2012). This is because minor or moderately negative information is not bad enough to sway people in arriving at the desired conclusion through activating the defensive information process. However, extremely negative information exceeds even strongly attached consumers' forgiving levels of tolerance (Bhattacharya and Sen, 2003). In such cases, these consumers adopt a highly diagnostic and unbiased manner (Herr et al., 1991) that allows them to make rational judgments.

Following this logic, as perceived severity of crisis limits the buffering effect of brand attachment (Schmalz and Orth, 2012), consumer's sense of betrayal that can occur during the crisis may play a similar role in the effect of brand attachment. That is, when consumers feel less betrayed by the brand's involvement in a negative incident, people who are strongly attached to the brand are willing to activate the defensive information process to retain their relationship with the brand. On the contrary, when the feeling of betrayal reaches beyond the tolerance zone, even those with strong bondage to the brand may not activate the defensive mode, yet adopt an objective and unbiased manner in processing the negative information. We, thus, posit the following hypothesis.

**H4.** In times of product-harm crisis, for both American and Chinese consumers, a feeling of betrayal will moderate the effects of brand attachment on brand attitudes. Specifically, for consumers low [high] in a feeling of betrayal, the effect of brand attachment on brand attitudes will be stronger [weaker], compared to consumers high [low] in feelings of betrayal.

## Method

### Development of study material

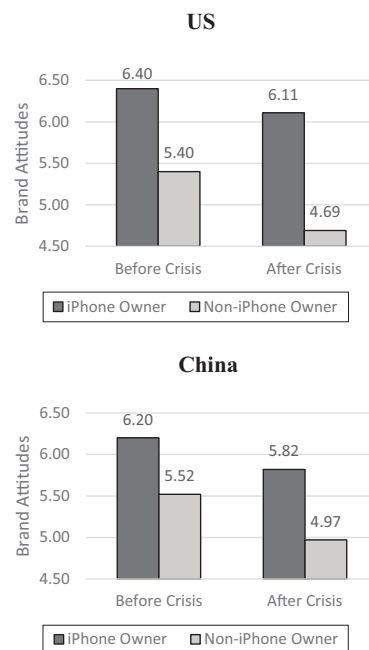
A theoretical model has been constructed using the proposed hypotheses. To empirically test the model, we used a crisis context for the study that depicted the battery explosion of an iPhone. Such an incident in fact happened in the recent past (Sherman, 2014), and thus, using a similar scenario was deemed likely to increase the external validity of this study's findings. A smartphone is one frequently used example of a self-

identifiable product that most people own and use on a daily basis (Ling and Campbell, 2011). Further, the smartphone is relatively a high involvement product and a socially visible product. The brand attachment in this product category seems to be higher than in any other product category, suggesting that people extend the self by emotionally connecting the self to the product. In this scenario, out of smartphone brands available in China, Apple was chosen because it is a reputable global brand that has created a strong bond with its users.

To validate the assumption that brand owners consider the brand as an extension of the self, we invested considerable effort in empirically confirming whether brand ownership indeed had a cushioning effect under our product-harm crisis scenario. Repeated measures revealed that consumers who owned Apple iPhones showed consistent brand attitudes toward Apple even after a product-harm crisis, while non-owners showed reduced attitudes toward Apple in both countries (Figure 1) (US:  $M_{owner\_before} = 6.40$ ,  $SD = 0.82$ ,  $M_{owner\_after} = 6.11$ ,  $SD = 1.22$ ,  $M_{non-owner\_before} = 5.40$ ,  $SD = 1.56$ ,  $M_{non-owner\_after} = 4.69$ ,  $SD = 1.78$ ,  $F(1, 394) = 13.98$ ,  $p < 0.001$ ; China:  $M_{owner\_before} = 6.20$ ,  $SD = 0.93$ ,  $M_{owner\_after} = 5.82$ ,  $SD = 1.20$ ,  $M_{non-owner\_before} = 5.52$ ,  $SD = 1.39$ ,  $M_{non-owner\_after} = 4.97$ ,  $SD = 1.60$ ,  $F(1, 389) = 4.51$ ,  $p < 0.05$ ). Therefore, it is evident that iPhone users from both countries have a strong bond with the Apple iPhone and that the branded product is believed to be an appropriate object in exploring the concept of the extended self.

To create a crisis context, we fabricated a news article. The article, based on a real news story, reported an iPhone user's death due to a battery explosion (Appendix). A pretest was conducted to see if the crisis severity of the fabricated incident was perceived equally by both the US and Chinese subjects (Laufer et al., 2005; Schmalz and Orth, 2012). A three-item, seven-point Likert-type scale was used to measure the

**Figure 1** Brand attitudes toward Apple before and after a product-harm crisis by ownership



perception of crisis severity (Grégoire and Fisher, 2008). In total, 36 graduate students (18 from the USA and 18 from China) participated in the pretest. Results of the pretest showed no significant difference in perceived crisis severity across the two groups ( $M_{US} = 4.30$ ,  $M_{China} = 5.04$ ,  $t(34) = 1.47$ ,  $p = 0.152$ ). Considering that the positive effects of brand attachment appear to be shown in a moderate crisis and disappear in an extremely severe crisis (Schmalz and Orth, 2012), a moderately severe perception of the hypothetical crisis was appropriate for the study manipulation.

### Sample

Samples from the USA and China were obtained by hiring an international research firm, Qualtrics, to collect responses in each country over the same time period through an online survey. By having one representative staff member of the research firm conduct the survey at the same time in both countries, we attempted to reduce any potential bias from using a separate research firm, respectively, for each country in the data collection process. To obtain the sample targeted by this study - iPhone users in both countries - screening questions for the study concerned location of residence and smartphone brand ownership. We, thus, removed participants who reported a residence outside the surveyed country and whose smartphone brand was anything other than an iPhone. After data cleaning, a final sample size of 188 from the USA and 197 from China was used for all data analyzes. Both country samples showed a similar gender ratio (46.4% male in the USA and 47.7% male in China) and a majority of the survey participants held college or post-graduate school educational level. There was a discrepancy between the sample groups of the USA and China in terms of average age ( $M_{US} = 48$ ,  $M_{China} = 35$ ). Yet, as all statistical analyzes were conducted based on the data that passed the measurement invariance test of the measured constructs, no significant statistical issues were expected in the comparisons made between the two countries (Steenkamp and Baumgartner, 1998). Approximately 87.8% were Caucasian, 4.8% Hispanic, 4.3% Asian, 2.7% African American and 0.5% Other in the US sample, while 100% Asian in China.

### Operational measures

Referring to existing literature, respondents were first asked to answer questions about their individual traits such as SNII (Bearden *et al.*, 1989) and brand consciousness (BCO) (Nan and Heo, 2007). They then read fabricated news articles and answered a set of questions measuring perceived crisis severity, attachment to iPhone (i.e. brand attachment) (Park *et al.*, 2010), feelings of betrayal (Grégoire and Fisher, 2008) and attitude toward the brand (MacKenzie and Lutz, 1989). The survey questionnaire ended with some demographic questions. All measures were assessed using a seven-point semantic differential or Likert-type scale. Table 1 presents a detailed summary.

The questionnaire was first developed in English, as all of the original scales used for the study were initially developed in English. Two Chinese-English bilingual graduate students were involved in the translation and back-translation process for the survey in China (Marin and Marin, 1991). So as to not lose the original meaning of the survey items, they first

translated them liberally, accordingly retaining social and cultural contexts in China (Douglas and Nijssen, 2003). In cases of different translations, the two translators resolved them by discussing the differences in the translated items. As such, a Chinese version of the questionnaire was finally developed that best retained the original meaning of the survey instrument items as used in the English language and achieved the most equivalent wording for the survey questionnaire to be used in China.

## Results

### Manipulation check

To test the success of this study's manipulation for a product-harm crisis, the respondents' answer for the level of perceived crisis severity across the USA and China was compared. The result revealed statistically equivalent levels of crisis severity across two countries ( $M_{US} = 4.58$ ,  $M_{China} = 4.47$ ,  $t(366.11) = 0.59$ ,  $p = 0.558$ ). A subsequent one-sample *t*-test with the test value of crisis at a moderate level of severity = 4.0 showed that both country samples perceived significantly greater crisis severity than a moderate level of severity (US:  $t(187) = 4.14$ ; China:  $t(196) = 4.17$ ,  $p < 0.001$ ). Therefore, we concluded that the scenario manipulation of crisis severity was successful.

### Scale reliability and validity

To identify weak-loading items and refine the indicators of constructs, we first conducted an exploratory factor analysis (EFA) and removed all items with a factor loading of less than |0.4| on the respective construct. This resulted in the removal of two items from SNII (*I rarely purchase the latest fashion styles until I am sure my friends approve of them*; *When buying products, I generally purchase those brands that I think others will approve of*) and two items from the brand attachment (*To what extent do you feel emotionally bonded to Apple?*; *To what extent do you have many thoughts about Apple?*). The reliability test showed the acceptable range of Cronbach's  $\alpha$  ( $0.86 \leq \alpha \leq 0.98$ ). To conduct a more rigorous reliability check, we followed EFA by running a confirmatory factor analysis (CFA); US:  $\chi^2(164) = 495.009$ , CFI = 0.931, NNFI = 0.920, SRMR = 0.051, RMSEA = 0.104; China:  $\chi^2 = 431.484$ , CFI = 0.919, NNFI = 0.907, SRMR = 0.061, RMSEA = 0.091. This enabled us to run composite reliability tests, results of which also revealed an acceptable range of composite reliability from 0.87 to 0.98 in this assessment.

To test the scale validity of the constructs in the proposed model, we conducted convergent and discriminant validity tests. The convergent validity test was performed by checking to determine if each construct's average variance extracted (AVE) was 0.50 or greater. Results confirmed convergent validity ( $0.58 \leq AVE \leq 0.94$ ) (Fornell and Larcker, 1981). Discriminant validity was tested by determining whether the AVE for each construct was greater than its squared correlation (Lichtenstein *et al.*, 1990). As shown in Table 1, the AVEs of all the constructs in the proposed model exceeded these squared correlations, confirming discriminant validity. In summary, all the constructs from both country samples satisfied all the required tests for reliability and validity.

Table 1 Factor loadings, reliability and convergent and discriminant validity of constructs

Scale items	US	China	Reference
<i>Susceptibility to normative interpersonal influence (SNII)</i>			
			Bearden <i>et al.</i> (1989)
It is important that others like the products and brands I buy	0.88	0.62	0.81
If other people can see me using a product, I often purchase the brand they expect me to buy	0.92	0.75	0.75
I like to know what brands and products make good impressions on others	0.92	0.62	0.69
I achieve a sense of belonging by purchasing the same products and brands that others purchase	0.94	0.89	0.73
If I want to be like someone, I often try to buy the same brands that they buy	0.93	0.87	0.70
I often identify with other people by purchasing the same products and brands they purchase	0.94	0.79	0.67
Cronbach's alpha ( $\alpha$ )	0.97	0.89	
Composite reliability	0.97	0.92	0.88
Average variance extracted (AVE)	0.85	0.58	0.53
Squared correlation	0.00–0.47	0.00–0.25	
<i>Brand consciousness</i>			
			Nan and Heo (2007)
I pay attention to the brand names of the products I buy	0.81	0.82	
Sometimes I am willing to pay more money for a product because of its brand name	0.79	0.79	
I believe the brands I buy are a reflection of who I am	0.87	0.86	
Cronbach's alpha ( $\alpha$ )	0.87	0.86	0.74
Composite reliability	0.87	0.87	
Average variance extracted (AVE)	0.68	0.68	
Squared correlation	0.01–0.47	0.01–0.32	
<i>Brand attachment [mediation]</i>			
			Park <i>et al.</i> (2010)
To what extent is the iPhone part of you and who you are?	0.90	0.79	0.89
To what extent do you feel emotionally bonded to the iPhone?	0.92	0.81	0.90
To what extent is the iPhone part of you?	0.95	0.84	0.92
To what extent does iPhone say something to other people about who you are?	0.87	0.85	0.75
To what extent are your thoughts and feelings toward iPhone often automatic, coming to mind seemingly on their own?	0.88	0.90	0.57
To what extent do your thoughts and feelings toward iPhone come to your mind naturally and instantly?	0.89	0.87	0.53
To what extent do your thoughts and feelings toward iPhone come to mind so naturally and instantly that you do not have much control over them?	0.71	0.72	0.52
To what extent does the word iPhone automatically evoke many good thoughts about the past, present, and future?	0.82	0.84	0.70
Cronbach's alpha ( $\alpha$ )	0.96	0.94	
Composite reliability	0.97	0.95	0.94
Average variance extracted (AVE)	0.76	0.69	0.55
Squared correlation	0.01–0.38	0.04–0.32	
<i>Feeling of betrayal [moderation]</i>			
			Grégoire and Fisher (2008)
After being aware of the incident described in the news article, I felt cheated by Apple	0.98	0.94	
After being aware of the incident described in the news article, I felt betrayed by Apple	0.98	0.96	
After being aware of the incident described in the news article, I felt lied to by Apple	0.98	0.95	
Cronbach's alpha ( $\alpha$ )	0.98	0.95	
<i>Attitudes toward Apple</i>			
			Spears and Singh (2004)
Bad – good	0.98	0.93	0.91
Unpleasant – pleasant	0.97	0.96	0.91
Unfavorable – favorable	0.96	0.93	0.95
Cronbach's alpha ( $\alpha$ )	0.98	0.96	
Composite reliability	0.98	0.96	0.95
Average variance extracted (AVE)	0.94	0.88	0.85
Squared correlation	0.00–0.07	0.00–0.28	

Note: All sample members from both countries own an iPhone

### Assessing measurement invariance of the measured constructs

By nature, cross-cultural studies adopt measurement instruments that cannot be universally applied to multiple cultures and/or nations because the instruments developed in one culture might possibly cause an unexpected bias toward another culture; the required linguistic translation process might mislead subjects' opinions on survey questions (Burton, 2015; Jeong and Lee, 2019). Accordingly, to avoid obtaining misleading results due to invalid measurement tools, all cross-cultural studies that quantitatively compare groups of people from different cultures should conduct invariance tests that enable researchers to measure and confirm whether the instrument is operative and applicable across different cultures, although a majority of the cultural studies in academia, unfortunately, disregard this statistical consideration.

To establish the validity of the proposed model for the samples from the two countries, the current study adopted Steenkamp and Baumgartner's (1998) recommended measurement invariance test. This test consists of conducting comparisons of model fit among the constrained model parameters for configural, metric and scalar invariance. Comparisons were based on estimating a sequence of multi-group structural equation models (SEM) with increasingly constrained parameters across the two groups using AMOS 22.0. Many prior studies have asserted that in cross-cultural studies it is highly difficult, for a variety of reasons, to pass all three of these measurement invariance tests (Steenkamp and Baumgartner, 1998). Other cross-national studies (Davidov, 2008; Schaffer and Riordan, 2009) have failed to find measurement invariance and were forced to reduce the number of countries included in their analyzes. To achieve successful measurement invariance, a couple of solutions are suggested. First, researchers can use the measures that have been confirmed in many prior studies that have evidence of strong validity and reliability (Shavitt et al., 2006; Singelis et al., 1995; Sivadas et al., 2008; Soh and Leong, 2002). Second, the translation and back-translation process of the measures should be carefully managed to reduce possible variances (Marin and

Marin, 1991). Finally, within limits, constructs indicated by a smaller number of items can increase the likelihood of achieving measurement invariance across a greater number of countries because of the reduced numbers of parameters to be estimated for which invariance must be established (Jöreskog, 1993).

Consistent with what much prior research has confirmed, we struggled to pass all the required tests to achieve measurement invariance across the two countries in this study. Configural invariance tests confirmed that the indicator variable loading pattern was consistent across the two countries, showing CFI = 0.926, NNFI = 0.915, SRMR = 0.051, RMSEA = 0.069, which exceeded the acceptable guidelines for this test (Kelloway, 1998; Table 2). Full metric invariance could not be achieved. There was a significant difference between the configured invariance and full metric invariance models ( $p < 0.001$ ). Thus, we tried to establish partial metric invariance by freeing the invariance constraints on one indicator variable for SNII (*It is important that others like the products and brands I buy*) and three for brand attachment (*To what extent do you feel emotionally bonded to iPhone? To what extent is the iPhone part of you? To what extent does the word iPhone automatically evoke many good thoughts about the past, present and future?*), with the result of a non-significant difference in the  $\chi^2$  difference test ( $\Delta\chi^2 = 15.439$ ,  $\Delta df = 10$ ,  $p = 0.117$ ). Yet, because we could not achieve either full or partial scalar invariance, we were only able to directly compare the structural path parameter values and not make direct mean comparisons across the two countries.

### Testing hypotheses

After establishing partial metric invariance of the measurement model, multi-group SEM was performed to assess invariance of structural path parameter values across the two countries (Table 3). The result revealed that significant differences were detected in the structural parameters between the USA and China ( $\Delta\chi^2 = 39.239$ ,  $\Delta df = 14$ ,  $p < 0.001$ ). This means that the proposed model applies differently to the two country samples. We found that a significant difference was generated

**Table 2** Assessment of measurement invariance between the USA and China

Invariance	$\Delta\chi^2$ ( $\Delta df$ )	$\chi^2$ ( $df$ )	Sig.	CFI	NNFI	SRMR	RMSEA
Configural invariance model (M1)		926.504 (328)		0.926	0.915	0.051	0.069
Partial metric invariance model (M2)	M2 – M1 15.439 (10)	941.943 (338)	$p = 0.117$	0.926	0.917	0.052	0.068

**Table 3** Multi-group structural model comparison between the USA and China

Model description	$\Delta\chi^2$ ( $\Delta df$ )	$\chi^2$ ( $df$ )	Sig.	CFI	NNFI	SRMR	RMSEA
Unconstrained model (P1)		969.392 (332)		0.922	0.910	0.059	0.071
Constrained model (P2)	P2 – P1 39.239 (14)	1008.630 (346)	$p < 0.001$	0.919	0.911	0.095	0.071
Partially constrained model (P3)	P3 – P1 18.722 (13)	988.114 (345)	$p = 0.132$	0.921	0.913	0.062	0.070

**Notes:** P1 = partial metric model; P2 = model with equality constraint imposed; P3 = model with equality constraint imposed except "brand consciousness → brand attitudes" (H4)



because of the path parameter difference linking BCO to brand attitude ( $\beta_{US} = -0.06$ , *n.s.*;  $\beta_{China} = 0.22$ ,  $p < 0.05$ ). To statistically confirm it, we freed the path of “brand consciousness → brand attitude” and compared this partially constrained model with the unconstrained model. The chi-square difference test revealed no significant difference in the structural parameters across the two countries ( $\Delta\chi^2 = 18.722$ ,  $\Delta df = 13$ ,  $p = 0.132$ ). It is, thus, concluded that the significant difference of the model across the two countries was derived from the path of “BCO → brand attitude.”

To test the proposed hypotheses, we first checked the overall fit of the model separately based on each country sample. The analysis result confirmed that both countries' models generally showed acceptable fit (US:  $\chi^2(166) = 500.487$ , CFI = 0.931, NNFI = 0.920, SRMR = 0.059, RMSEA = 0.104; China:  $\chi^2(166) = 468.898$ , CFI = 0.909, NNFI = 0.896, SRMR = 0.107, RMSEA = 0.096). Next, hypothesis testing was performed by confirming the significance of the hypothesized paths. H1 predicted that SNII positively affects attitudes toward the brand. As expected, the proposed path was statistically supported for both countries ( $\beta_{US} = 0.73$ ,  $p < 0.001$ ,  $\beta_{China} = 0.45$ ,  $p < 0.001$ ), supporting H1. H2 predicted that the effect of BCO on attitudes toward the brand in times of product-harm crisis would be manifest only in China ( $\beta_{US} = -0.06$ , *n.s.*;  $\beta_{China} = 0.22$ ,  $p < 0.05$ ). The results showed that only in China was there a significant direct relationship between BCO and brand attitude, thus providing support for H2a and H2b. H3 predicted the mediating role of brand attachment in both countries. For a statistical test for this hypothesis, an indirect effect of BCO on brand attitudes through brand attachment was examined, after conducting a bootstrapping based on  $n = 1,000$ . As predicted, the results revealed that in both countries, brand attachment served as a mediator between brand consciousness and brand attitude. Yet, the model in the USA showed that brand attachment functioned as a full mediator (US:  $\beta_{BCO \rightarrow \text{brand\_attachment} \rightarrow \text{brand\_attitudes}} = 0.18$ ,  $p < 0.01$ ,  $\beta_{BCO \rightarrow \text{brand\_attitudes}} = -0.06$ , *n.s.*). However, the model in China showed that brand attachment functioned as a partial mediator (China:  $\beta_{BCO \rightarrow \text{brand\_attachment} \rightarrow \text{brand\_attitudes}} = 0.35$ ,  $p < 0.01$ ,  $\beta_{BCO \rightarrow \text{brand\_attitudes}} = 0.22$ ,  $p < 0.05$ ). Therefore, H3 was supported (Table 4 and Figure 2).

To test the moderating role of feelings of betrayal on the relationship between brand attachment and brand attitude (H4), moderated regression analysis was used to handle continuous variables in their original forms with the PROCESS Model 14 (Hayes, 2013). The results identify that in the US sample, BCO was significant for brand attachment (BCO → brand attachment:  $\beta = 0.69$ ,  $t(186) = 11.93$ ,  $p < 0.001$ ) and the interaction of brand attachment and betrayal was significant for brand attitudes (brand attachment x betrayal → brand

attitudes:  $\beta = 0.08$ ,  $t(183) = 2.75$ ,  $p < 0.01$ ). A bootstrap analysis using a sample of 5,000 at a 0.05 confidence level confirmed a positive ( $\beta = 0.38$ ) and significant (confidence interval (CI): 0.21 to 0.56) indirect effect (BCO → brand attachment → brand attitudes) for the higher betrayal condition (one standard deviation above the mean), but the effect was insignificant for the lower betrayal condition ( $\beta = 0.08$ , CI: -0.08 to 0.25). Moreover, BCO was found to insignificantly affect brand attitudes (BCO → brand attitudes:  $\beta = 0.06$ ,  $t(183) = 0.77$ , *n.s.*), revealing the fully mediating role of brand attachment. Similarly, in the China sample, it was found that BCO was significant on brand attachment (BCO → brand attachment:  $\beta = 0.65$ ,  $t(195) = 9.05$ ,  $p < 0.001$ ). The indirect effect of BCO → brand attachment → brand attitudes were also found to be significant for the higher betrayal condition ( $\beta = 0.65$ , CI: 0.50 to 0.81) but an insignificant indirect effect was found for the lower betrayal condition ( $\beta = 0.10$ , CI: -0.13 to 0.25). In addition, it was found that, unlike in the US sample, BCO had a significant direct effect on brand attitudes ( $\beta = 0.18$ ,  $t(192) = 2.21$ ,  $p < 0.05$ ), indicating the partially mediating role of brand attachment.

However, contrary to expectations, the difference in brand attitudes between stronger and weaker attachment conditions was greater in the higher level of feeling of betrayal while it was weaker in the lower level of feeling of betrayal (Figure 3). We additionally conducted a Chow test that enabled us to statistically test the difference in the cushioning effects of the brand attachment on brand attitude between the two conditions (high vs low betrayal condition). The results demonstrated that in both countries, two slopes' coefficients were significantly different between higher and lower betrayal conditions and further revealed that the higher betrayal condition's slope was more inclined than the lower betrayal condition's slope (US:  $y_{\text{low\_betrayal}} = 5.70 + 0.19x$  vs  $y_{\text{high\_betrayal}} = 4.14 + 0.30x$ ;  $F(1, 185) = 34.00$ ,  $p < 0.001$ ; China:  $y_{\text{low\_betrayal}} = 4.53 + 0.33x$  vs  $y_{\text{high\_betrayal}} = 1.84 + 0.68x$ ;  $F(1, 194) = 29.73$ ,  $p < 0.001$ ). This indicated that the cushioning effect was greater when consumers felt more betrayed compared to when they felt less betrayed. The data confirmed the moderating role of the feeling of betrayal, yet the direction of the effect appeared to be opposite to H4. Thus, H4 was not supported.

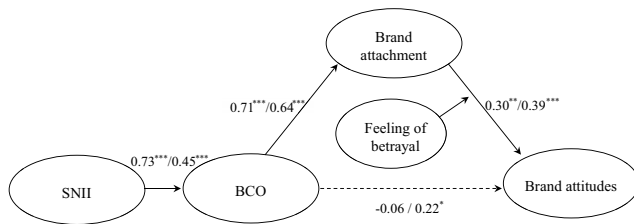
Additional analyzes were conducted to test for violations of common method bias (CMB), which is often observed when causal relationships are tested using only one pooled sample set (MacKenzie and Podsakoff, 2012). To this end, Harman's single factor test (Podsakoff et al., 2012) was performed. The result revealed that each data set from the USA and China showed 47.38% and 40.97% of the variance, respectively, which was smaller than the critical value of 50%. Thus, no

Table 4 Standardized path coefficients in the structural model between the USA and China

Hyp.	Path coefficients	US Apple owner Estimate	China Apple owner Estimate
H1	SNII → BCO	0.73***	0.45***
H2	BCO → Brand attitude	-0.06	0.22*
H3	BCO → brand attachment → brand attitude	0.18**	0.35**

Notes: SNII = susceptibility to normative interpersonal influence; BCO = brand consciousness; \* $p < 0.05$ , \*\* $p < 0.01$  and \*\*\* $p < 0.001$

**Figure 2** Conceptual model: The role of SNII in forming brand attitudes during a product-harm crisis



**Notes:** SNII = susceptibility to normative interpersonal influence, BCO = brand consciousness. The former indicates the US, while the latter indicates China

issues caused by CMB were expected to arise in this data analysis.

## Discussion

The current study investigated how cultural influences shape consumers' way of understanding a brand in crisis. Our empirical findings should be considered scholarly meaningful and distinguishable in that little attention has been paid to the role of cultures in governing individual-relevant factors in the domain of crisis management. Specifically, by focusing on the effect of BCO, which was previously unexplored in the context of a crisis and identifying a mechanism underlying the relationships between the study variables (i.e. SNII, BCO, brand attachment, brand attitude and feelings of betrayal) in two different cultural contexts, this paper fills a gap in the extant consumer research literature in the context of a brand crisis.

The results of the current study suggest that an individual's SNII helps determine that individual's level of BCO. This finding is in some sense consistent with prior findings that suggest the effects of SNII on BCO, conspicuous consumption or social attributes displayed in purchase decisions (Batra *et al.*, 2001; O'Cass and McEwen, 2004; Yim *et al.*, 2014). Yet, this replicated finding would be still scholarly meaningful in that the current findings were observed in a different context based on different country samples. It implies that consumption is a way of constructing self-identity in social interaction (Belk, 1988) and that branded goods serve as a means of embellishing one's identity in expressing one's extended self to others, even under product-harm crises.

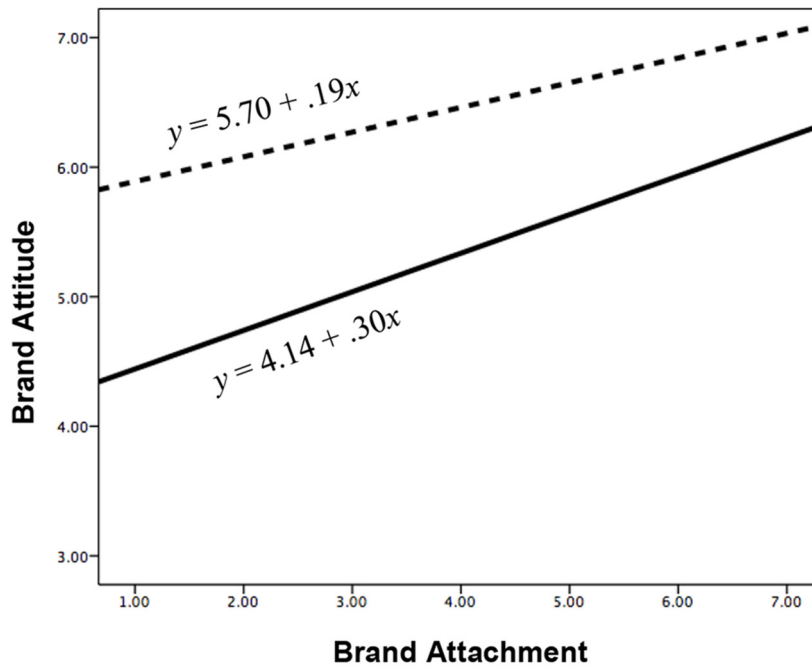
More importantly, the current study shows that the role of BCO differs across cultures (individualistic vs collectivistic cultures) by demonstrating that while BCO has a direct effect on brand attitudes in a collectivistic (low individualistic) culture (the Chinese sample), it does not in high individualistic culture (the US sample); that is, culture affects the extent to which owners' BCO influences brand attitudes in times of product-harm crises. In China, negative information about a brand crisis is less likely to sway brand owners who are more brand conscious or heavily rely on the functions of brands others expect. On the contrary, in the USA, the same information obtained during the brand crisis equally affects consumers with both high and low levels of BCO.

Another interesting finding from the current study is that while brand attachment fully mediates the relationship between BCO and brand attitude in the US, partial mediation was found to occur in China. This finding indicates that in a collectivistic society, the single factor of the well-known brand name approved by significant others can offer a cushion effect in forming positive brand attitudes during product-harm crises, for consumers who are sensitive to branded goods. In high individualistic society, on the contrary, such a cushion effect is not expected even for those with high brand consciousness. Rather, such a buffering effect that generates positive brand attitudes in brand crisis can be obtained only when a strong attachment to the brand exists. In other words, in a collectivistic society, the acquisition of branded goods is a pivotal purchase process that shapes one's self-concept because, more often than not, consumers in that society are more likely to utilize brands to decorate themselves and achieve the self-concept ideally perceived by others, for it is still the primary goal of the brand even during a brand crisis. In contrast, in a highly individualistic society, the acquisition of branded goods is not a sufficient prerequisite for transferring the meaning of the brand to owners. For them, a crucial process of constructing self-identity using brands is likely independent from how others view themselves but is based on the cognitive and emotional attachment to the brand.

We also found a moderating role of feelings of betrayal in understanding the relationship between brand attachment and brand attitudes. However, the direction of the moderating effect of feelings of betrayal was surprisingly opposite to expectations. Specifically, the effect of brand attachment on brand attitudes was rather greater for people who felt more betrayed by the brand in crisis. However, the cushion effect of brand attachment was weaker in the attitude formation process of those who felt less betrayed by the brand in crisis. The counterintuitive direction of the moderating effect might have, contrary to expectations, resulted from the brand stimulus that could not drive subjects to evoke strong feelings of betrayal as expected. As described in the manipulation check, the crisis we manipulated was perceived to have a moderate level of crisis severity ( $M_{US} = 4.30$ ,  $M_{China} = 5.04$ ,  $t(34) = 1.47$ ,  $p = 0.152$ ); thus, it failed to evoke a strong feeling of betrayal, given that the mean values of feelings of betrayal in both the USA and China were less than the mid-point of 4 (i.e.  $M_{US} = 3.42$ ,  $M_{China} = 3.60$ ). We speculate that within consumers' tolerance zone (i.e. mild/moderate crisis), a higher sense of betrayal might ironically be conducive to activating consumers' defense mechanisms to protect their "extended selves" among consumers strongly attached to the brand. The consumers' tolerance zone could generate, on average, mild feelings of betrayal, as in the current experiment. Nonetheless, their defensive mechanism may not actively work in situations wherein consumers with a stronger attachment to the brand have fewer feelings of betrayal from the brand in crisis, as the crisis might not threaten their brand relationship. By contrast, beyond consumers' tolerance zones (i.e. severe crisis) which could evoke, on average, strong feelings of betrayal, the defensive mechanism activated for consumers with a higher sense of betrayal may no longer work. This results in a possibly greater brand attachment in consumers with a lower sense of betrayal than in those with a higher sense of betrayal, as

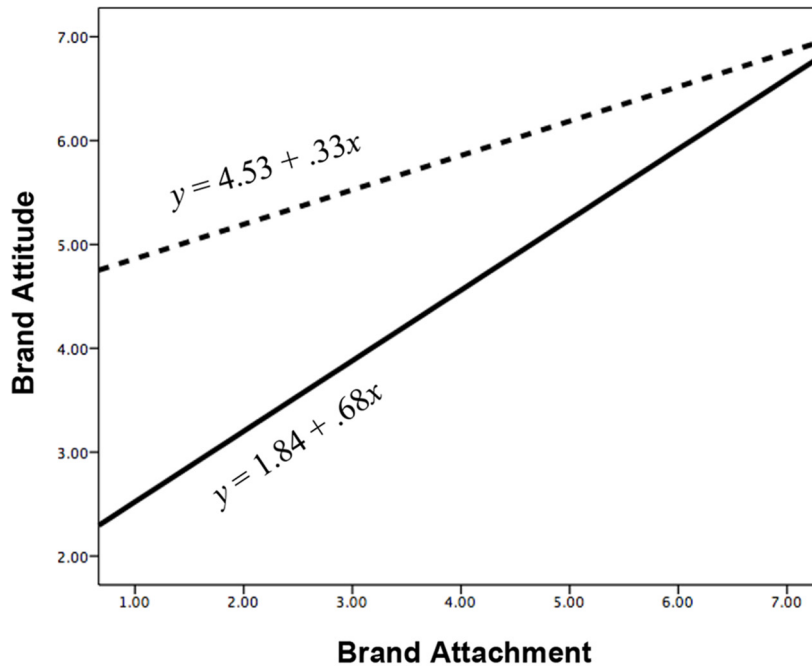
Figure 3 The moderating role of the feeling of betrayal

US



Notes: Straight line = high betrayal, whereas dotted line = low betrayal

China



Notes: Straight line = high betrayal, whereas dotted line = low betrayal

expected in H4. Further research is required to confirm the speculation regarding the three-way interplay among a feeling of betrayal, brand attachment and crisis severity.

From the managerial viewpoint, the current findings suggest that building brand owners' established cognitive and emotional attachment to a brand in a pre-crisis situation is more critical for consumers in individualistic societies, as the brand name is not sufficient to lead to a cushioning effect during a crisis. Moreover, for consumers who experience negative emotions (e.g. feelings of betrayal), pre-crisis brand attachment is likely to activate the psychological motivation to defend the brand in the crisis. Companies should, therefore, remember the importance of establishing consumer attachment to a brand. Brand attachment can be enhanced based on a long-term consumer-brand relationship in non-crisis situations. Recognizing the enormous shift from transactional marketing to relationship marketing, customer management should, thus, be given more weight in designing marketing practices. Firms should deploy diverse marketing programs to construct a reciprocal relationship with current customers from a long-term basis (e.g. maintenance service for current users, membership programs, and brand community). Moreover, marketers should further develop marketing communication strategies to stimulate consumers' emotional bonds with brands by increasing consumer relevance, creating brand stories, and maximizing brand experiences, etc. In more collectivistic societies, during times of product-harm crises, well-known or reputable brands may serve as a cushion for consumers who are more conscious of brand names in purchase decisions compared to those with different buying characteristics (e.g. price-sensitive consumers). Thus, in Asian markets where collectivistic cultural orientations are prevalent, firms should endeavor to build a strong brand by increasing brand awareness, managing the brand's reputation, and creating a unique brand identity that is agreed upon by many social members, thereby resulting in their desire to possess that brand.

### Limitations and future research

As with any research study, this paper is bound by a couple of limitations. While we attempted to recruit a representative sample from the USA and China by using online panels of an international research firm, the used sample from the respective country may not be representative of this study's target audience. Further, as we failed to achieve either full or partial scalar invariance between the two countries, the data enabled only a direct comparison of structural path parameter values but no direct mean comparisons between the two countries. Thus, by not making a direct comparison of values of variables of interest between the USA and China, the current study limits the understanding of consumers influenced by cultural characteristics. Another potential issue of the current finding is that we do not present direct evidence regarding whether study participants extended themselves in actuality to the branded product in our scenario (i.e. Apple iPhone). In addition, our evidence is limited to the outcome of whether brand ownership minimizes the negative effect on their evaluations from a product-harm

crisis. Thus, it becomes necessary to confirm whether brand ownership guarantees consumers' extended self during product-harm crises. Finally, all the findings from the current study are limited to product-harm crises. More diverse consumer responses can be expected by using different types of crisis issues other than product-harm crises, given that the nature of a brand crisis may lead to different outcomes.

As such, future researchers are encouraged to replicate the findings in this study based on a larger sample size that includes more invariant or similar sets of respondents (e.g. college students in the USA and China). To generalize the study findings, it would be worthwhile to explore the current framework in contexts of ethical issues or hypocritical incidents. In addition, future research should focus on brand owners' negative emotions (e.g. feelings of betrayal) and examine the drivers of such negative emotions during a product-harm crisis. By investigating the relationship between the negative emotions evoked during a crisis and related variables (e.g. crisis severity, crisis typology, blame attribution, and company associations, etc.), we might garner a more comprehensive understanding of the role of consumers' negative emotions. Finally, it would be interesting to explore the role played by other cultural dimensions (e.g. uncertainty avoidance, power distance and long-term/short-term orientation, etc.) in the current theoretical framework.

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## Appendix. Manipulation: fabricated news

### US version

The Dallas Morning News – December 10, 2015 – Last Sunday evening, 23-year-old Susan Young died while answering a call on her Apple iPhone 6 while it was recharging. Susan Young, a flight attendant on American Airlines, was supposed to get married on January 9, 2016.

An autopsy revealed that Ms. Young was electrocuted, listing it as the official cause of death. Officials from the Dallas Police Department confirmed the incident. The victim's sister warns other users of the Apple iPhone 6 from using it while it is charging.

### China version\*

Shanghai Morning Post – December 10, 2015 – Last Sunday evening, 23-year-old Mei Xu died while answering a call on her Apple iPhone 6 while it was recharging. Mei Xu, a flight attendant on China Airlines, was supposed to get married on January 9, 2016.

## Further reading

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An autopsy revealed that Ms. Xu was electrocuted, listing it as the official cause of death. Officials from the Shanghai Police Department confirmed the incident. The victim's sister warns other users of the Apple iPhone 6 from using it while it is charging.

*Note:* \* The English scenario has been translated into Simplified Chinese for the Chinese sample.

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