

ABSTRACT

Title of Document: THE ROLE OF SELF-BRAND CONNECTION
IN BRAND PRIMING AND BRAND CO-
CREATION CONTEXTS

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This dissertation includes two essays that examine how self-brand connection influences brand-related behaviors in different contexts. Essay I investigates conditions under which brand primes can lead to *decreased* behavioral intentions toward the brand not shown in prior brand priming research (Berger and Fitzsimons 2008; Ferraro, Bettman, and Chartrand 2009). We identify the type of association primed (core vs. non-core) as an important factor in determining whether positive or negative brand priming effects will occur for consumers with low vs. high self-brand connection (SBC; Escalas and Bettman 2003). Studies 1 and 2 find support for the notion that high (vs. low) SBC consumers' brand associative networks have stronger links between core associations and brand and overlap between the self and core associations. Studies 3 and 4 show that when SBC is low, priming core and non-core associations leads to increased behavioral intentions found in prior work (Berger and Fitzsimons 2008). When SBC is high, however, priming

a non-core association decreases behavioral intentions, while priming a core association does not affect behavioral intentions. Thus, contrary to prior research (Park et al. 2010), we show that higher SBC may result in lower behavioral intentions under certain conditions. Essay II explores the conditions under which brief brand co-creation activities are effective in enhancing high (vs. low) SBC consumers' subsequent brand engagement in social media, such as liking the brand on Facebook and sharing brand promotions with others. Many brand marketers offer interactive activities that enable consumers to participate in the ongoing development of the brand, such as telling their own stories about the brand or evaluating other consumers' stories. We offer evidence that these co-creation activities vary according to their potential to create brand knowledge. We then examine how consumers' self-brand connection and the co-creation activity's brand knowledge potential interact to affect brand engagement. Across three studies, we demonstrate that high SBC (i.e., loyal) consumers intend to engage more deeply with the brand after participating in high rather than low brand knowledge potential co-creation activities. We show that generation of original, personal brand meaning underlies the effect.

THE ROLE OF SELF-BRAND CONNECTION IN BRAND PRIMING AND
BRAND CO-CREATION CONTEXTS

By

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Dedication

I dedicate this dissertation to my loving family, whose unconditional support has enabled me to pursue my passion; to my wonderful husband, Collin, whose love and encouragement has meant the world to me along the way; and to our Hunter and Stella.

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Table of Contents

Dedication.....	ii
Acknowledgements.....	iii
Table of Contents.....	iv
 Chapter 1: Introduction.....	 1
 Chapter 2: Essay I. How Do Connected Consumers Respond to Brand Primes?.....	 4
Conceptual Background.....	8
Core and Non-Core Brand Associations.....	9
Self-Brand Connection and Brand Associative Networks.....	10
A Differential Brand Associations Account.....	13
Overview of Studies.....	15
Study 1.....	16
Design and Procedure.....	16
Measures.....	18
Results.....	20
Discussion.....	21
Study 2.....	22
Design and Procedure.....	23
Measures.....	24
Results.....	25
Discussion.....	27
Study 3.....	28
Brand Prime Selection Process.....	29
Main Experiment Design and Procedure.....	29
Results.....	30
Discussion.....	31
Study 4.....	32
Brand Prime Selection Process.....	32
Main Experiment Design and Procedure.....	35
Results.....	36
Discussion.....	38
General Discussion.....	40
Theoretical Implications.....	42
Managerial Implications.....	44
Appendix A. Essay I.....	46
Appendix B. Essay I.....	47

Appendix C. Essay I	49
Appendix D. Essay 1.....	51
Table 1. Essay I.....	54
Table 2. Essay I.....	55
Figure 1. Essay I	56
Figure 2. Essay I	57
Figure 3. Essay I	58
Chapter 3: Essay II. Why Are Some Brand Co-Creation Activities More Effective Than Others?	59
Conceptual Background.....	62
Self-Brand Connection and Brand Knowledge Potential	64
Alternative Explanations.....	68
Overview of Studies.....	69
Pre-Test of Brand Co-Creation Activities.....	70
Study 1	72
Design and Procedure	73
Measures	73
Results.....	75
Discussion.....	76
Study 2	77
Design and Procedure	77
Measures	78
Results.....	79
Discussion.....	80
Study 3	82
Design and Procedure	83
Measures	84
Results.....	84
Discussion.....	86
General Discussion	87
Theoretical Implications	89
Managerial Implications	91
Appendix A. Essay II	93
Appendix B. Essay II.....	94
Table 1. Essay II	95
Figure 1. Essay II.....	96
Figure 2. Essay II.....	97
Figure 3. Essay II.....	98
References.....	99

Chapter 1: Introduction

This dissertation explores the role of self-brand connection in determining future brand-related behavior in two contexts: brand priming and brand co-creation. Self-brand connection (SBC; Escalas and Bettman 2003) refers to the perceived fit between a brand and one's self-concept. We suggest that consumers' associative networks for brands, as well as consumers' abilities to generate personal brand meaning differ based on SBC. In turn, we propose that SBC affects brand-related behavioral intentions in novel ways based on certain types of brand primes a consumer encounters or brand co-creation activities in which a consumer participates.

Essay I investigates conditions under which brand primes can lead to *decreased* behavioral intentions toward the brand not shown in prior brand priming research (Berger and Fitzsimons 2008; Ferraro, Bettman, and Chartrand 2009). We identify the type of association primed (core vs. non-core) as an important factor in determining whether positive or negative brand priming effects will occur for consumers with low vs. high SBC. Two studies find support for the notion that high (vs. low) SBC consumers' brand associative networks have stronger links between core associations and brand and overlap between self and core associations. Two brand priming studies show that when SBC is low, priming both core and non-core associations leads to increased behavioral intentions found in prior work (Berger and Fitzsimons 2008). When SBC is high, however, a non-core brand prime decreases behavioral intentions, while a core brand prime does not affect behavioral intentions. Thus, contrary to prior research (Park et al. 2010), we show that higher SBC may result in lower behavioral intentions under certain conditions.

Essay II explores the role of SBC in the context of brand co-creation. Many brand marketers offer interactive activities that enable consumers to participate in the ongoing development of the brand, such as telling their own stories about the brand or evaluating other consumers' stories. We explore the conditions under which these brief brand co-creation activities are effective in enhancing loyal (vs. non-loyal) consumers' subsequent brand engagement in social media, such as liking the brand on Facebook and sharing brand promotions with others. Specifically, we examine two factors that interact to affect brand engagement: consumers' self-brand connection and the co-creation activity's potential to create brand knowledge. We find empirical support for the notion that co-creation activities vary according to consumers' potential to generate brand knowledge. Across three studies, we demonstrate that consumers with high self-brand connection (i.e., loyal consumers) intend to engage more deeply with the brand after participating in high rather than low brand knowledge potential co-creation activities. We offer evidence that generation of original, personal brand meaning underlies the effect. Moreover, we rule out alternative explanations for increases in brand engagement intentions based on involvement, time spent co-creating, processing effort, and change in self-brand connection.

Taken together, Essays I and II provide valuable insights into how high SBC (i.e., loyal) and low SBC (i.e., potential) consumers form brand-related behavioral intentions. Specifically, while consumers low in self-brand connection may be more susceptible to nonconscious brand influences, consumers high in self-brand connection may behave in surprising ways (i.e., decreasing behavioral intentions) in nonconscious contexts. In conscious, brand co-creation contexts, it is consumers high in self-brand connection who

generate original, personal brand meaning and become more likely to seek out and promote the brand to others on social media. Implications of this research for marketers, who make vast investments in their loyal consumers, include the finding that not all brand co-creation activities are created equal when it comes to generating brand advocates.

Chapter 2: Essay I

How Do Connected Consumers Respond to Brand Primes?¹

Recently, consumer research has examined the effects of brand priming on behavioral intentions toward the brand (Berger and Fitzsimons 2008; Ferraro, Bettman, and Chartrand 2009). Brand primes include any stimuli (word, picture, or item) that evoke the brand or brand associations. By increasing the accessibility of the brand, these primes have increased behavioral intentions toward the brand itself. For example, consumers who used an orange pen were more likely to choose Sunkist orange soda than those who used a green pen (Berger and Fitzsimons 2008). Similarly, consumers were more likely to choose Dasani water over other brands after seeing photographs of classmates sitting next to bottles of Dasani (Ferraro, Bettman, and Chartrand 2009).

The implication of this research is that priming the brand will lead to positive behavioral intentions due to heightened accessibility. Positive effects on brand-related behaviors have been shown to result from priming the brand via its associations (Berger and Fitzsimons 2008) or more directly, using the brand name or logo (Chartrand et al. 2008; Ferraro, Bettman, and Chartrand 2009; Fitzsimons, Chartrand, and Fitzsimons 2008; Laran, Dalton, and Andrade 2011). But is this always the case? Recent research has shown that negative priming effects are possible based on the nature of the prime. In their paper, Laran and colleagues (2011) find that while brand primes (e.g., Walmart) produce positive effects, slogan primes (e.g., Save More. Live Better.) can produce negative effects on the same brand-related behaviors (e.g., spending). In this research, we identify

¹ This research was conducted with Amna Kirmani, and is reported in a 2014 working paper by Heather M. Johnson and Amna Kirmani titled “How Do Connected Consumers Respond to Brand Primes?”

conditions under which brand primes lead to *decreased* behavioral intentions toward the brand.

We suggest that two factors will affect whether brand primes may lead to positive or negative effects: 1) the type of brand associations primed (core vs. non-core) and 2) self-brand connection. Core brand primes are associations—including benefits, attributes, features, usage situations, sounds, colors, images, traits, marketing communications elements, or logo elements—that a majority of consumers link to the brand in the brand's associative network (Keller 2003; Meyvis and Janiszewski 2004; Roedder John et al. 2006). These concepts are central to the brand's positioning (Aaker 1996). Conversely, non-core brand primes are associations that a majority of consumers link much more weakly to the brand in the brand's associative network (Roedder John et al. 2006). For example, *red* could be considered a core brand prime for Coca-Cola, given its ubiquitous association with the color on its logo, packaging, etc., while *global* might be a non-core prime, because it appears less frequently in the associative network (brandtags.com 2014).

According to current research (Berger and Fitzsimons 2008; Ferraro, Bettman, and Chartrand 2009), any brand related association—regardless of whether it is core or non-core—should lead to more positive brand-related behavioral intentions. However, we propose a differential associations account of brand priming effects, meaning that consumers' self-brand connection will moderate the relationship between core and non-core brand primes on behavioral intentions toward the brand because of differences in brand associative networks. Self-brand connection (SBC) refers to the degree to which a consumer has incorporated the brand into the self-concept (Escalas 2004). Consumers

with high SBC perceive a fit between the self and the brand's core associations, while those with low self-brand connection do not see the brand as part of themselves (Escalas 2004; Chaplin and Roedder John 2005).

We suggest that consumers' brand associative networks differ based on SBC. Prior literature suggests that consumers with high (vs. low) SBC have more complex networks. Thus, it is likely that high SBC consumers have more total associations and links between associations in their networks than do low SBC consumers. Second, we posit that core brand associations will be more strongly linked to the brand in high (vs. low) SBC consumers' networks. Moreover, core and non-core brand associations are differentially self-relevant for consumers with low and high SBC. By definition, core and non-core brand associations are not self-relevant to low SBC consumers because the self is not linked to the brand. High SBC consumers should perceive a greater overlap between the self and core associations, which form the basis of their connection with the brand, than low SBC consumers. Non-core associations, which do not form the basis of brand connection are weakly linked to the self for high SBC consumers. In fact, these non-core associations may even undermine their SBC if they are negative or trivial.

These differences within consumers' brand associative networks lead to different effects of brand priming on the behavioral intentions of consumers with low and high SBC. For consumers with low SBC, both core and non-core brand associations will increase the accessibility of the brand, leading to increases in behavioral intentions. However, for consumers with high SBC, a different pattern is predicted. Because the brand is already accessible and core associations are consistent with the self, priming core brand associations is unlikely to affect behavioral intentions of connected consumers. A

non-core brand prime that is negative or trivial, however, will *decrease* behavioral intentions because it undermines the basis of self-brand connection. This prediction stems from recent work showing that consumers avoid products related to a threatened aspect of their self-identity (White and Argo 2009). Thus, priming a brand through non-core associations can lead to lower behavioral intentions for consumers with high self-brand connection.

This paper makes contributions to the literature on brand priming as well as self-brand connection. First, in contrast to extant brand priming research (e.g., Berger and Fitzsimons 2008; Ferraro, Bettman, and Chartrand 2009), we show that brand primes can result in negative effects on behavioral intentions toward the brand. Second, we make a distinction between core and non-core associations, and show that the type of association used to prime the brand will affect behavioral intentions. Third, we illustrate the brand concept maps of consumers with different levels of SBC, which has not been done in prior research on SBC. Finally, whereas prior research reveals positive effects of self-brand connection, we demonstrate a negative effect of high SBC in the context of brand priming.

In the next section, we review the literature on brand priming, describe core and non-core associations, and predict how SBC will interact with brand associations to affect behavioral intentions. Studies 1 and 2 illustrate differences in the brand associative networks of low and high SBC consumers. Studies 3 and 4 provide support for the prediction that, while the behavioral intentions of low SBC consumers increase in response to core or non-core brand primes, the behavioral intentions of high SBC

consumers are not affected by the priming of core brand associations but decrease upon the priming of non-core brand associations.

CONCEPTUAL BACKGROUND

We define a brand prime as any benefit, attribute, feature, usage situation, sound, color, image, trait, marketing communications element, or logo element that activates the brand's associative network, including the brand itself. Prior research shows that priming makes the brand more accessible, thereby leading to positive effects. Brands have been primed using the name (Chartrand et al. 2008; Karremans, Stroebe, and Claus 2006; Laran, Dalton, and Andrade 2011), logo (Fitzsimons, Chartrand, and Fitzsimons 2008; Laran, Dalton, and Andrade 2011), an image of a branded product (Ferraro, Bettman, and Chartrand 2009), anthropomorphism (Aggarwal and McGill 2012), and color (Berger and Fitzsimons 2008).

Brand priming leads to a variety of effects, including trait-based behaviors such as creativity (Fitzsimons, Chartrand, and Fitzsimons 2008), choice of goal-directed items (Chartrand et al. 2008), willingness to spend (Laran, Dalton, and Andrade 2011), and non-brand related behaviors (Aggarwal and McGill). A handful of studies has examined brand priming effects on behavioral intentions toward primed brands (Berger and Fitzsimons 2008; Ferraro, Bettman, and Chartrand 2009). In one study, consumers who wrote with an orange or green pen were more likely to choose orange or green products

(e.g., Sunkist orange soda and Lemon-Lime Gatorade), respectively (Berger and Fitzsimons 2008). In another study, Ferraro and colleagues (2009) found that incidental exposure to Dasani water bottles increased choice of the Dasani brand.

These studies have shown only positive effects of brand priming on behavioral intentions toward the brand. In this paper, we show that brand priming can lead to negative priming effects on behavioral intentions based on the type of associations that are used as brand primes and self-brand connection. We discuss each of these factors in more detail.

Core and Non-Core Brand Associations

Consumers' brand knowledge is organized in memory in the form of associative networks (Keller 1993; Roedder John et al. 2006). The network contains associations, including attributes, benefits, autobiographical memories, usage occasions, and image, that may be linked to the brand node and to each other. Brand primes increase the strength of activation of the brand node, making that brand's associative network more accessible in working memory (Nedungadi 1990). Thus, priming the brand can activate the brand node as well as its associations.

In a methodological paper describing how to create aggregate brand concept maps, Roedder John et al. (2006) make a distinction between core and non-core brand associations. They define core brand associations as those that consumers most frequently mention about the brand. Core associations are central to the brand's positioning and are directly linked to the brand node in a consumer's brand associative network (Aaker

1996). Conversely, non-core associations are those within the brand associative network that are less frequently mentioned and indirectly linked to the brand node (Aaker 1996; Roedder John et al. 2006). Importantly, core and non-core associations are inherent in the brand's positioning rather than a perception of individual consumers.

We propose that consumers may respond differently to the priming of core and non-core brand associations. In particular, we suggest that consumers' self-brand connection will affect how they respond to priming of core and non-core brand associations.

Self-Brand Connection and Brand Associative Networks

Self-brand connection (SBC) refers to the degree to which a consumer has incorporated a brand into the self-concept (Escalas 2004; Escalas and Bettman 2005; Park et al. 2010). Individuals as young as eight years old use brands to create their self-concept (Chaplin and Roedder John 2005), and consumers of all ages use brands to communicate their identity to others (Escalas and Bettman 2003). High SBC has been shown to have positive effects for both the consumer and the brand. It serves to reduce existential insecurity (Rindfleisch, Burroughs, and Wong 2009), increase behavioral intentions toward the brand, and insulate brands from negative actions (Paharia et al. 2011; Park et al. 2010; Ferraro, Kirmani, and Matherly 2013).

Self-brand connections are formed when consumers link brand associations to a mental representation of the self (Escalas and Bettman 2003, 2005). Yet, little is known about the structure of brand associative networks for consumers with high and low SBC,

and the relationship of the network to the self. The literature assumes that consumers with high (vs. low) SBC have more complex brand associative networks because they have more personal experiences with the brand amassed over time (Escalas 2004; Park et al. 2010). Complexity can be captured by number of associations and links between associations in the network (Roedder John et al. 2006). Although familiarity increases the number of associations in brand networks (Roedder John et al. 2006), familiarity and self-brand connection need not be the same. A consumer can be highly familiar with Coca-Cola, but not connected to it or have a great deal of knowledge about it (Park et al. 2010). As a starting point, however, it would be reasonable to expect that consumers with high SBC will have a greater number of associations and links in their brand associative networks than will consumers with low SBC.

Besides complexity, the associative networks of high and low SBC consumers should differ in terms of strength. By definition, core associations are more closely linked to a brand than non-core associations (Keller 1993). Because high SBC consumers have developed deep brand knowledge over time (Escalas 2004; Fournier 1998), we suggest that the link between core associations and the brand will be stronger for high than low SBC consumers. Low SBC consumers' associations are likely to be simplistic, based on commonly encountered marketing themes and brand perceptions (Park et al. 2010). Thus, we expect their network to be comprised of weaker associations with the brand than that of high SBC consumers.

Another effect of SBC may be the overlap between the self and the brand's core associations. High SBC consumers are attuned to core associations maintained by ingroups that overlap with the self (Escalas and Bettman 2003), so that core associations

are likely to be the basis of their SBC. This means the brand is more self-relevant to consumers with high than low SBC. The higher the perceived similarity with core associations, the more the consumer cares about and sees aspects of the self in the brand. For example, teens engaged in a “Who Am I?” task were successfully able to match brand associations (e.g., Gap: clean and preppie) to their self-concept (Chaplin and Roedder John 2005). Non-core associations are not the basis of consumers’ self-brand connection, so non-core associations should be weakly linked to the self for high SBC consumers. Low SBC consumers should have few associations linked to the self. Thus, due to relevance, we expect that high SBC consumers should have a greater number of core associations linked to the self than low SBC consumers, and that, in high (vs. low) SBC consumers’ networks, the self should overlap with a greater percentage of the brand’s core associations.

In sum, we expect that high SBC consumers will have a greater number of and links between associations in their brand associative networks than will low SBC consumers. We also expect that the associative networks of high SBC consumers reflect stronger core (i.e., direct) associations with the brand than do networks of low SBC consumers. Finally, we expect that high SBC consumers’ networks have a greater number of core associations linked to the self and more overlap between self and core associations. Because these predictions have not been tested in prior research, we develop the following hypothesis.

H1: The brand association networks of consumers with high (vs. low) self-brand connection are more likely to have: a) a greater number of associations and links

between associations; b) stronger core associations with the brand; and c) greater number of core associations linked to the self and overlap between the self and the brand's core associations.

The implication of this theorizing is that core associations will be more accessible for high (vs. low) SBC consumers, while non-core associations are less accessible to all consumers. This is because, conceptually, strength reflects accessibility within the associative network (Anderson 1983). We next develop our predictions for the effect of core and non-core brand primes on consumers with low and high self-brand connection.

A Differential Brand Associations Account

A differential associations account of brand priming effect means that brand priming will affect consumers with low and high SBC differently, based on their brand associative networks. We first consider what will happen when low SBC consumers encounter core and non-core brand primes. Both core and non-core associations are weakly accessible to consumers with low SBC. Therefore, priming either core or non-core brand associations will activate the brand more so than if low SBC consumers had not encountered the prime. As a result, behavioral intentions of consumers with low SBC should increase following brand primes.

For consumers high in SBC, the brand's core associations are more accessible than non-core associations. Priming a core brand association that is accessible and consistent with the high SBC consumer's self-concept should result in a null effect,

because consumers make choices that reflect congruency between self-image and brand image (Escalas and Bettman 2003; Park et al. 2010). Thus, behavioral intentions of high SBC consumers will not be affected by priming of core brand associations.

Priming a non-core brand association, however, should result in negative priming effects because non-core associations make the brand appear inconsistent with high SBC consumers' self-concepts. Consumers dis-identify with brands whose associations are either inconsistent with an ingroup or less instrumental to fulfilling self-verification goals (Escalas and Bettman 2003, 2005). Moreover, consumers avoid products related to a threatened aspect of their self-identity (White and Argo 2009). Therefore, we predict that negative or trivial non-core brand primes that are unrelated to the brand's core associations will make the brand less desirable to connected consumers.

In sum, a differential associations account predicts that consumers low in SBC will increase behavioral intentions and consumers high in SBC will decrease behavioral intentions in response to a brand prime, when the brand prime is a negative or trivial non-core association. When the brand prime is a core association, consumers low in SBC will increase behavioral intentions, but the effect will be attenuated for consumers high in SBC. This leads to the following hypothesis:

H2a: For consumers with low self-brand connection to the target brand, priming of both core and non-core associations will increase behavioral intentions toward the target brand.

H2b: For consumers with high self-brand connection to the target brand, priming non-core brand associations will decrease behavioral intentions toward the target

brand, while priming core associations will not affect behavioral intentions toward the target brand.

OVERVIEW OF STUDIES

We test the predictions in a series of four experiments. The first two studies explore the nature of the differences in brand associative networks for consumers with low vs. high SBC. Together, results suggest that core brand associations serve as the basis of strong links between self and brand for consumers with high SBC. We apply these findings to examine our predictions about brand priming in two subsequent studies. Study 3 tests H2 using an association that low and high SBC consumers consider a core association with the Coca-Cola brand: *red*. Results show that while the behavioral intentions of connected consumers do not increase, less connected consumers express increased behavioral intentions towards Coca-Cola. Study 4 tests H2 using a different brand, Blackberry, and three different brand primes, two (*berries* and *email addition*) that are non-core associations and one (*business*) that is a core association. We find further support for our differential brand association account wherein both non-core brand primes decrease behavioral intentions for high SBC consumers.

STUDY 1

The objective of the study was to test H1 and the theoretical assumptions regarding SBC. We applied the brand concept mapping technique (Roedder John et al. 2006) to examine consumers' associative networks for the Coca-Cola brand. Brand maps identify core and non-core associations (Aaker 1996; Roedder John et al. 2006). Coca-Cola was selected because of its universal recognition.

Design and Procedure

One hundred fifty undergraduate students at an eastern university (43% female, average age = 22) completed the study in exchange for course credit. The within subjects design employed a brand concept map elicitation and had one measured factor, self-brand connection. Degrees of freedom in the analysis reflect missing data.

Participants completed two ostensibly unrelated studies. The first study (Survey 1) was the brand concept map study and was presented to all participants. The procedure and instructions were adapted from Roedder John et al. (2006), with the following differences: 1) participants were not provided with any brand associations to guide the associations they formed (i.e., unstructured brand concept map development; Joiner 1998); and 2) we included an additional step of asking participants to place their self node on the brand concept map. Thus, while Roedder John and colleagues (2006) provided participants with 25 associations from which to base their brand concept maps,

our research yields individual brand concept maps free of external influences. This is important to our research question of how consumer's self-brand connection affects their brand concept map formation because high SBC consumers' maps are likely to rely heavily on personal experiences with the brand.

Specifically, participants were first told this was a study of consumer brands, and they had been chosen to answer questions about Coca-Cola. They were encouraged to express their opinions, positive or negative. The first task asked participants to list any and all the associations (thoughts, attributes, personality traits, words, and feelings) they have with the Coca-Cola brand in the order they think of them. Second, participants were told we would like their help building a brand concept map for Coca-Cola. They were provided with the example brand concept map for the Volkswagen Beetle (from Roedder John et al. 2006, p. 553). The map's description read, "1. Some associations might be linked to the brand directly or indirectly; 2. Associations might be linked to each other; 3. The map includes different types of lines that connect associations—specifically, single, double, or triple lines. The lines indicate how strongly an association is connected to the brand or to another association, with more lines indicating a stronger connection." Examples of each descriptive item were included in the text and corresponded to the example map. Third, participants spent up to 5 minutes drawing their brand concept map for Coca-Cola. Fourth, on the next page of the study, participants were asked to return to their map and draw the self node on the brand concept map, indicating whether they feel connected to the brand and feel connected to specific associations using single, double, or triple lines as they had done with the other associations on their map.

Unrelated filler studies designed to clear working memory were then administered to separate the study from Survey 2 that measured self-brand connection to various brands, including Coca-Cola. SBC was measured using Escalas and Bettman's (2003) seven-item self-brand connection scale. Items such as "The Coca-Cola brand reflects who I am," "I can identify with the Coca-Cola brand," and "The Coca-Cola brand suits me well," were anchored on a 100-point sliding scale (0 = strongly disagree, 100 = strongly agree; $\alpha_{\text{Coca-Cola SBC}} = .95$). The average Coca-Cola self-brand connection was 41.08, with a standard deviation of 29.25, and was mean-centered in all analyses.

Figure 1 shows sample brand concept maps. We next discuss how the maps were examined.

Insert figure 1 about here

Measures

A team of four coders blind to the study hypotheses input and examined the data for a number of variables capturing depiction of links, associative strength, complexity, and content. They worked in pairs to code and input the data to ensure accuracy, under the supervision of the Behavioral Lab Manager. Correlations cannot be generated for this coding task as the coders entered the data together, simultaneously examining each map and discussing any questions with regard to the drawing and written responses. The data was captured as follows.

H1a predicts that high SBC consumers have more complex networks. Variables measuring complexity included: 1) the *number of associations* drawn on the brand concept map, comprised of 2) the *number of core associations* (i.e., associations with a line directly linking the association to the Coca-Cola brand), and 3) the *number of non-core associations* (i.e., associations linked to the Coca-Cola brand through another association but not directly linked to the brand itself); as well as 4) the *number of links between associations* (i.e., the number of interconnections on the map).

H1b predicts that high SBC consumers will have a stronger set of core associations linked to the brand. The coders counted the number of strong (triple lines), moderate (double lines), and weak (single line) links between core associations and the brand on each map. They classified each core association link as a 3, 2, or 1, respectively, and added them to form a variable called *number of lines between core associations and brand*.

H1c predicts greater overlap between the self and core associations for consumers with high (vs. low) SBC. We observed 1) the *number of core associations linked to the self*, and 2) the *percentage of core associations linked to the self*. While the former is a count of the total number of core associations with which the consumer identifies, the latter reflects the number of core associations with which the consumer identifies divided by the total number of core associations in the network. Thus, the percentage allowed us to observe the degree of overlap between the self and the brand's core associations.

Finally, we examined actual associations drawn on the brand concept maps for differences in content. The definition of core association is based on the set of most

frequently mentioned associations that consumers share across their maps (Roedder John et al. 2006).

Results

We analyzed the following data using regression, with mean-centered self-brand connection as the independent variable. We used spotlight analysis to examine the means at +/- 1 SD (Irwin and McClelland 2001).

Test of H1a. We found few differences between low and high SBC consumers' networks in terms of complexity of the associations. We found no differences in the *number of associations* included on the brand concept map; *number of non-core associations*; or number of links between associations (all p 's > .18). However, high SBC consumers had more core associations than did low SBC consumers ($M_{\text{high SBC}} = 4.81$ vs. $M_{\text{low SBC}} = 4.11$, $\beta = .01$, $t(148) = 2.65$, $p < .01$; Aiken and West 1991; Fitzsimons 2008; see table 1). Thus, it appears that high SBC consumers' brand concept maps may not be more complex than low SBC consumers' maps in terms of total numbers, as suggested by prior literature. The key difference we found is that high SBC consumers have a greater number of core associations in their brand associative networks.

Insert table 1 about here

Test of H1b. Consistent with H1b, we found that high SBC consumers have a stronger set of core associations with the brand than do consumers with low SBC.

Specifically, high SBC led to greater number of lines between core associations and the Coca-Cola brand ($M_{\text{high SBC}} = 6.79$ vs. $M_{\text{low SBC}} = 5.56$, $\beta = .02$, $t(148) = 2.45$, $p < .02$; see table 1). Thus, on the maps we are able to see that it is the direct links between associations and the brand that are strongest for consumers with high SBC. For example, the high SBC consumer in figure 1 drew moderate links (i.e., double lines) linking *classical* and *party drink* to Coca-Cola. This suggests that core associations such as these are likely to be more accessible for consumers with high (vs. low) SBC.

Test of H1c. Fifty-nine participants (40%) link the self to the brand through core associations. For these participants, we found that high SBC consumers had a greater number of core associations linked to the self ($M_{\text{high SBC}} = 1.89$ vs. $M_{\text{low SBC}} = 1.18$, $\beta = .01$, $t(58) = 2.74$, $p < .01$). They also had greater overlap between the self and the brand's core associations, as measured by the percentage of core associations linked to the self ($M_{\text{high SBC}} = 41.85\%$ vs. $M_{\text{low SBC}} = 30.14\%$, $\beta = .002$, $t(58) = 1.95$, $p = .056$), though the effect is marginal. As expected, we found that high SBC consumers perceive the brand's core associations as more relevant to their self-concepts than low SBC consumers.

Discussion

Study 1 yielded a number of interesting findings. Examining brand concept maps allowed us to observe the complexity, strength, and overlap of associations with the brand and the self. Based on total numbers, results showed that consumers' brand concept maps did not differ in complexity. Thus, H1a is not supported. However, we did find that high SBC consumers have more core associations with the brand than do low SBC

consumers. This suggests that connected consumers have more knowledge of the brand's core associations. Roedder John and colleagues (2006) found differences between familiar and unfamiliar consumers' maps in terms of sheer numbers. It appears possible that self-brand connection differs from familiarity in this way. In study 2, we further test H1a using additional brands.

Consistent with H1b, consumers with high SBC drew more lines between core associations and the brand, indicating that core associations are more strongly linked to the brand for them than for low SBC consumers. These results suggest that consumers with higher levels of self-brand connection find the brand more accessible through its set of core associations.

Per H1c, we found that consumers with high SBC both drew a greater number of core associations linked to the self, and a (marginally) greater overlap between their self-concept and core brand associations, than those with low SBC. This supports prior theorizing that the brand's core associations are the basis of self-relevance. One limitation of this study is that a number of consumers did not draw lines linking the self to specific core associations. In order to overcome this, we use a different study design to more overtly solicit and measure the set of overlapping self and core associations (H1c) in study 2.

STUDY 2

The objectives of study 2 were three-fold: 1) to further test H1a that high SBC consumers' brand associative networks are more complex than low SBC consumers'; 2) to find further support for H1c and the notion that high SBC consumers have a greater overlap between the self and the brand's core associations; and 3) to develop stimuli for the brand priming studies to follow. The study is designed to capture consumers' associative networks for three target brands in different product categories: Coca-Cola, BlackBerry, and Toyota. These brands represent durable and nondurable categories, and may be differentially familiar to participants.

We based the study procedure on an unstructured brand associative network elicitation technique (Joiner 1998; Roedder John et al. 2006). Our study procedure extends prior research in that 1) we use a computer rather than poster boards or paper for drawing, and 2) we ask participants to indicate the relative strength of each association to the brand and to the self using a sorting task.

Design and Procedure

One hundred eighty-four U.S. MTurk participants (58% female, average age = 36 years) completed the study in exchange for \$0.75 compensation. The within subjects design employed a brand associative network elicitation (Coca-Cola, BlackBerry, and Toyota) and had one measured factor, self-brand connection. Differences in degrees of freedom reflect missing data.

Participants completed two ostensibly unrelated studies on the computer. The first study (Survey 1) was the brand associative network study and was presented to all

participants. Participants were given one minute to list the associations they have with the Coca-Cola brand as in study 1. Twenty blanks were provided. Next, they were asked to indicate in succession how strongly they think each association is connected to the brand and to their self-concept. Using the associations they provided (imported from the previous screen), they were asked to move each association to one of three boxes, according to whether they thought the association is strongly, moderately, or weakly associated with the brand. On the next screen, they did the same task for their self-concept. Specifically, they were told to, “Please make these judgments based on the extent to which the association is connected with the way you think about yourself (i.e., your identity).” See Appendix A for screen shots of a sample participant’s responses during this process. The procedure was repeated for the BlackBerry and Toyota brands.

The next study (Survey 2) was separated from the first by a number of unrelated filler studies designed to clear working memory. Survey 2 asked participants to indicate their self-brand connection to the three brands as in study 1 ($\alpha_{\text{Coca-Cola SBC}} = .95$, $M = 31.42$, $SD = 27.90$; $\alpha_{\text{BlackBerry SBC}} = .96$, $M = 12.74$, $SD = 19.81$; $\alpha_{\text{Toyota SBC}} = .96$, $M = 33.03$, $SD = 26.58$). Brands were randomly presented. SBC was mean-centered in all analysis.

Measures

To test H1a, we measure complexity of the brand associative network by counting the *number of associations* listed during the initial task. Also, we counted the *number of core and non-core associations* for each participant, where core associations are those

strongly linked to the brand, and non-core associations are those moderately or weakly linked to the brand. This fits our conceptual definition that core associations are the set of associations directly linked to the brand.

To test H1c, we first cross-reference the core associations with the set of associations strongly linked to the self. We observe a count of the *number of core associations linked to the self*. We are then able to calculate the *percentage of core associations linked to the self* by dividing the number of overlapping self and core associations by the total number of core associations.

Results

Test of H1a. Separate regressions were run for each brand. When we regressed SBC on the total number of associations listed, we found no significant differences for Coca-Cola ($M_{\text{high SBC}} = 11.35$ vs. $M_{\text{low SBC}} = 11.02$, $p = .69$) or BlackBerry ($M_{\text{high SBC}} = 7.10$ vs. $M_{\text{low SBC}} = 7.06$, $p = .94$); however, we do find a marginally significant difference for Toyota ($M_{\text{high SBC}} = 8.33$ vs. $M_{\text{low SBC}} = 7.16$, $\beta = .02$, $t(181) = 1.86$, $p = .065$; see table 2). Thus, as in study 1, H1a is not supported for number of associations. However, regression analysis revealed a significant difference of SBC on the number of core associations for two of the three brands. High SBC consumers had a greater number of core associations in their networks than do low SBC consumers for Coca-Cola (marginal) and Toyota (Coca-Cola: $M_{\text{high SBC}} = 5.52$ vs. $M_{\text{low SBC}} = 4.85$, $\beta = .01$, $t(177) = 1.78$, $p = .076$; Toyota: $M_{\text{high SBC}} = 4.49$ vs. $M_{\text{low SBC}} = 3.75$, $\beta = .02$, $t(181) = 2.61$, $p = .01$; see table 2). There were no significant effects of SBC on Blackberry's core

associations ($M_{\text{high SBC}} = 3.73$ vs. $M_{\text{low SBC}} = 3.49$, $p = .54$). Thus, for Coca-Cola, these results replicated those of study 1.

Insert table 2 about here

Test of H1c. To test H1c that consumers with high (vs. low) SBC have a greater number of core associations linked to the self, we regressed SBC on the number of core associations strongly linked to the self. High (vs. low) SBC consumers had a significantly greater number of core associations linked to the self in their brand associative networks for all three brands (Coca-Cola: $M_{\text{high SBC}} = 2.80$ vs. $M_{\text{low SBC}} = 0.85$, $\beta = .04$, $t(177) = 6.98$, $p < .001$; BlackBerry: $M_{\text{high SBC}} = 1.92$ vs. $M_{\text{low SBC}} = .81$, $\beta = .03$, $t(177) = 4.33$, $p < .001$; Toyota: $M_{\text{high SBC}} = 2.36$ vs. $M_{\text{low SBC}} = 1.19$, $\beta = .02$, $t(178) = 4.54$, $p < .001$; see table 2). These findings are consistent with both H1c and study 1.

We next examined overlap between self and core brand associations as a percentage of core associations linked to self. Again consistent with study 1, we found that high SBC consumers had a greater percentage of core associations links to the self than do low SBC consumers for all three brands (Coca-Cola: $M_{\text{high SBC}} = 52.04\%$ vs. $M_{\text{low SBC}} = 18.56\%$, $\beta = .01$, $t(177) = 7.19$, $p < .001$; BlackBerry: $M_{\text{high SBC}} = 51.15\%$ vs. $M_{\text{low SBC}} = 19.45\%$, $\beta = .01$, $t(177) = 5.61$, $p < .001$; Toyota: $M_{\text{high SBC}} = 52.23\%$ vs. $M_{\text{low SBC}} = 30.97\%$, $\beta = .04$, $t(178) = 4.29$, $p < .001$; see table 2). These findings support our theorizing about the self-relevance of core associations for high SBC consumers.

Discussion

Our differential associations account predicts that consumers with low and high SBC will respond differently to brand primes based on differences in their brand associative networks. In examining consumers' brand associative networks by level of SBC in two studies, we found that consumers with high vs. low SBC have more core associations in their networks (with the exception of BlackBerry); stronger core associations with the brand; more core associations linked to the self; and a greater percentage of core associations linked to the self. We find that high and low SBC consumers do not differ in the number of total or non-core associations in their networks (with the exception of number of associations in their network for Toyota). Taken together, we learn that consumers with high SBC perceive a greater overlap between the self and the brand's core associations. Thus, we offer empirical support for prior theorizing suggesting that self-brand connection is based on perceptions of fit between the self and core brand associations (Chaplin and Roedder John 2005; Escalas 2004). High SBC consumers also find core associations more accessible than low SBC consumers. Thus, our findings offer empirical support regarding this notable difference in high vs. low SBC consumers' brand associative networks. Priming a core or non-core brand association should increase the brand's accessibility, and thus behavioral intentions, for consumers with low SBC. Yet, priming a core association that is accessible and overlaps with the high SBC consumer's self-concept should result in a null effect, because behavioral intentions follow from bonds connecting the brand to the self (Park et

al. 2010). Priming a non-core association should decrease behavioral intentions for consumers with high SBC because it is less consistent with the self.

We now present two priming studies that examine effects of brand primes on low and high SBC consumers. In the brand prime selection process described in studies 3 and 4, we examine specific core and non-core associations participants listed for viability as brand primes. Given that studies 1 and 2 examine the brand associative networks for Coca-Cola, we use Coca-Cola as the target brand in the first brand priming study. The study aimed to find support for our proposed differential associations account of brand priming effects. As an initial test of H2, study 3 examines how high and low SBC consumers respond to a core association brand prime for Coca-Cola. Our differential associations prediction for the effect of this core brand prime was that it would increase behavioral intentions toward the brand for low SBC consumers but not affect behavioral intentions for high SBC consumers.

STUDY 3

The objective of study 3 was to find support for H2 using a brand prime that is a core association for both low and high SBC consumers. Based on the brands examined in studies 1 and 2, we selected Coca-Cola as the target brand. We next describe the brand prime selection process.

Brand Prime Selection Process

To select a Coca-Cola brand prime that is a core association with the brand for both low and high SBC consumers, we examined the Coca-Cola associative networks of participants in study 2, given that study 2's study population is the similar to that of study 3's (U.S. MTurk participants). We observed that *red* was one of the most prominent associations, so we explored its viability as a core brand prime for Coca-Cola. We first dummy-coded the data, assigning 1 if the participant listed *red* and 0 if they did not. We saw that 55% of participants list the *red* association. This meant that it is strongly associated with the Coca-Cola brand among all participants, and meets the criteria that a core association be listed highly frequently (Roedder John et al. 2006). Further, we found that for those participants who listed *red*, those with high (vs. low) SBC more strongly link it to the self ($M_{\text{high SBC}} = 2.02$ vs. $M_{\text{low SBC}} = 1.40$, $t(104) = 4.10$, $p < .001$). Thus, we selected *red* as a core brand prime for both low and high SBC consumers. Per H2, we expected that priming *red* would increase behavioral intentions for low SBC consumers but not affect high SBC consumers.

Main Experiment Design and Procedure

Thirty-nine consumers from MTurk (69% female, average age = 36) completed the study for \$0.50 compensation. The between subjects design employed one manipulated factor (brand-related prime: red vs. neutral) and one measured factor, self-brand connection.

Participants completed two ostensibly unrelated tasks as part of a series of studies. First, they completed a visual acuity priming task. Participants were shown the following instructions, followed by two very similar photographs.

“In this study, we are interested in your visual skills. On the next page you will see two photographs. There are 7 differences between the original photograph, at the top of the page, and the altered photograph, at the bottom of the page. These differences are very subtle. Please examine the photographs and see how many differences you can find in 3 minutes. This is a difficult task. Most people can only find 3 or 4 differences.

Please describe any differences you can find in the lines provided underneath the photographs. Remember, you will have 3 minutes to find as many differences as you can between the photographs.”

Participants in the core prime condition saw photographs of the red truck.

Participants in the neutral prime condition saw photographs of the nature scene (see Appendix B). Next, participants completed a survey that included the dependent measure, “How much would you like to drink a Coca-Cola?” (1 = Not at all, 7 = Very much), among other measures about behavioral intentions toward various brands (e.g., Gillette, Nike). Finally, after a filler task designed to clear working memory (i.e., solving math problems), participants answered the 7-item SBC measure, as in previous studies. Average SBC is 27.39, with a standard deviation of 28. There is no effect of prime on SBC ($\beta = 5.7$, $t(38) = .63$, NS).

Results

We expected that when exposed to the core prime (vs. neutral prime) consumers low in Coca-Cola SBC would increase behavioral intentions toward the brand, while consumers high in Coca-Cola SBC would not. A regression on behavioral intention with

mean-centered SBC, brand prime, and mean-centered SBC x brand prime as predictors revealed a significant effect of SBC ($\beta = .06, t(38) = .63, NS$) and a significant interaction term ($\beta = -.04, t(38) = -2.45, p < .02$). The main effect of brand prime was not significant ($\beta = .72, t(38) = 1.45, NS$). The main effect of SBC indicates that consumers high (vs. low) in SBC to Coca-Cola express increased intention.

The interaction effect indicated that, consistent with H2a, after exposure to the core brand prime, consumers low in Coca-Cola SBC were more likely to increase behavioral intention. The regression spotlight analysis at ± 1 SD from the mean (Irwin and McClelland 2001) indicated that the core brand prime significantly increased behavioral intention for consumers low in SBC ($M_{\text{neutral prime}} = 2.78$ vs. $M_{\text{core brand prime}} = 4.73; \beta = 1.95, t(38) = 2.76, p < .01$). Consistent with H2b, for consumers high in Coca-Cola SBC, the brand prime did not affect behavioral intention ($M_{\text{neutral prime}} = 6.36$ vs. $M_{\text{core brand prime}} = 5.85; \beta = .06, t(38) = -.73, NS$; see figure 2). Thus, the core brand prime differentially affected their behavioral intention.

Insert figure 2 about here

Discussion

Study 3 results suggested that a core brand prime attenuates a priming effect for consumers high in SBC to the target brand. They express behavioral intention in line with their SBC (i.e., similar to the neutral condition). However, consumers who do not feel connected to the brand (i.e., low in SBC) express increased intention after exposure to the

core brand prime. This findings shows moderation of prior work on brand priming (Berger and Fitzsimons 2008, Ferraro, Bettman, and Chartrand 2009).

The next study aimed to replicate this result and extend our findings to non-core brand primes for low and high SBC consumers. Given our hypothesis (H2a) that either type of brand prime will increase behavioral intentions for low SBC consumers, we expected to replicate the finding in study 3. However, per H2b, we expected the non-core brand primes would decrease behavioral intentions for high SBC consumers

STUDY 4

The objective of study 4 was to replicate the finding for a core brand prime, and also test the predictions for non-core primes. In order to generalize the effect to a different brand and category, we selected BlackBerry, as the target brand. Finally, we tested non-core primes that differ in valence (positive vs. negative associations) to rule out that the predicted decreased behavioral intentions effect for high SBC consumers may be due to negative valence of a prime. We next describe the brand prime selection process.

Brand Prime Selection Process

As with study 3, we examined the study 2 brand associations for viable primes. We observed that *business* appeared frequently and thus was a possible core brand prime. Since we were searching for non-core primes as well, we noted that other less often-mentioned brand-level associations include *berries and crackberry* (many consumers claim to be addicted to their devices, thus giving BlackBerry the moniker “CrackBerry”; Mazmanian, Orlikowski, and Yates 2005). We created dummy variables to capture whether each participant included the brand-level associations *business*, *email addiction*, or *berries* in their associative network (i.e., each variable was assigned 1 if it was included in the participant’s BlackBerry associative network and 0 if not). *Business* was the most frequently listed brand-level association (beyond *phone*, 52%) and this can be characterized as a core association (Roedder John et al. 2006). We find that 32% of participants listed *business*; 8% listed the email addiction-related association *crackberry*; and 4% of consumers listed a *berries* association. This suggests that, at the aggregate level, *business* is a core association with the brand, while *email addiction* and *berries* are non-core associations.

We examined the strength of each association with the self-concept (where 1 = weakly associated with the self, 2 = moderately associated with the self, and 3 = strongly associated with the self). Consistent with our conceptualization and H1c, we found that for those participants who listed the core association *business*, those with high (vs. low) SBC more strongly link it to the self ($M_{\text{high SBC}} = 2.43$ vs. $M_{\text{low SBC}} = 1.83$, $t(55) = 3.16$, $p < .01$). We found that for those participants who listed non-core associations *email addiction* or *berries*, both high and low SBC consumers weakly link it to the self ($M_{\text{email addiction}} = 1.58$, $M_{\text{berries}} = 1.73$, p 's $> .50$).

Per H2a, we expected that all brand primes would increase behavioral intentions for low SBC consumers. Per H2b, we expected that non-core *email addiction* and *berries* primes will each decrease behavioral intentions and that the core *business* prime will not affect intentions. *Email addiction* is negative in valence, while *berries* is positive in valence but also trivial (i.e., irrelevant).

To test the valence of selected primes, we ran a separate pre-test on MTurk (N = 40, 24.4% female, average age = 29.85). U.S. consumers participated for \$0.25 compensation. The within-subjects survey asked participants to examine photographs to be used as brand primes (businessman, berries, person furiously answering emails, or boats; see Appendix C) and evaluate each on three dimensions: 1 = negative, 7 = positive; 1 = unfavorable, 7 = favorable; 1 = bad, 7 = good. Photographs were presented in random order, and the boats photograph is the neutral prime. The items were averaged to form a valence measure for the photograph(s) (Cronbach's $\alpha_{\text{business valence}} = .94$; Cronbach's $\alpha_{\text{berries valence}} = .94$; Cronbach's $\alpha_{\text{email addiction valence}} = .87$; Cronbach's $\alpha_{\text{boat valence}} = .88$). We found that compared with the neutral prime, the berries prime is more positive, and the email addiction prime is more negative ($M_{\text{berries}} = 5.98$ vs. $M_{\text{neutral}} = 4.79$, $t(39) = 6.60$, $p < .001$; $M_{\text{email addiction}} = 2.36$ vs. $M_{\text{neutral}} = 4.79$, $t(39) = -11.13$, $p < .001$). The business prime does not differ from neutral ($M_{\text{business}} = 4.87$ vs. $M_{\text{neutral}} = 4.79$, $p = .76$). These results support the notion that berries is a positively valenced brand prime and email addiction is a negatively valenced brand prime. We next describe the study design and priming procedure.

Main Experiment Design and Procedure

Two hundred sixty-three U.S. MTurk participants (61% female, average age = 32) completed the study for \$0.50 compensation. The between subjects design employed one manipulated factor (core brand prime vs. negative non-core brand prime vs. positive non-core brand prime vs. neutral) and one measured factor, self-brand connection.

Participants were randomly assigned to a priming condition.

Participants completed three ostensibly unrelated studies on the computer. The first study (Survey 1) was presented to all participants and served as the priming task. Survey 1 asked participants to complete a task assessing their visual skills. They were told that they would be asked to evaluate a photograph on a number of visual dimensions such as hue, brightness, and contrast (Berger and Fitzsimons 2008; Liu, Abrams, and Carrasco 2009). Participants in the non-core positive brand prime condition viewed a photograph of mixed berries from a farmers market. Participants in the non-core negative brand prime condition saw a photograph of an individual answering emails on the computer with multiple hands. Participants in the core brand prime condition saw a photograph of a man in work attire with a laptop. Participants in the neutral condition viewed a photograph of boats. See Appendix C for stimuli. Participants completed the visual evaluations.

In a separate study (Survey 2), participants were shown a series of logos for brands of smartphones (e.g., Blackberry, Android) and clothing (e.g., Gap, Polo) and asked about behavioral intentions toward each brand, using a similar two-item measure. The items for Blackberry were, “How much would you like to play with a new

BlackBerry smartphone to test out its features?” and “How much would you like to own a BlackBerry?” (1 = not at all; 7 = very much; $r = .79$).

Participants then completed an unrelated filler study designed to clear working memory. They then indicated self-brand connection to various brands, including BlackBerry ($M_{\text{BlackBerry SBC}} = 25.13$, $SD = 27.44$, $\alpha = .97$). Almost 27% of participants reported owning a BlackBerry. SBC was not affected by the treatments (all p 's > .24).

Results

The regression analysis used dummy-coded variables for the brand primes (non-core positive, non-core negative, and core), BlackBerry SBC, and the interaction of each dummy variable and BlackBerry SBC as independent variables, and BlackBerry behavioral intentions as the dependent variable. Dummy variables were coded 1 if the prime condition was present and 0 otherwise. The neutral prime condition served as the comparison condition, and SBC was mean-centered. Mean-centering the first order variable of SBC reduces potential multicollinearity that can arise in the interaction terms (Aiken and West 1991). Further, the data were plotted and analyzed and found to meet assumptions for linear regression.

There was a significant effect of SBC ($\beta = .07$, $t(262) = 8.0$, $p < .001$), qualified by the three predicted interaction effects (SBC x non-core, positive brand prime: $\beta = -.03$, $t(262) = -2.63$, $p < .01$, $VIF = 3.36$; SBC x non-core, negative brand prime: $\beta = -.02$, $t(262) = -2.94$, $p < .01$, $VIF = 2.33$; SBC x core brand prime: $\beta = -.02$, $t(262) = -1.52$, $p = .10$, $VIF = 2.32$). There were no other significant treatment effects.

As expected, higher SBC led to higher intentions to engage with the brand. The interaction effect revealed that those with low versus high SBC experienced a different effect of the primes (see figure 3). Spotlight analysis at +/- 1 SD from the mean (Irwin and McClelland 2001) was used to examine the priming effects for consumers with high and low SBC, respectively. Consistent with H2a, consumers with low SBC had higher behavioral intentions in the brand priming conditions than in the neutral prime condition. These effects were significant for the non-core negative prime and marginal for the non-core positive and core primes ($M_{\text{low SBC neutral prime}} = 2.24$ vs. $M_{\text{low SBC non-core, negative prime}} = 3.21$, $\beta = .97$, $t(262) = 49$, $p < .02$; $M_{\text{low SBC neutral prime}} = 2.24$ vs. $M_{\text{low SBC non-core, positive prime}} = 2.89$; $\beta = .64$, $t(262) = 1.68$, $p = .09$; $M_{\text{low SBC neutral prime}} = 2.24$ vs. $M_{\text{low SBC core prime}} = 2.93$; $\beta = .68$, $t(262) = 1.77$, $p = .07$). The non-core and core primes were not significantly different. Thus, the brand primes led to prime-consistent effects for consumers low in BlackBerry SBC, regardless of whether the prime is a core or non-core association with the brand.

Supporting H2b, for consumers with high SBC, both non-core primes significantly decreased behavioral intentions relative to the neutral prime ($M_{\text{high SBC neutral prime}} = 5.86$ vs. $M_{\text{high SBC non-core, positive prime}} = 5.08$; $\beta = -.78$, $t(262) = -2.17$, $p = .03$; $M_{\text{high SBC neutral prime}} = 5.86$ vs. $M_{\text{high SBC non-core, negative prime}} = 5.07$; $\beta = -.78$, $t(262) = -1.9$, $p = .05$). The primes were not significantly different from each other. However, the core prime did not affect behavioral intentions compared to the neutral prime ($M_{\text{high SBC neutral prime}} = 5.86$ vs. $M_{\text{high SBC core prime}} = 5.62$; $\beta = -.23$, $t(262) = -.56$, NS). Thus, priming brand-related associations led to decreased behavioral intentions for consumers high in SBC when the

primes were non-core associations with the brand but not when the brand prime was a core association with the brand.

Insert figure 3 about here

Discussion

Study 4 supports our differential associations account of brand priming. Consistent with H2a, relative to a neutral prime, core and non-core brand primes increased behavioral intentions of consumers with low SBC. It is likely that the brand primes increased the accessibility of the brand among consumers with low SBC, thereby increasing behavioral intentions toward the brand. In contrast, consistent with H2b, we found that a core brand prime attenuated the priming effect for high SBC consumers. This pattern is consistent with that of study 3. In further support of H2b, two non-core brand primes decreased behavioral intentions of connected consumers. Thus, study 4 results suggest conditions under which nonconscious brand primes can lead to an increase or decrease in behavioral intentions for consumers based on self-brand connection.

To ensure that the effect is not methodologically induced, we ran further analyses examining correlation and multicollinearity. First, we find that SBC is not strongly correlated with the brand primes (all r 's < .14). Second, a regression model with all four independent variables as predictors and behavioral intentions as the dependent variable reveals that no variance inflation factor (VIF) is above 1.5 ($VIF_{SBC} = 1.0$, $VIF_{core\ prime} = 1.5$, $VIF_{non-core\ positive} = 1.5$, $VIF_{non-core\ negative\ prime} = 1.5$; Kurt and Inman 2013). The VIF

levels for the interaction terms reported earlier were also well below the level of 10, used as a general rule (Belsley, Kuh, and Welsch 1980). Thus, it is unlikely that the effects are due to multicollinearity.

A similar pattern of effects was observed for both non-core (berries and email addiction) primes, irrespective of valence of the primes. This suggests that, counterintuitively, a non-core brand prime that is positively valenced can decrease behavioral intentions for consumers with high SBC (compared with a neutral prime). The same prime increases behavioral intentions for consumers with low SBC. We ran a follow-up study with the objective of replicating this counterintuitive effect.

The between subjects design had two brand prime conditions (non-core positive vs. neutral), and measured SBC as in previous studies. Participants ($N = 73$ undergraduates, 37% female, average age = 22 years) followed the same procedure as in study 4 on paper rather than on the computer, as part of a series of studies completed for course credit. The first survey contained the supraliminal priming procedure, where participants were exposed to the same berries image (non-core positive condition) or the boats image (neutral condition) used in study 4 (see Appendix D). The second survey contained the dependent variable measures, as well as the seven-item SBC measure (Escalas and Bettman 2003). The dependent variable of behavioral intentions was captured using two items similar to study 4, “Given that you were shopping for a new smartphone, how likely would you be to choose a BlackBerry?” and “How much would you like to own a BlackBerry?” (1 = not at all; 7 = very much; $r = .81$). There was no effect of the treatment on SBC ($p = .72$; $M_{\text{SBC}} = 21.57$, $SD = 25.78$; $\alpha = .97$).

Per H2 and study 4 findings, we expected that when exposed to the non-core

positive valence prime (vs. neutral prime) consumers low in BlackBerry SBC would increase behavioral intentions toward the brand, while consumers high in BlackBerry SBC would decrease behavioral intentions. As with study 4, a regression on behavioral intentions with mean-centered SBC, dummy-coded brand prime, and their interaction as predictors revealed a significant effect of SBC ($\beta = .05$, $t(72) = 7.17$, $p < .001$) and a significant interaction term ($\beta = -.03$, $t(72) = -3.16$, $p < .01$). The main effect of brand prime was not significant ($\beta = -.13$, $t(72) = -.51$, NS). Further, and also consistent with study 4, the regression spotlight analysis at ± 1 SD from the mean (Irwin and McClelland 2001) indicated that the non-core positive brand prime increased behavioral intentions for low SBC consumers ($M_{\text{neutral prime}} = 1.17$ vs. $M_{\text{non-core positive brand prime}} = 1.92$; $\beta = .74$, $t(72) = 1.94$, $p = .056$). In contrast, the same prime *decreased* behavioral intentions for high SBC consumers ($M_{\text{neutral prime}} = 3.49$ vs. $M_{\text{non-core positive brand prime}} = 2.48$; $\beta = -1.01$, $t(72) = -2.61$, $p = .01$). Thus, we find additional support that the non-core positive brand prime differentially affected their behavioral intentions.

GENERAL DISCUSSION

The objective of the paper was to show that negative brand priming effects could occur under certain conditions. Whereas prior research (Berger and Fitzsimons 2008; Ferraro, Bettman, and Chartrand 2009) shows positive effects on behavioral intentions toward the brand, we show that priming non-core associations leads to lower behavioral

intentions for consumers with high SBC. We identify core and non-core associations as brand primes. Thus, both SBC and the nature of brand associations affect behavioral intentions from brand priming. We offer a differential brand associations account of brand priming effects that accounts for the role of self-brand connection. The first two studies demonstrate that consumers' brand associative networks differ by level of self-brand connection. We find that connected consumers' associative networks differ on the number of core associations, the strength of the links between core associations and brand, and the overlap between self and core associations. They do not, however, differ on complexity (i.e., the number of associations or links between associations). Our findings point to the importance of core associations in the self-brand relationship, and suggest that self-brand connection is mentally represented as a shared set of core associations linking the self to the brand. We apply this network-based framework to brand priming effects.

Studies 3 and 4 demonstrate that core and non-core brand primes increase behavioral intentions for consumers low in SBC. This result is consistent with prior work that shows that brand primes enhance brand evaluations through increased accessibility (Berger and Fitzsimons 2008; Ferraro, Bettman, and Chartrand 2009). For consumers high in SBC, however, our results differ from those in the brand priming literature. Because high SBC consumers strongly link the self to core associations, attenuation of brand priming effects occur. Counterintuitively, we find that high SBC consumers decrease behavioral intentions when exposed to negative or trivial non-core brand primes. Thus, whereas prior research on self-brand connection reveals positive effects (Park et al. 2010; Ferraro, Kirmani, and Matherly 2013), we show that negative effects can occur in

the context of brand priming. In the next section, we discuss the contributions of the paper and implications for future research.

Theoretical Implications

First, the paper makes a contribution to the consumer literature on brand priming, which has demonstrated positive main effects of priming on brand evaluations (Berger and Fitzsimons 2008; Chartrand et al. 2008; Ferraro, Bettman, and Chartrand 2009). We extend prior priming research by demonstrating conditions under which priming the brand may result in a negative effect on behavioral intentions. While recent research suggests that both core and non-core brand primes should lead to increases in behavioral intentions toward the brand, we offer a differential associations account that considers the interaction of type of association and self-brand connection.

Second, we offer core and non-core associations as an important type of brand prime that can affect behavioral intentions in novel ways. This is an important distinction that, with the exception of Roedder John and colleagues (2006), research has yet to examine. As our results show, it clearly matters in the formation of behavioral intentions at a nonconscious level. Further, we augmented the brand concept mapping technique developed by Roedder John et al. (2006) to include the self node, and in doing so were able to test for the relationship between the self and core associations. We find that priming the brand through a negative or trivial non-core association results in a decrease in behavioral intentions. Future research should explore the relationship between the self and non-core associations in greater detail and boundary conditions for the effect.

Third, the importance of self-brand connection and the related construct of brand attachment as predictors of brand-related effects are growing in the consumer literature (Paharia et al. 2011; Park et al. 2010; Swaminathan et al. 2007). Whereas prior research suggests that high SBC increases behavioral intentions for the brand (Park et al. 2010) and leads to protective behaviors (Ferraro, Kirmani, and Matherly 2013), we demonstrate the opposite. In the context of nonconscious brand cues, high SBC can lead to lower behavioral intentions. Since most of the research on self-brand connection has been conducted in the context of conscious information processing, less is known about how SBC influences behavioral intentions toward the brand in nonconscious contexts. The underlying mechanism is consistent with recent work by Cheng, White, and Chaplin (2012) whereby consumers protect the self in the face of negative information about a brand they are highly connected to. Yet, we also observe effects for positive but trivial information (e.g., berries for the BlackBerry brand). The fact that our participants showed no signs of perceiving the influence of the primes on their judgments supports the notion that the effect occurs nonconsciously. Future research should examine whether these effects might occur when processing is more deliberate, similar to recent work by Yang et al. (2014) that shows that brand context effects are attenuated in high elaboration settings. More deliberative processing may lead to correction, as consumers attempt to maintain consistency with their explicit self-brand connection.

Fourth, we conceptualized SBC as reflective of both strength of core associations with brand and overlap between self and core associations in brand associative networks. This is somewhat different from Park et al. (2010), who see self-brand connection as conceptually distinct from brand prominence (defined as the salience of brand-related

thoughts and feelings). They argue that self-brand connection may sometimes be high because the brand serves an instrumental need rather than an identity-based need; under these conditions, brand prominence and SBC may be uncorrelated. The role of prominence was unclear in their empirical work, which showed that prominence might be either related or unrelated to SBC. We take the perspective that SBC is identity-based because of the overlap between the self-concept and the brand's core associations (Chaplin and Roedder John 2005); in this situation, both the accessibility of the brand as well as the relevance of the brand to the self-concept are highly correlated. Future research may further examine the implications of differences in strength within consumers' brand associative networks on their responses in other contexts.

Finally, our theorizing and empirical exploration of the relationship of the self-brand connection construct to brand associative networks yields interesting applications in a number of contexts that study decision-making based on knowledge structures. For example, recent research examines the effects of associative network structure on brand equity using social tags (Nam and Kannan, forthcoming). A fundamental tenant of this literature is that consumers make decisions based on information in their associative network (Alba and Hutchinson 1987). Part of one's associative network may be activated at different times, and the active information will influence brand-related behaviors. Future research examining the effect of these differences in brand tagging would be a contribution to theory in this growing area of research and practical application.

Managerial Implications

Marketers often find their brands presented in complex everyday contexts, with text, imagery, or items that can influence consumers' behavioral intentions outside their awareness (Berger and Fitzsimons 2008; Ferraro, Bettman, and Chartrand 2009; Yang et al. 2014). To date, priming research suggests that these nonconscious cues are likely to affect behavior in positive ways, thus causing little concern for brand managers. However, the present research provides the important qualification that non-core brand associations may affect behavioral intentions of loyal (high SBC) consumers in surprising and undesirable ways. Given the wide availability of loyalty data available and the ability for marketers to use that data as a proxy for self-brand connection (Park et al. 2010), aspects of this research can be applied to inform projections for whether detrimental priming effects are likely to occur for loyal (i.e., high SBC) consumers in various contexts. This research also demonstrates how marketers could use techniques such as brand concept maps (Roedder John et al. 2006) to uncover the set of core and non-core associations that may be likely to lead to decreases in behavioral intentions for their loyal consumers, or increases in intentions for non-loyal consumers. Thus, this research suggests how brand priming can be better understood as a mechanism for inducing behavioral intentions above or below that predicted by self-brand connection alone.

Appendix B. Essay I

Study 3: Priming Task Stimuli

Panel A. Core brand prime condition



Panel B. Neutral condition



Appendix C. Essay I

Study 4: Priming Task Stimuli

Panel A. Non-core positive brand prime (berries) condition



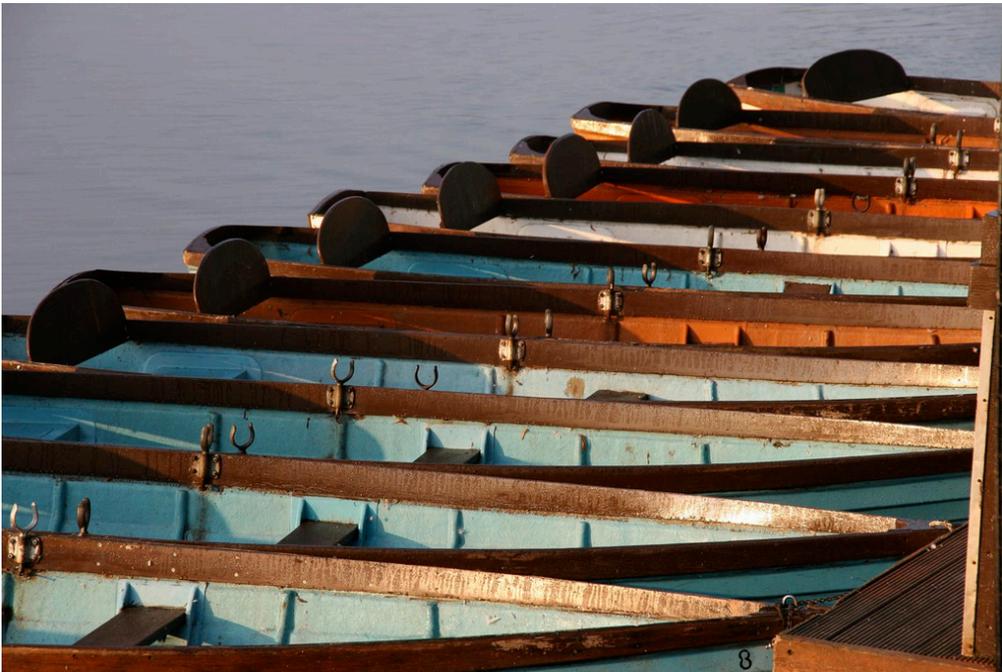
Panel B. Non-core negative brand prime (email addiction) condition



Panel C. Core brand prime (business) condition



Panel D. Neutral condition



Appendix D. Essay 1

Study 4. Follow-up Study Stimuli, Berries Condition

This is a short consumer survey.

We are interested in your visual acuity skills. On the next page you will see a photograph. Please study the photograph and answer the questions regarding the photograph. There are no right or wrong answers; this is a matter of perception.

When you are ready, turn to the next page to begin.

Please examine the photograph below very carefully, keeping in mind elements such as balance, contrast, brightness, visual appeal, meaning, etc.

Begin examining the photograph now. Allow yourself *at least 1 minute* to examine all the details of the photograph, as well as the image as a whole.



When you have examined the photograph well enough to evaluate it, please move on to the next page.

Table 1. Essay I

Study 1: Results for Complexity, Associative Strength, and Overlap between Self and Core Brand Associations by Level of Self-Brand Connection

	Self-brand connection	
	Low (-1 SD)	High (+1 SD)
H1a. Complexity of network		
Number of associations	8.21	9.15
Number of core associations	4.11 ^a	4.81 ^b
Number of non-core associations	4.10	4.34
Number of links between associations	8.31	9.31
H1b. Strength of core associations with brand		
Number of lines between core associations and brand	5.56 ^a	6.79 ^b
H1c. Overlap between self and core associations		
Number of core associations linked to self	1.18 ^a	1.89 ^b
Percentage of core associations linked to self	30.14 ^a	41.85 ^{b!}

Notes: Superscripts that differ in the row indicate $p \leq .05$. ! indicates $p \leq .10$. Overlap

between self and core associations variables were calculated for $n = 59$ participants, who link the self to one or more core associations.

Table 2. Essay I

Study 2: Results for Complexity and Overlap between Self and Core Brand Associations
by Level of Self-Brand Connection

Dependent variable	Self-brand connection					
	<i>Coca-Cola</i>		<i>BlackBerry</i>		<i>Toyota</i>	
	Low (-1 SD)	High (+1 SD)	Low (-1 SD)	High (+1 SD)	Low (-1 SD)	High (+1 SD)
H1a. Complexity of network						
Number of associations	11.02	11.35	7.06	7.10	7.16 ^a	8.33 ^{b!}
Number of core associations	4.85 ^a	5.52 ^{b!}	3.49	3.73	3.75 ^a	4.49 ^b
Number of non-core associations	6.21	5.98	3.57	3.33	3.46	3.72
H1c. Overlap between self and core associations						
Number of core associations linked to self	0.85 ^a	2.80 ^b	0.81 ^a	1.92 ^b	1.19 ^a	2.36 ^b
Percentage of core associations linked to self	18.56 ^a	52.04 ^b	19.45 ^a	51.15 ^b	30.97 ^a	52.23 ^b

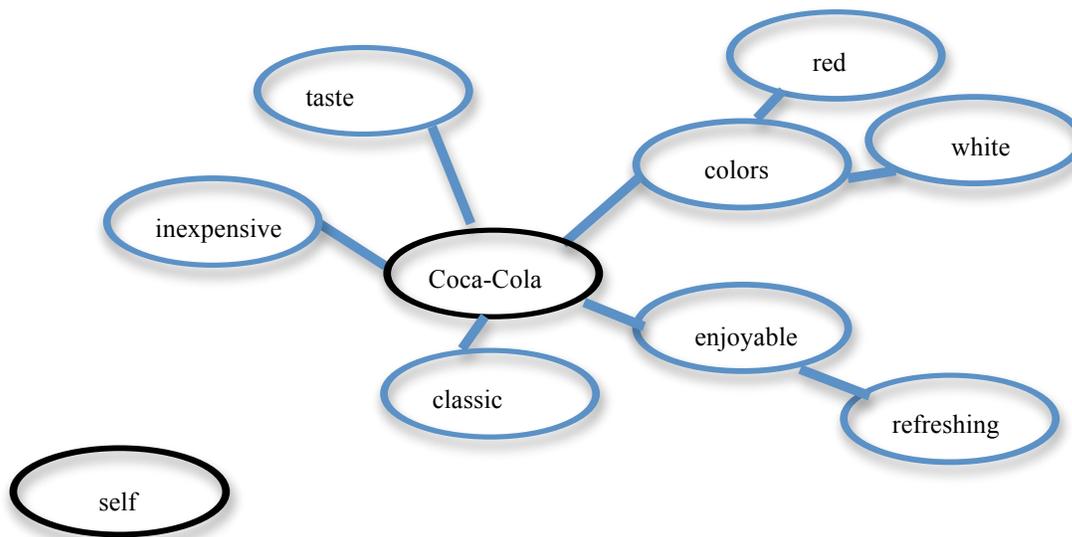
Notes: Superscripts that differ in the row indicate $p \leq .05$. ! indicates $p \leq .10$.

Discrepancies in the totals by column for complexity of network variables reflect missing data. This arises when participants do not sort all associations into all boxes.

FIGURE 1. ESSAY I

STUDY 1: SAMPLE BRAND ASSOCIATION MAPS FOR CONSUMERS WITH
LOW AND HIGH SBC

Panel A. Low self-brand connection consumer (SBC = 17.14)



Panel B. High self-brand connection consumer (SBC = 67.86)

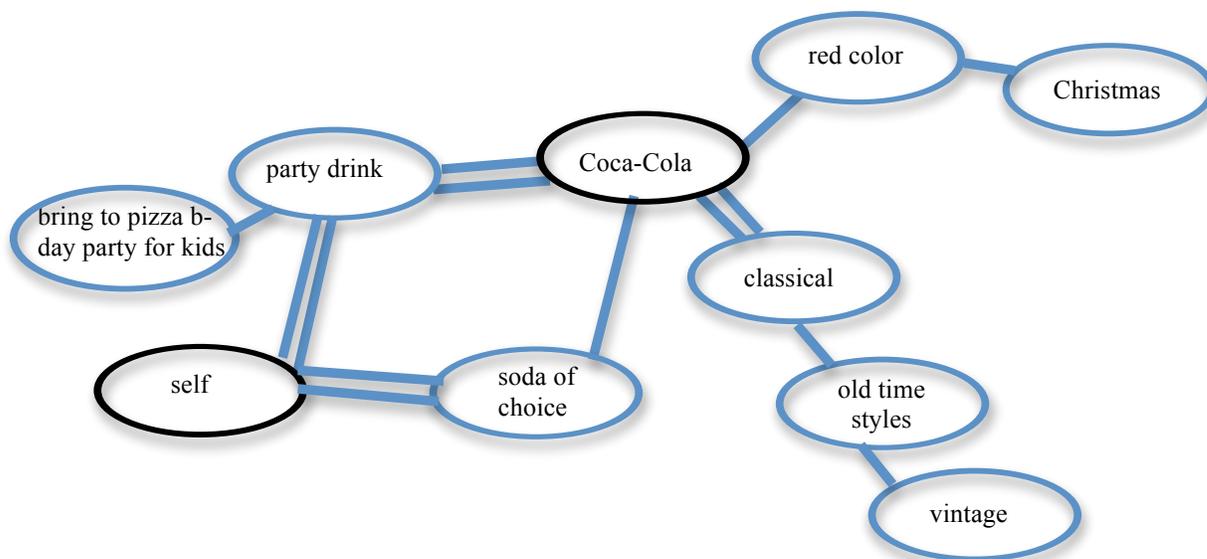


FIGURE 2. ESSAY I
STUDY 3: INTERACTION OF TARGET (COCA-COLA) SELF-BRAND
CONNECTION AND BRAND PRIME ON TARGET BRAND (COCA-COLA)
BEHAVIORAL INTENTIONS

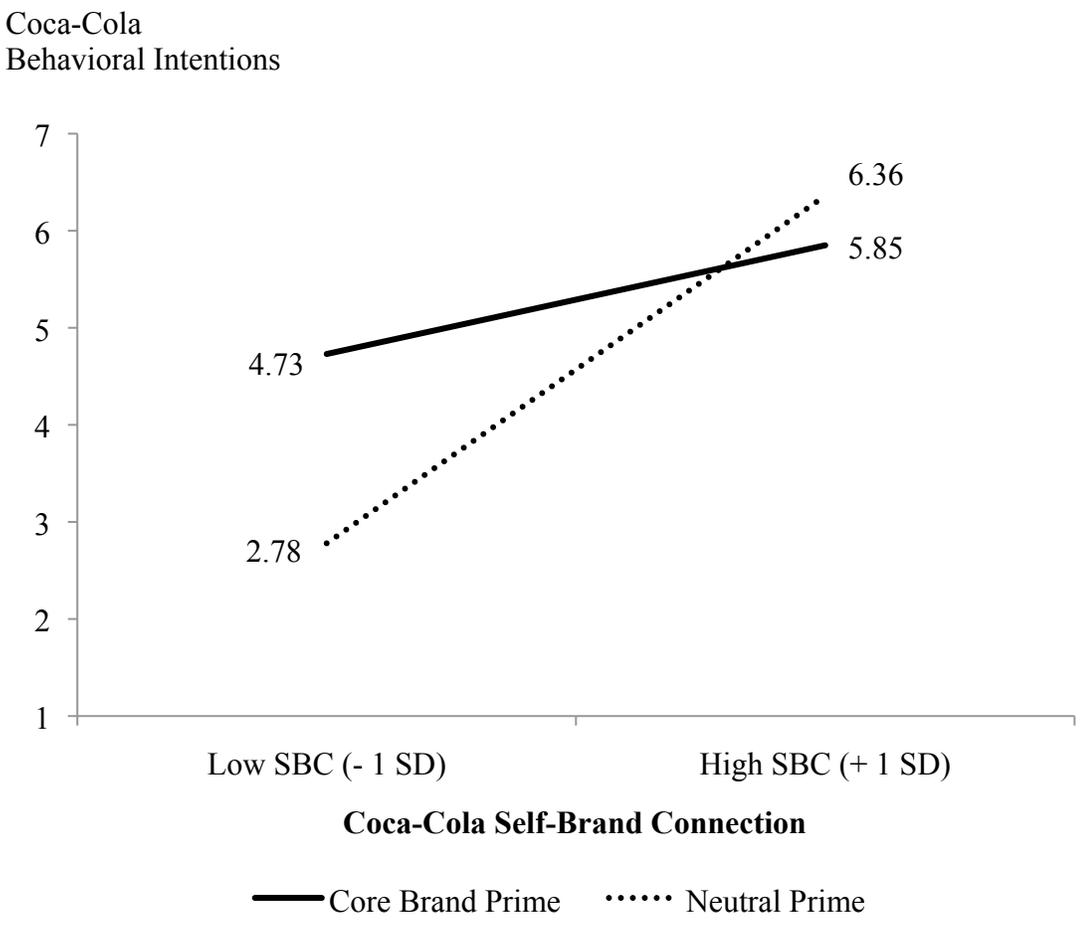
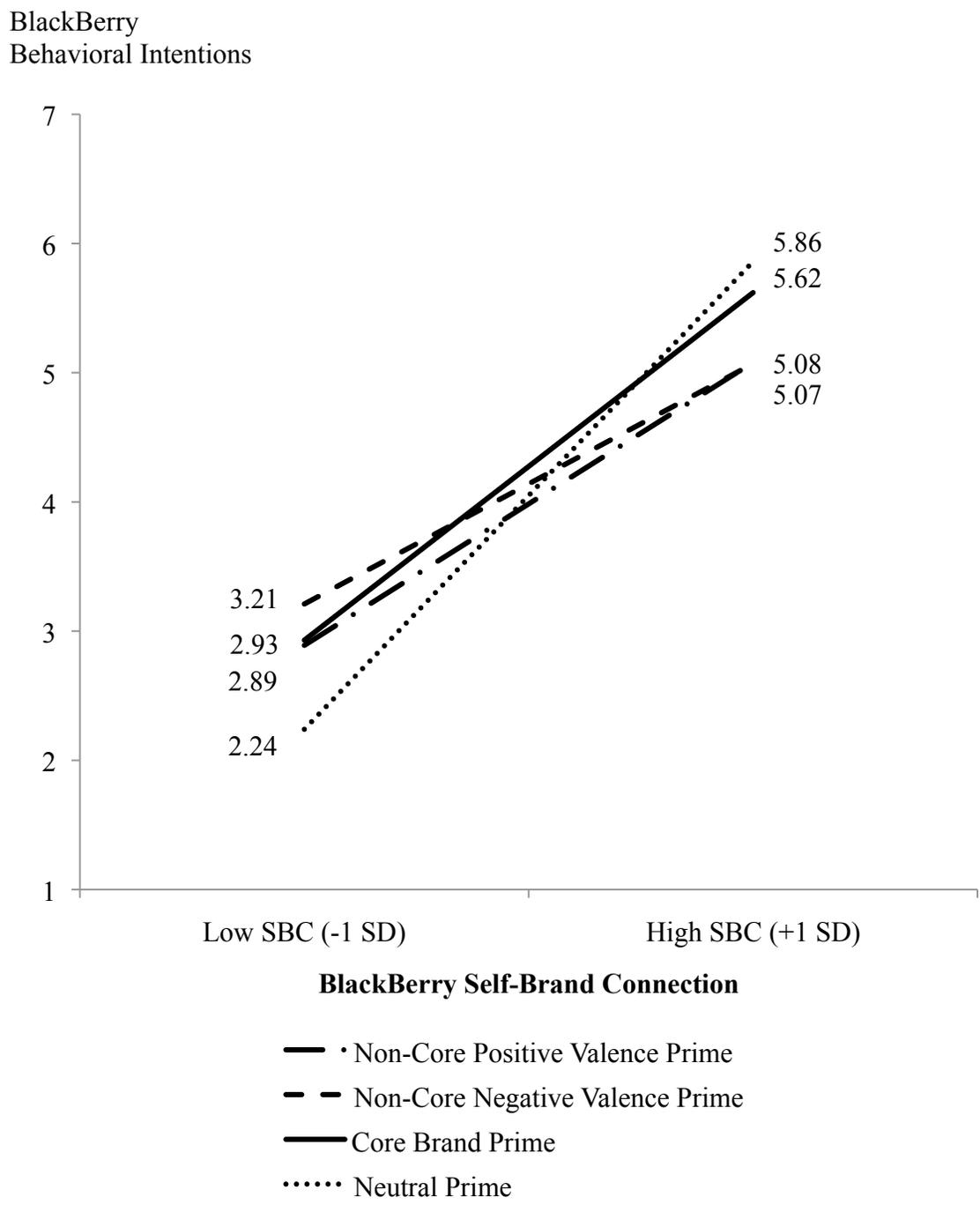


FIGURE 3. ESSAY I

STUDY 4: INTERACTION OF TARGET (BLACKBERRY) SELF-BRAND CONNECTION AND BRAND PRIMES ON TARGET BRAND (BLACKBERRY) BEHAVIORAL INTENTIONS



Chapter 3: Essay II

Why Are Some Brand Co-Creation Activities More Effective Than Others?²

Brand co-creation campaigns reflect the notion that consumers are active creators of brand-related content (Prahalad and Ramaswamy 2004). Employed by increasing numbers of marketers, these campaigns are designed to give consumers a chance to participate in the development of brand meaning and drive subsequent social media consumption. For instance, Starbucks' MyStarbucksIdea web site offers consumers the opportunity to post, vote, and comment on brand experience ideas. Similarly, on Under Armour's Stories website consumers could participate in various activities, such as crafting their own story or evaluating others' stories. The objective of co-creation campaigns is to provide consumers with a means of interacting with the brand, thereby encouraging deeper brand engagement via social media or other outlets (Van Doorn et al. 2013). For instance, after participating in a brand co-creation activity, consumers could engage in behaviors such as "liking" the brand on Facebook or sharing brand promotions with friends and family. We call these proactive brand-related behaviors *brand engagement*.

In this paper, we examine how marketers can design co-creation activities that lead consumers to engage further with the brand. Based on the notion of customer-based brand equity (Keller 1993), we suggest that consumers are more likely to further engage with the brand when co-creation activities help them generate original, personal brand

² This research was conducted with Amna Kirmani, and is reported in a 2014 working paper by Heather M. Johnson and Amna Kirmani titled "Why Are Some Brand Co-Creation Activities More Effective Than Others?: The Effects of Self-Brand Connection and Brand Knowledge Potential on Brand Engagement Intentions."

meaning. In other words, effective co-creation activities should allow consumers to reflect on their current brand knowledge in order to communicate higher-level ideas about what the brand means to them. Personal brand meaning refers to the set of information linked to the brand in a consumer's memory, including abstract and intangible aspects not related to the physical product or service (Keller 2003a). Personal brand meaning goes beyond repetition of campaign elements to include previously unarticulated associations with the brand or a novel point of view on the brand. We suggest that this generation of original, personal brand meaning will increase consumers' desire to engage further with the brand.

We propose that brand engagement intentions will be affected by two factors: consumers' self-brand connection and the co-creation activity's potential for creating brand knowledge. Self-brand connection (SBC) refers to the link between the brand and the consumer's values and identity (Escalas 2004; Escalas and Bettman 2005; Park et al. 2010). Compared to those with low self-brand connection, consumers with high self-brand connection are likely to have more motivation to engage with the brand as well as more complex brand-related autobiographical memory structures (Escalas 2004). Hence, they are more likely to participate in co-creation activities and to create original, personal brand meaning from a co-creation activity.

However, we suggest that the co-creation activity's potential for brand knowledge creation moderates the effect of self-brand connection on engagement intentions. Some co-creation activities have higher brand knowledge potential because they require consumers to access and synthesize current brand knowledge to form original ideas about the brand; examples include telling one's own brand story and posting an idea about a

brand extension. Other activities, such as evaluating others' brand ideas or playing a game on the brand's website, have less brand knowledge creation potential because they involve little access to internal knowledge and or creation of original meaning.

We predict that consumers with high self-brand connection will be more likely to engage with the brand after participating in an activity with high, rather than low, brand knowledge potential. In contrast, the engagement intentions of consumers with low self-brand connection will be unaffected by the activity's brand knowledge potential, as they lack ability to synthesize the limited brand knowledge that they have. Given that marketers employ both types of co-creation activities, we suggest that high brand knowledge potential activities are strictly more effective at engendering the types of brand engagement that marketers aim for (Deloitte 2012).

The paper contributes to the branding literature by focusing on the knowledge, rather than hedonic, aspects of co-creation activities. We demonstrate that brand knowledge potential is an important dimension of brand co-creation activities and the generation of original, personal brand meaning is a mediator of effectiveness. Our findings also have important implications for managers. Given that self-brand connection reflects brand loyalty (Ahluwalia, Burnkrant, and Unnava 2000, Ahluwalia and Kaikati 2010; Cheng, White, and Chaplin 2012), marketers can affect brand engagement among loyal consumer by designing activities that align with their ability to co-create. Loyal customers can generate original ideas about the brand in any activity that has high (vs. low) brand knowledge potential. Less loyal customers, however, lack the ability to generate original, personal brand meaning and thus remain unaffected by the type of co-creation activity.

In the next section we develop the constructs and predictions. We then report the results of a pretest of brand co-creation activities that supports the notion that activities vary in brand knowledge potential. We test our predictions in three lab studies. Study 1 finds that participating in a high (vs. low) brand knowledge potential co-creation activity leads to increases in brand engagement intentions for high SBC consumers but not for low SBC consumers. Study 2 generalizes the effect to another brand and category, while showing the effect on real behavior. Finally, study 3 offers process evidence that a high brand knowledge potential activity (vs. a no co-creation control condition) allows connected consumers to generate original, personal brand meaning. Importantly, across all studies, we find effects on brand engagement in social media, which is as yet an unmeasured dependent variable in work on brand knowledge effects.

CONCEPTUAL BACKGROUND

Brand co-creation is the development or interpretation of the brand's meaning through an interactive experience (Prahalad and Ramaswamy 2004). A brand co-creation activity involves participating with the brand itself, outside of consuming or designing a branded product, and beyond watching an advertisement or surfing the brand's web site. The marketer manages the surrounding context for interaction, and the consumer actively co-creates the brand within that context. During co-creation activities, consumers evolve the brand by expressing what they think the brand means. The marketer is the audience of

the activity, along with other consumers, so as the brand changes, both the marketer and consumers recognize the evolution of the brand (Merz, He, and Vargo 2009).

Our conceptualization of the effects of brand co-creation is grounded in the notion of customer-based brand equity, which refers to the positive effects of favorable, strong and unique brand associations on consumer responses to marketing actions (Keller 1993). Keller (2003a) defines consumer brand knowledge as “the personal meaning about a brand stored in consumer memory” (p. 596). Importantly, brand knowledge is personal, i.e., it is based on the individual’s experience and interpretation of brand attributes, benefits, awareness, images, thoughts, feelings, attitudes and experiences. Brand knowledge affects a variety of consumer responses, such as increased search behavior (Biehal and Chakravarti 1986), brand extension evaluations (Ng and Houston 2006), ad repetition effectiveness (Campbell and Keller 2003), and greater word-of-mouth (Lovett, Peres, and Shachar 2013). We suggest that when participation in brand co-creation activities generates original, personal brand knowledge, consumers’ intentions to engage with the brand on social media will also increase.

In the context of co-creation activities, generation of original, personal brand meaning could entail the formation of personal brand association(s) consumers haven’t articulated before, such as novel attributes, benefits, and user imagery, or the creation of a new point of view on the brand. Consumers may reflect on experiences with the brand, the relationship between brand characteristics and image to the self, or their understanding of the brand or brand campaign. Personal meaning creation that involves the highest level of abstract thinking in Bloom’s (1956) Taxonomy is likely to enhance engagement intentions. Developed in the context of critical thinking, Bloom’s Taxonomy

(revised by Anderson et al. 2001) identifies six categories in the cognitive domain, ranging from concrete to abstract, that reflect how individuals encounter and work with knowledge. The most basic level of knowledge is *remembering*, i.e., recognizing or recalling knowledge from memory. In our context, regurgitation of brand campaign elements would be an example of remembering. The next levels are *understanding* (i.e., summarizing meaning), followed by *applying* (i.e., presenting learned material), *analyzing* (i.e., breaking material into parts and considering inter-relationships) and *evaluating* (i.e., making judgments through critiquing). The highest level is *creating* (i.e., synthesizing material to form a new whole, or generating a new point of view; Anderson et al. 2001). In our context, *creating* might occur when consumers synthesize their brand knowledge (e.g., experiences and usage situations) to generate a new perspective on the brand (i.e., original, personal brand meaning). As Anderson and colleagues (2001) describe, such activities often include design, writing, or development of ideas, rather than sorting or rating. We suggest the high-level psychological process of *creation* (i.e., generation) of original, personal brand knowledge increases brand engagement intentions.

We propose that two factors—consumers’ self-brand connection and the co-creation activity’s brand knowledge potential—interact to affect whether deeper brand engagement is likely to result from participation in a brand co-creation activity. We discuss each of these next.

Self-Brand Connection and Brand Knowledge Potential

Self-brand connection refers to the link between the brand and the consumer's values and identity (Escalas 2004; Escalas and Bettman 2005; Park et al. 2010) and represents an overlap of the brand's associations with one's own characteristics and values (Johnson and Kirmani, 2014 working paper). Self-brand connection is an important component of brand attachment (Park et al. 2010) and brand love (Batra, Ahuvia and Bagozzi 2012) and reflects elements of both motivation and ability. On the motivational side, self-brand connection reflects the importance of the brand to helping consumers achieve self-related goals, such as self-enhancement and self-verification (Escalas and Bettman 2003; Fournier 1998). On the ability side, consumers with high SBC are likely to have deeper knowledge about usage situations and personal experiences (Alba and Hutchinson 1987; Escalas 2007) and stronger core associations with the brand (Johnson and Kirmani 2014, working paper) than do consumers with low self-brand connection. These differences in motivation and ability will affect the likelihood of brand engagement.

Since brand engagement intentions follow from original, personal brand meaning generation, we suggest that the likelihood of brand engagement will depend on both motivation and ability aspects of SBC. In general, compared to low SBC consumers, high SBC consumers are more likely to generate original, personal brand meaning from co-creation activities, thereby increasing subsequent brand engagement intentions. Research suggests that consumers seek out and share branded content that reflects their identity (Kirmani 2009). When SBC is high, the brand becomes part of the consumer's active self (i.e., becomes relevant), such that consumers are inherently motivated to maintain the self-brand relationship in their outward behavior. In fact, consumers with high self-brand

connection are more motivated to engage in brand-related behaviors such as spreading positive word-of-mouth (Batra, Ahuvia, and Bagozzi 2012), and more resistant to negative information about the brand (Ferraro, Kirmani, and Matherly 2013). Whether high SBC consumers are able to generate original, personal brand meaning in a co-creation activity, however, depends on the activity's brand knowledge potential.

We propose that brand co-creation activities vary in terms of the extent to which consumers can generate original, personal brand meaning. An important characteristic of high (vs. low) brand knowledge potential activities is that they provide a greater degree of consumer control over the content that is created (Ariely 2000). In doing so, high brand knowledge potential activities allow for elaboration on the consumer's personal brand associations and images rather than on others' associations or brand-related entertainment. Research finds that, in product-related information contexts, highly interactive information systems can help consumers integrate information and increase knowledge (Ariely 2000). We posit that high brand knowledge potential activities allow the consumer to consider the set of personal meanings as a whole and form novel associations or abstractions. For example, rating a brand idea as good or bad or playing a game with the brand provides less opportunity for consumers to think about personal brand meanings than posting their own brand idea; the latter allows consumers to consider their understanding of what they think the brand represents and how the marketer can develop the brand along those lines. High brand knowledge potential activities often involve self-referencing (Burnkrant and Unnava 1995), relating the brand to personal experiences and autobiographical memories. For example, writing one's own story inherently draws more deeply upon one's prior experiences with the brand than

does evaluating another consumer's brand idea. This type of narrative processing increases brand meaning creation (Escalas 2004, 2007).

We propose that consumers will respond differently to co-creation activities with different levels of brand knowledge potential. When the co-creation activity's brand knowledge potential is low, both high and low SBC consumers will lack the opportunity to generate original, personal brand meaning. As a result, intentions for further brand engagement will be low. When the co-creation activity's brand knowledge potential is high, however, SBC will affect brand engagement intentions. Based on a greater ability to reflect on personal experiences with the brand and a deeper understanding of a core set of associations, high SBC consumers will be better able to generate original, personal brand meaning within high brand knowledge potential activities than will low SBC consumers. In contrast, low SBC consumers may lack the prior knowledge to perform high brand knowledge potential activities. Their stories and ideas are likely to be lower on self-referencing and less likely to include brand-related inferences (Alba and Hutchinson 1987). As a result, they will generate less original, personal brand meaning than will high SBC consumers, resulting in lower engagement intentions than high SBC consumers. In other words, even though the co-creation activity's brand knowledge potential is high, low SBC consumers are less able to take advantage of it. Therefore, the engagement intentions of low SBC consumers will be unaffected by the brand knowledge potential of co-creation activities. In short,

H1a: Consumers with high SBC will have higher brand engagement intentions after participating in a co-creation activity with high rather than low brand knowledge potential.

H1b: Consumers with low SBC will have equally low intentions after participating in high and low brand knowledge potential co-creation activities.

Alternative Explanations

We have posited that brand knowledge generation accounts for H1. It is important to consider alternative pathways to brand engagement intentions. The first alternative explanation would be that high brand knowledge potential activities may require greater investment of time than low brand knowledge potential ones. As a result, involvement, processing effort, or time may account for these differences. Whereas brand knowledge reflects the focus of processing, involvement in an activity reflects intensity of processing (Zaichkowsky 1985). Although consumers may be highly involved in an activity, they may be unlikely to generate brand meanings from it because they are not synthesizing brand knowledge to create something new. For instance, consumers may find playing a game on the brand's website to be highly interesting; however, the game is unlikely to make them think about personal brand meaning. Similarly, time and processing effort may be higher under high than low brand knowledge potential activities; however, the focus of the time and effort matters. Effort focused on brand meaning is more important than effort focused on other aspects or just the amount of time spent on the co-creation

activity. In study 1, we will distinguish personal meaning creation from involvement, time spent, and processing effort.

Finally, we consider that participating in the co-creation activity increases self-brand connection, which in turn affects engagement intentions. Keller (2012) suggests that increased brand knowledge may lead to greater self-brand connection, as the brand becomes more relevant to the individual. However, Park et al. (2010) argue that self-brand connections take longer to develop. We expect that the types of co-creation activities that we examine are too brief to change the level of SBC immediately following the activity. Engaging in these short activities may simply make salient one's connection to the brand, i.e., highlight how the brand overlaps with the self-concept, rather than changing the level of SBC. Of course, self-brand connection may be affected in the long term, but that is a slower process. We examine the effect of co-creating on SBC in a follow-up to study 2.

OVERVIEW OF STUDIES

The hypotheses are tested in three studies that manipulate brand knowledge potential and measure self-brand connection. H1 is tested in all three studies. To ensure replication, the studies vary in terms of the brands (Starbucks and Under Armour) as well as the co-creation activities. Study 1 manipulates brand knowledge potential using two activities for Starbucks (i.e., voting on and writing about a brand idea vs. rating

consumers' brand ideas); the study rules out involvement, processing effort, and time spent as the underlying mechanism. Study 2 uses a different set of co-creation activities for Under Armour (i.e., writing one's own brand story vs. rating another's story); it also provides a behavioral measure of deeper brand engagement. Finally, study 3 offers support for the proposed process, comparing original, personal brand meaning generation of consumers in a high brand knowledge activity with that of a control condition. Prior to testing the hypotheses, however, we present a pretest to provide support for the notion that brand co-creation activities vary on their potential to create brand knowledge.

PRE-TEST OF BRAND CO-CREATION ACTIVITIES

Forty-one MTurk participants from the U.S. (54.8% female, average age = 34 years) completed an online survey for \$0.75 compensation. They saw a description of different co-creation campaigns run by well-known brands, such as Under Armour, Starbucks, Chiquita, Chipotle, and Coca-Cola, and rated activities within these campaigns. We chose the five brands and 19 activities based on existing campaigns. The activities are listed in table 1.

In a within-subjects design, participants were presented a campaign description from one of the five brands, and then randomly presented with a description of each activity for that campaign. They indicated each activity's brand knowledge potential using four items: "The activity would enable me to communicate what the brand means

to me”; “The activity would allow me to form new brand associations (i.e., brand characteristics, attributes, and image)”; “The activity would allow me to reflect on my experiences with the brand and relate the brand to aspects of myself”; and “The activity would allow me to collaborate with the marketer to develop the brand's meaning”

Participants responded using a seven-point scale (1 = strongly disagree, 7 = strongly agree). These four items were averaged to form a brand knowledge potential score ($\alpha = .95$). The process was repeated for all five brands such that all 19 activities were evaluated. An attention check item was inserted following one of the Chipotle activities and asked participants to specify which activity previously served as the basis of their answers to the brand knowledge potential questions. Thirty-two participants successfully answered the attention check item and were included in the analysis.

Table 1 shows the means for brand knowledge potential. They range from 3.56 to 5.67, reflective of the notion that, by definition, brand co-creation activities have some degree of brand knowledge potential. Consistent with our theorizing, participants perceived co-creation activities as having different potential for reflecting on brand associations, benefits, and image. High brand knowledge potential activities included posting one's own brand idea ($M = 5.67$), writing one's own brand story ($M = 5.38$), submitting content (i.e., words, images) that represents the brand's slogan ($M = 5.04$), and voting for the best experience idea and expressing why it represents the brand ($M = 4.91$). These activities allow for more consumer control over the interaction (Ariely 2000), while focusing the consumer on personal brand meaning.

Low brand knowledge potential activities included playing a game on the brand's web site ($M = 3.56$), evaluating another's story ($M = 3.85$), rating others' ideas ($M =$

4.37), and designing a brand sticker for fun ($M = 4.39$). Designing a brand sticker for fun was significantly different from voting for the best experience idea and expressing why it represents the brand ($M = 4.39$ vs. $M = 4.91$, $t(31) = -2.07$, $p < .05$). Low brand knowledge potential activities limit generation of new meanings by focusing the consumer on associations that are provided by others or on entertainment. We use these high and low brand knowledge potential activities to manipulate brand knowledge potential in the studies to follow.

Insert table 1 about here

STUDY 1

The objectives of study 1 were to test H1 and to rule out alternative paths to brand engagement through involvement, time spent, and processing effort. The between subjects design employed one manipulated factor (brand knowledge potential: high vs. low) and one measured factor, self-brand connection. Based on the pretest, the high brand knowledge potential activity was voting for the brand experience idea that best expresses the brand and telling the marketer why; the low brand knowledge potential activity was rating others' brand experience ideas (pretest $M_{\text{high brand knowledge potential}} = 4.91$ vs. $M_{\text{low brand knowledge potential}} = 4.37$, $t(31) = 3.42$, $p < .01$).

Design and Procedure

One hundred fifty-two MTurk participants in the U.S. (57% female, average age = 32 years) completed the study for \$0.50 compensation. Participants were randomly assigned to the brand knowledge potential condition. Because the dependent variable involves brand engagement intentions on social media—and Facebook usage specifically—we screened participants according to whether they have a Facebook account. Twenty-three participants reported that they did not use Facebook and were excluded from the analyses, leaving a sample of 130. Degrees of freedom in the analyses reflect missing data.

Participants read about the My Starbucks Idea website, where consumers share ideas about the Starbucks coffee shop experience and vote on others' ideas about the brand. They saw three actual ideas taken from the website (e.g., “cozy stores”) and were told that Starbucks was interested in their responses to these ideas. In the high brand knowledge potential condition, participants were asked to vote on the one idea that best expressed what the Starbucks brand meant to them. In addition, they were asked to comment on why they voted for this idea by writing their thoughts for Starbucks marketing team to see. In the low brand knowledge potential condition, participants rated the same three ideas on a seven-point bad-good scale (see Appendix A for stimuli).

Measures

The primary dependent variable was brand engagement intentions. Brand engagement was measured as an average of three items on seven-point scales ($\alpha = .91$): “How much would you like to check out Starbucks’ brand page on Facebook” (1 = not at all, 7 = very much); “I would Like Starbucks’ brand page on Facebook next time I login to my Facebook account” (1 = definitely would not Like Starbucks, 7 = definitely would Like Starbucks); and “How likely would you be to share a new Starbucks brand promotion with friends or family?” (1 = very unlikely, 7 = very likely).

In addition, we measured three alternative process variables: involvement, time spent co-creating, and processing effort. Involvement was measured by three items in response to the question, “I found voting on the Starbucks idea (rating others’ Starbucks ideas) was” 1 = not at all interesting, 7 = very interesting; 1 = not at all involving, 7 = very involving; 1 = not at all engaging 7 = very engaging; $\alpha = .92$). The time spent on the co-creation task was measured in seconds. Measures for processing effort were adapted from Dellaert and Stremersch (2005). Two items were used on a seven point scale (1 = strongly disagree, 7 = strongly agree): “The process of voting on the Starbucks idea (rating others’ Starbucks ideas) was...(1) “exhausting” and (2) “time-consuming” ($r = .81, p < .001$).

Finally, self-brand connection to Starbucks was measured at the end of the study after an unrelated filler task to separate it from the dependent measures. In order to reduce possible demand effects, participants reported their SBC to multiple brands using the Escalas and Bettman’s (2003) scale. Items such as “The Starbucks brand reflects who I am,” “I can identify with the Starbucks brand,” and “The Starbucks brand suits me well,” were anchored on a 100-point sliding scale (0 = strongly disagree, 100 = strongly

agree; $\alpha = .94$). The average Starbucks self-brand connection was 33.38 (SD = 27.83). SBC was unaffected by the activity manipulation ($F(1, 129) = 2.40, p > .12$) and was mean-centered.

Results

Brand engagement intentions. H1 predicted an interaction effect of brand knowledge potential and SBC on brand engagement intentions. To test this, we regressed mean-centered SBC, brand knowledge potential, and their interaction on brand engagement intentions. There was a significant effect of SBC ($\beta = .04, t(127) = 6.43, p < .01$) on intentions, with intentions to engage with the brand increasing with SBC. More importantly, there was a significant interaction effect ($\beta = .02, t(127) = 2.18, p < .05$). Spotlight analysis was used to illustrate the effect of brand knowledge potential at high and low levels of self-brand connection. Participants with high self-brand connection to Starbucks (+1 SD) reported deeper brand engagement intentions when participating in the high rather than low brand knowledge potential activity ($M_{\text{high brand knowledge potential}} = 5.07$ vs. $M_{\text{low brand knowledge potential}} = 4.27, \beta = .82, t(127) = 2.58, p < .01$; Aiken and West 1991; Fitzsimons 2008; see figure 1). In contrast, participants with low SBC to Starbucks (-1 SD) were unaffected by brand knowledge potential ($M_{\text{high brand knowledge potential}} = 2.07$ vs. $M_{\text{low brand knowledge potential}} = 2.21, \beta = -.15, t(127) = -.47, \text{NS}$). This supports H1.³

³ Results of regression analysis on the entire sample ($n = 152$) revealed a significant main effect of SBC ($\beta = .04, t(150) = 7.30, p < .001$), but brand knowledge potential and the predicted interaction effect were not significant (BKP: $\beta = .31, t(150) = 1.49, p = .14$; SBC x BKP: $\beta = .01, t(150) = 1.35, p = .18$). A spotlight analysis revealed that participants with high SBC (+1 SD) increased brand engagement intentions in the high (vs. low) brand knowledge potential condition ($M_{\text{high brand knowledge potential}} = 4.82$ vs. $M_{\text{low brand knowledge potential}} = 4.23, \beta = .62, t(150) = 2.14, p < .05$), while those with low SBC (-1 SD) were unaffected ($M_{\text{high brand knowledge potential}} = 2.14$ vs. $M_{\text{low brand knowledge potential}} = 2.11, \beta = .07, t(150) = .81, \text{NS}$).

Insert figure 1 about here

Alternative explanations. To assess whether involvement accounted for these effects, we regressed mean-centered SBC, brand knowledge potential, and their interaction on involvement. There was a significant effect of SBC ($\beta = .02$, $t(127) = 2.58$, $p < .02$), suggesting that involvement increased with the level of self-brand connection. However, there were no other significant treatment effects on involvement. Thus, involvement in the co-creation activity does not account for the interaction effect on brand engagement intentions.

Similar regressions were conducted for the variables of time spent and processing effort. There was a significant main effect: of activity ($M_{\text{high brand knowledge potential}} = 208.05$ seconds vs. $M_{\text{low brand knowledge potential}} = 105.24$ seconds; $\beta = 102.8$, $t(127) = 3.42$, $p < .01$) but no other significant treatment effects on time spent co-creating (all p 's $> .52$). This suggests that the higher amount of time spent on high brand knowledge potential activities does not account for changes in brand engagement intentions. Finally, there were no significant treatment effects on the rating of processing effort ($M = 1.90$; all p 's $> .70$). Thus, time spent and processing effort do not account for the interaction effect on brand engagement intentions.

Discussion

Study 1 found that consumers with high self-brand connection have increased brand engagement intentions following a high brand knowledge potential co-creation activity than a low brand knowledge potential activity. In contrast, consumers with low self-brand connection respond in the same way to both types of activities. Although the high brand knowledge potential activity required more time than the low brand knowledge potential activity, there was no significant interaction between brand knowledge potential and self-brand connection on involvement, time spent, and effort. Thus, we ruled out these alternative pathways to brand engagement. In the next study, we offer further support for the predicted effect using another brand and different co-creation activities. In addition, we include a measure of actual behavioral engagement.

STUDY 2

The objective of the study was to test H1 with another brand (Under Armour) and operationalization of brand knowledge potential, as well as to measure actual brand engagement.

Design and Procedure

The between subjects design had one manipulated factor (brand knowledge potential: high vs. low) and one measured factor (self-brand connection). One hundred

twenty-six undergraduate students (44% female, average age = 23 years) participated in the study. The study was administered on paper, as part of a larger set of studies in a one-hour research session for course credit. Participants were randomly assigned to the activity condition. Degrees of freedom in the analyses reflect missing data.

Participants learned that the study was about a new marketing campaign. They read a brief description of the Under Armour brand and the ongoing Stories campaign, which stated: “Under Armour’s Stories campaign allows consumers to share their story about what Under Armour’s ad slogan, “Protect this House” means to them. Below you will see a picture from Under Armour’s web site, where consumers can write their story.” They then saw a sample story from the Protect this House Shared Stories web page (see Appendix B for stimuli). Activity was manipulated based on the pretest. In the high brand knowledge potential condition, participants were asked to write their own story for Under Armour. In the low brand knowledge potential condition, they evaluated the sample story on four dimensions (1 = bad, 7 = good; 1 = poorly written, 7 = well written; 1 = not weird, 7 = weird, 1 = uninformative, 7 = informative) as well as provide an overall rating for the story (1 star to 5 stars), consistent with actual evaluation measures available on the brand’s web site. According to the pretest, writing one’s own brand story has higher brand knowledge potential than rating another’s brand story (pretest $M_{\text{high brand knowledge potential}} = 5.38$ vs. $M_{\text{low brand knowledge potential}} = 3.85$, $t(31) = 6.20$, $p < .001$).

Measures

There were two measures of brand engagement intentions. The first measure was

the same three-item intention measure as in study 1 ($\alpha = .90$), administered immediately after the activity. The second measure was collected on the last page of the study. It asked participants if they would participate in a brief follow-up survey via email; if so, they had to provide their email address. The proportion of participants who provided their email for a follow-up survey was calculated as a measure of actual brand engagement.

Self-brand connection was measured as in study 1. Average Under Armour SBC was 36.27 (SD = 27.17). There was no significant effect of the treatment on SBC ($F(1, 124) = .70, NS$), and SBC was mean-centered in all analysis.

Results

Brand engagement intentions. As in study 1, we regressed mean-centered SBC, dummy-coded brand knowledge potential (with low as the baseline), and the interaction of SBC and brand knowledge potential on brand engagement intentions. There was a significant effect of SBC ($\beta = .03, t(125) = 4.80, p < .01$) and a significant interaction effect ($\beta = .02, t(125) = 2.71, p < .01$) on brand engagement intentions. As in prior studies, the likelihood of further brand engagement increased with the level of SBC, but this effect was qualified by the significant interaction. Consistent with previous findings, a spotlight analysis showed support for H1. Participants with high SBC (+1 SD) showed greater engagement intentions when they participated in the high rather than low brand knowledge potential co-creation activity ($M_{\text{high brand knowledge potential}} = 4.08$ vs. $M_{\text{low brand knowledge potential}} = 3.37, \beta = .72, t(125) = 2.37, p < .02$). In contrast, participants with low SBC (-1 SD) were unaffected by brand knowledge potential ($M_{\text{high brand knowledge potential}} =$

1.42 vs. $M_{\text{low brand knowledge potential}} = 1.85$, $\beta = -.44$, $t(125) = -1.47$, NS). See figure 2.

Insert figure 2 about here

Further support for our prediction was found in the behavioral measure of brand engagement, which was the proportion of participants who provided their emails to participate in a follow-up brand survey. A logistic regression found a marginally significant interaction effect ($\beta = -.03$, Wald = 2.92, $p < .09$). There were no other significant treatment effects. Further analysis using crosstabs based on median-split SBC revealed that high SBC participants were marginally more likely to agree to a follow-up survey about the brand when brand knowledge potential was high rather than low ($M_{\text{high brand knowledge potential}} = 64.7\%$ vs. $M_{\text{low brand knowledge potential}} = 35.3\%$, $\chi^2 = 3.56$, $p = .059$). In contrast, low SBC participants were unaffected by brand knowledge potential ($M_{\text{high brand knowledge potential}} = 52.4\%$ vs. $M_{\text{low brand knowledge potential}} = 47.6\%$, $\chi^2 = .07$, NS). These results support H1.

Discussion

Study 2 shows further support for H1 with a different brand, product category, and operationalization of brand knowledge potential. Consistent with study 1, consumers with high self-brand connection displayed higher brand engagement intentions after doing the high versus low brand knowledge potential activity. In addition, they were (marginally) more likely to volunteer for another brand-related study after participating in the high

than low brand knowledge potential activity. In contrast, engagement intentions and actual behavior of consumers with low self-brand connection were unaffected by brand knowledge potential.

One alternative explanation for this effect is that self-brand connection is affected by the activity's brand knowledge potential, and that increases in self-brand connection account for changes in brand engagement intentions. To rule this out, we ran a follow-up study with the same design but measured self-brand connection immediately following engagement behavioral intentions. Participants ($N = 65$ undergraduates, 53% female, average age = 21 years) followed the same procedure as in study 2 on the computer rather than paper. After measuring brand engagement intentions, we measured immediate self-brand connection using three-items from Escalas and Bettman's (2003) self-brand connection scale: "I feel close to the Under Armour brand"; "The Under Armour brand is meaningful to me"; and "The Under Armour brand fits me well" on seven-point scales (1 = not at all; 7 = very much; $\alpha = .91$). Three rather than seven items were used to reduce repetition of the items for the delayed SBC measure. After a number of unrelated filler studies, participants completed the seven-item self-brand connection scale ($\alpha = .95$). The average Under Armour SBC was 36.58 ($SD = 25.87$), similar to that in study 2. As before, there was no effect of the treatment on delayed SBC ($p = .72$), and the measure was mean-centered for analysis.

Consistent with studies 1 and 2, consumers with high SBC were more likely to report increased brand engagement intentions in the high (than low) brand knowledge potential condition ($M_{\text{high brand knowledge potential}} = 4.62$ vs. $M_{\text{low brand knowledge potential}} = 3.52$, $p < .05$). Low SBC consumers were not affected by the manipulation ($p = .67$). Importantly, a

regression on immediate self-brand connection revealed a pattern of effects inconsistent with those above. We found a significant effect of SBC ($\beta = .05$, $t(64) = 6.82$, $p < .001$), a marginally significant effect of brand knowledge potential ($\beta = .94$, $t(64) = 1.91$, $p < .07$), and a marginally significant interaction effect ($\beta = -.02$, $t(64) = -1.97$, $p < .06$).

Counter to the pattern observed in studies 1 and 2, brand knowledge potential marginally affected low SBC (-1 SD) consumers' immediate self-brand connection ($M_{\text{high brand knowledge potential}} = 2.42$ vs. $M_{\text{low brand knowledge potential}} = 3.16$, $p = .06$), but did not affect high SBC (+1 SD) consumers' self-brand connection ($M_{\text{high brand knowledge potential}} = 5.49$ vs. $M_{\text{low brand knowledge potential}} = 5.03$, $\beta = -.43$, $t(64) = -1.03$, $p = .31$). Thus, high SBC consumers' level of self-brand connection does not change after participating in the high brand knowledge potential activity, so changes in the level of self-brand connection cannot account for changes in brand engagement intentions. We speculate that the high brand knowledge potential activity made salient low SBC consumers' lack of experience with the brand; since experience serves as the basis of SBC, it is possible this is why immediate self-brand connection was lower in the high brand knowledge potential condition. To the contrary, self-brand connection for high SBC consumers did not change. This is consistent with the notion of Park et al. (2010) that SBC develops over time.

STUDY 3

Although the effect of SBC and brand knowledge potential on brand engagement intentions is robust, we have not shown direct evidence for the process of brand meaning creation. The objective of study 3 was to explore the underlying process by directly examining the extent to which original, personal brand meaning is generated through a high brand knowledge potential activity. In addition, we compared the high brand knowledge potential activity of study 2 to a control condition.

Design and Procedure

The between subjects design had one manipulated factor (brand knowledge potential: high vs. control) and one measured factor (self-brand connection). One hundred eighteen MTurk participants in the U.S. (55% female, average age = 35 years) completed the study for \$0.75 compensation. Participants were randomly assigned to the brand knowledge potential condition. The brand was Under Armour.

Participants first completed a brand connection survey, which measured their self-brand connection to Under Armour and a filler brand. Average Under Armour SBC was 19.43 (SD = 22.16, ranging from 0 to 88.43). There was no significant effect of the treatment on SBC ($F(1, 117) = 1.67, p = .20$), and SBC was mean-centered in all analysis.

To capture brand knowledge, participants were then prompted to “list the words, traits, thoughts, and feelings you associate with the Under Armour brand.” This served as an initial measure of personal meaning. As in study 2, participants read the description of the Under Armour Stories campaign, with the exception that the brand description was

omitted. Participants in the high brand knowledge potential condition were asked to write their own story for Under Armour. In the control condition, they did not complete any activity; they just saw the description of the Under Armour stories campaign followed by the dependent measures.

Measures

Brand engagement intentions were measured using the same three items as in prior studies ($\alpha = .90$). After engagement intentions, participants once again listed the words, traits, thoughts and feelings associated with Under Armour. This was the post measure of personal meaning.

To assess whether original, personal meaning was generated, two independent coders blind to the condition examined initial and post personal meaning responses using Bloom's Revised Taxonomy (Anderson 2001) as a coding scale. The scale followed each of the six hierarchical dimensions in the Revised Taxonomy from low-level processing to high-level processing (1 = remember, 2 = understand, 3 = apply, 4 = analyze, 5 = evaluate, and 6 = create; Anderson et al. 2001). We call this continuous variable *original meaning generation* (Krippendorff's $\alpha = .79$; Hayes and Krippendorff 2007). Differences were resolved through discussion.

Results

Brand engagement intentions. Regression analysis revealed a significant effect of

SBC ($\beta = .03, t(117) = 4.72, p < .01$) and a significant interaction effect of SBC and brand knowledge potential ($\beta = .02, t(117) = 2.18, p = .03$) on brand engagement intentions. A spotlight analysis showed support for H1. Participants with high SBC (+1 SD) indicated greater brand engagement intentions when they participated in the high brand knowledge potential activity than in the control group ($M_{\text{high brand knowledge potential}} = 3.79$ vs. $M_{\text{control}} = 2.99, \beta = .79, t(117) = 2.33, p = .02$). In contrast, participants with low SBC (-1 SD) were unaffected by brand knowledge potential ($M_{\text{high brand knowledge potential}} = 1.31$ vs. $M_{\text{control}} = 1.57, \beta = -.26, t(117) = -0.77, \text{NS}$). See figure 3.

Insert figure 3 about here

Mediation. Regression analysis revealed a marginally significant effect of SBC ($\beta = .01, t(117) = 1.67, p = .098$) and a significant interaction effect ($\beta = .04, t(117) = 2.74, p < .01$) on original meaning generation. A spotlight analysis showed that participants with high SBC (+1 SD) generated greater original, personal brand meaning when they participated in the high brand knowledge potential co-creation activity than in the control group ($M_{\text{high brand knowledge potential}} = 4.04$ vs. $M_{\text{control}} = 3.07, \beta = 0.96, t(117) = 2.42, p < .02$). Participants with low SBC (-1 SD) were unaffected by brand knowledge potential ($M_{\text{high brand knowledge potential}} = 1.91$ vs. $M_{\text{control}} = 2.49, \beta = -.58, t(117) = -1.50, p = .14$).

We use the Hayes SPSS Moderated Mediation macro to estimate the indirect effect of brand knowledge potential on brand engagement intentions through original meaning generation, at the levels of high and low SBC, for the activity of writing one's own brand story (high brand knowledge potential) compared with the (baseline) control condition

(mean \pm 1SD; 5000 bootstrap samples; Hayes 2013). The relative indirect effect of brand knowledge potential on brand engagement intentions through original meaning generation is significant for participants with high SBC, as the 95% bias-corrected confidence interval (CI) around the estimate excludes zero ($\beta = -.24$, $SE = .18$; 95% CI = .01 to .61). This suggests that writing one's own story (vs. the control) creates original brand knowledge and increases brand engagement intentions for connected consumers. The relative indirect effect is not significant for participants with low SBC ($\beta = -.15$, $SE = .11$; 95% CI = -.41 to .02), suggesting that writing their story did not increase original meaning generation nor brand engagement intentions. Based on these results, original meaning generation mediates the effect of brand knowledge potential on brand engagement intentions for consumers with high SBC.

Discussion

Study 3 finds support for the positive direction of the effect of high brand knowledge potential activities on brand engagement intentions by introducing a control condition. Participants in the control condition were exposed to the campaign information, but did not participate in the high brand knowledge potential activity of writing their own brand story. When participants with high (vs. low) SBC wrote their brand story, they expressed increased brand engagement intentions compared with not writing a story.

Importantly, the study demonstrated that original meaning generation underlies this effect. In the high brand knowledge potential condition, high SBC consumers did more

abstract thinking about meaning, critiquing, and producing original meanings than summarizing, recalling, or interpreting earlier meanings or campaign information (compared with those in the control condition). This is consistent with our theorizing that the co-creation activity gets the consumer thinking in novel ways about brand meaning and elaborating on thoughts they haven't articulated before.

GENERAL DISCUSSION

The objective of the paper was to investigate how marketers can design brand co-creation activities to increase consumers' brand engagement. We analyze brand co-creation activities through the lens of brand knowledge creation. Brand co-creation activities differ in terms of their potential to create brand knowledge. The pre-test offers evidence that co-creation activities differ in terms of brand knowledge potential, i.e., the degree to which consumers can generate original, personal brand meaning, and could be treated as an initial taxonomy for marketers. We posit that high brand knowledge potential activities, such as writing one's own brand story or voting on a brand idea and expressing why, allow consumers to reflect on their current brand knowledge in order to communicate higher level ideas about what the brand means to them. Low brand knowledge potential activities, such as rating ads or playing a game with the brand limit consumers' opportunity for reflecting on and generating brand meaning.

Generation of original, personal brand meaning affects desire to further engage

with the brand. Through three studies, we find support for the notion that high (vs. low) brand knowledge potential activities deepen brand engagement for connected (vs. less connected) consumers. Study 3 directly examines the process through which this occurs and shows that connected consumers' increased brand engagement intentions are based on the generation of original, personal brand meaning in the high brand knowledge potential activity. Study 2 finds the effect on real brand engagement behavior.

Importantly, across all studies, we find effects on brand engagement in social media, which is as yet an unmeasured dependent variable in work on brand knowledge effects.

Our findings for brand engagement suggest that it is up to the marketer to offer loyal consumers high brand knowledge potential activities because it is those activities with high (vs. low) brand knowledge potential that affect subsequent brand engagement intentions. In fact, results suggest that high brand knowledge potential activities are strictly better, since they do not deter less connected consumers and only help connected consumers. There appears to be no benefit of low brand knowledge potential activities. Therefore, if marketers are trying to optimize, they should employ high brand knowledge potential activities. Future research may investigate conditions under which low brand knowledge potential activities can lead to other positive effects.

One observation regarding operationalization of brand knowledge potential is that, in all studies, high brand knowledge potential activities required consumers to verbalize their thoughts about the brand's meaning. The high brand knowledge potential activity employed in study 1, voting on an idea and expressing why that idea best represents the brand, and in studies 2 and 3, writing a brand story, both require some articulation of brand meaning. Yet, brand knowledge also includes concrete and abstract

imagery (Keller 2003b) as described in some of the other high brand knowledge potential activities in the pre-test, such as crafting a bag story design, uploading images representing brand characteristics, designing a brand sticker, or creating a brand scene. It would be interesting for future research to explore how brand knowledge can be created and communicated in various forms.

Theoretical Implications

The research contributes to the branding literature by considering customer-based brand equity (Keller 1993) in the context of co-creation. We extend Keller's (2003a) conceptualization of brand knowledge expansion by considering consumers' generation of original, personal brand meaning in co-creation activities. We find that co-creation activities differ on the degree to which they elicit various dimensions of brand knowledge and get consumers thinking about the brand in ways they previously had not. Thus, we contribute to an emerging thrust in recent branding work that attempts to understand brand development outside of the product itself (Aaker 1997; Fournier 1998; Keller 2003a). High SBC consumers appear to generate original, personal brand meaning in any high brand knowledge potential activity that allows them to consider their own understanding of the brand. This meaning generation happens outside of user-based branded communities (Muniz and O'Guinn 2000), in the domain of marketer-maintained campaigns.

Interestingly, the present research exposes a fundamental tension between the consumer's own brand knowledge and evolution of the brand from the marketer and

other consumers' view. While high brand knowledge potential activities provide greater consumer control over the co-creation process and can lead to positive outcomes on brand engagement intentions, the marketer gives up some control over brand image in order to reap this benefit. This tradeoff is inherent in co-creation contexts (Merz, He, and Vargo 2009). Yet, tenants of brand equity suggest that synthesis of brand knowledge can enhance brand equity (Keller 2003a). It would be interesting for future research to examine conditions under which consumers believe their opinion matters and how this affects changes in brand equity.

Marketing literature on consumer creativity tends to examine the psychological process by which consumers co-develop products, services and experiences over a timeframe of 30 minutes or more (Moreau and Herd 2010; Troye and Supphellen 2012). We examine more brief brand co-creation activities typical of online brand campaigns designed to afford consumers the opportunity to participate in the development of the brand itself, outside of its products and services. In so doing, we observe brand-related behavioral effects that emerge after consumers spend less than five minutes co-creating. Yet, we don't know from the present research how long these effects may last. Future research may offer insights into the short-term and long-term effects of high brand knowledge potential co-creation.

We conceptualize brand knowledge potential as a cognitive construct. We were able to rule out alternative explanations for the brand engagement effect based on the cognitive constructs of involvement, time spent, and processing effort. Our findings suggest that, in a brand co-creation context, the focus on consumers' time and effort expended during the co-creation process matters for increasing subsequent brand

engagement intentions. Future research may examine when meaning generation may lead to different outcomes in related contexts.

It is unclear from previous research whether SBC itself would be affected by high brand knowledge potential activities, given the complexity of the brand relationship construct (Keller 2012). In the context of brief brand co-creation activities, we find it is not. This speaks to the relative stability of the SBC variable promoted in some current research (Park et al. 2010). It would be interesting to explore whether this process holds in more extensive brand co-creation contexts.

Finally, one might expect to find ceiling effects in high brand knowledge potential co-creation for high SBC consumers, who have high knowledge of the brand based on experiences amassed over time (Escalas 2004). Yet, we find that the type of original, personal brand meaning consumers generate through high brand knowledge potential activities is largely novel. Our findings are consistent with Ariely (2000), showing that contexts that allow for a greater degree of consumer control increase product knowledge. Thus, it appears that in both brand and product domains, positive effects occur based on high interactivity. Future research could explore boundaries of high brand knowledge potential.

Managerial Implications

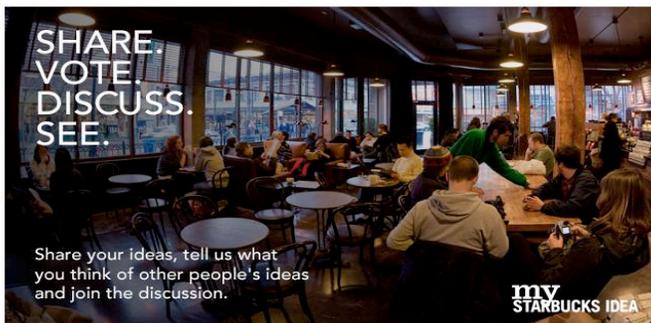
Our findings have two direct implications for marketers who hope that consumer participation in brand campaigns will lead to the emergence of brand “fans”, or consumers who engage more deeply with the brand on social media (FanGager 2014;

Van Doorn et al. 2013). The first is that brand engagement serves as a valid measure of consumers' tendencies to go further with the brand. Companies such as Toyota have adopted engagement frameworks in the effort to strategically set objectives for and track performance of brand campaigns (Savary 2008). To date, little research supports these investments, as dependent variables in related work tend to explore effects on enjoyment (Dahl and Moreau 2007), willingness to pay (Franke, Schreier, and Kaiser 2010), or product evaluations (Moreau and Herd 2010). In contrast, brand engagement is an outcome marketers can track from brand campaign sites, many of which already offer buttons to click through to Facebook or the ability to share results of the activity (e.g., their story) with other consumers via email or Twitter, for example.

The second is that marketers can design and tailor brand co-creation efforts more effectively. Given that the firm manages many brand co-creation campaigns, it is important to understand which activities might provide high return in social media (Deloitte 2012). The pre-test suggests that not all brand co-creation activities provide consumers with equal brand knowledge potential, and that activities such as posting one's own idea or writing one's own brand story are higher in potential to create brand knowledge. This provides good news for marketers and suggests that offering such activities in lieu of evaluation tasks or co-creating for entertainment can help connected consumers become more engaged with the brand. Interestingly, we observe that the consumer does not have to receive a formal response from the marketer as part of the process. Just the notion of collaboration between consumer and firm appears to play a role in personal brand meaning generation and subsequent brand engagement.

Appendix A. Essay II

Study 1. Brand Co-Creation Campaign Stimuli



Cozy stores

Posted on 4/6/2008 12:23 PM

by [cozy](#)

I've noticed that lately when you guys open a new Starbucks store it is not the way they used to be with big chairs and just plain comfortable and cozy furniture and lots of art on the walls which made you want to stay and have your coffee or what ever it was your ordered. I would love to see that in new stores instead of all the little tables and chairs all over the place. I went into a store the other day that had what looked like plastic furniture. I love Starbucks and what you represent and I truly think a "cozy" atmosphere would make a world of difference.

back to basics

Posted on 8/20/2008 7:26 AM

by [loopquan](#)

what made starbucks a success was a coffee centric culture - coffee smell, coffee taste, and getting it fast - the starbucks experience - pete's (national) and intelligensia (chicago) both have better coffee, but if starbucks were consistently fast again, i'd never go back to these competitors.

so what to do?

(1) get rid of the foods that smell, (2) hire folks that care about coffee culture (slow baristas are a big problem - i'll leave this to the legal and hr folks to sort out), and (3) have separate lines for people just getting coffee ... food should be secondary, its as simple as that ... coffee should be first at starbucks, and always fast ... (maybe call the priority line something like "expressO" ? ok, there are much better creative people ...

Environment is Key

Posted on 3/19/2008 12:28 PM

by [Cafe](#)

Not enough seating - should have more seating for people coming in to relax. Also, most Starbucks I've visited are not clean at all - should be a fresh, clean environment for people to enjoy! If someone gets up from a table, someone should be available to clean that table and anything that hasn't been thrown away or dropped on the floor. Music should be playing for a more enjoyable visit and at the same time promotes the music you are selling.

Source: <http://www.MyStarbucksIdea.force.com>

Appendix B. Essay II

Study 2. Brand Co-Creation Campaign Stimuli



Under Armour is the chosen brand of this generation of athletes... and the athletes of tomorrow. We're about performance – in training and on game day, in blistering heat and bitter cold.

Under Armour's Stories campaign allows consumers to share their story about what Under Armour's ad slogan, "Protect this House" means to them. Below you will see a picture from Under Armour's web site, where consumers can write their story.



Here is a sample story from the Protect this House Shared Stories page:

“My house is I can. Every time I’m training to get Faster, Stronger and Fit the doubts always pop into my head. And I used to let then psyche me out but now when the doubts say I can’t I set myself a harder goal and say I CAN!!!

Protect this house; I WILL”

Source: <http://www.underarmour.com>

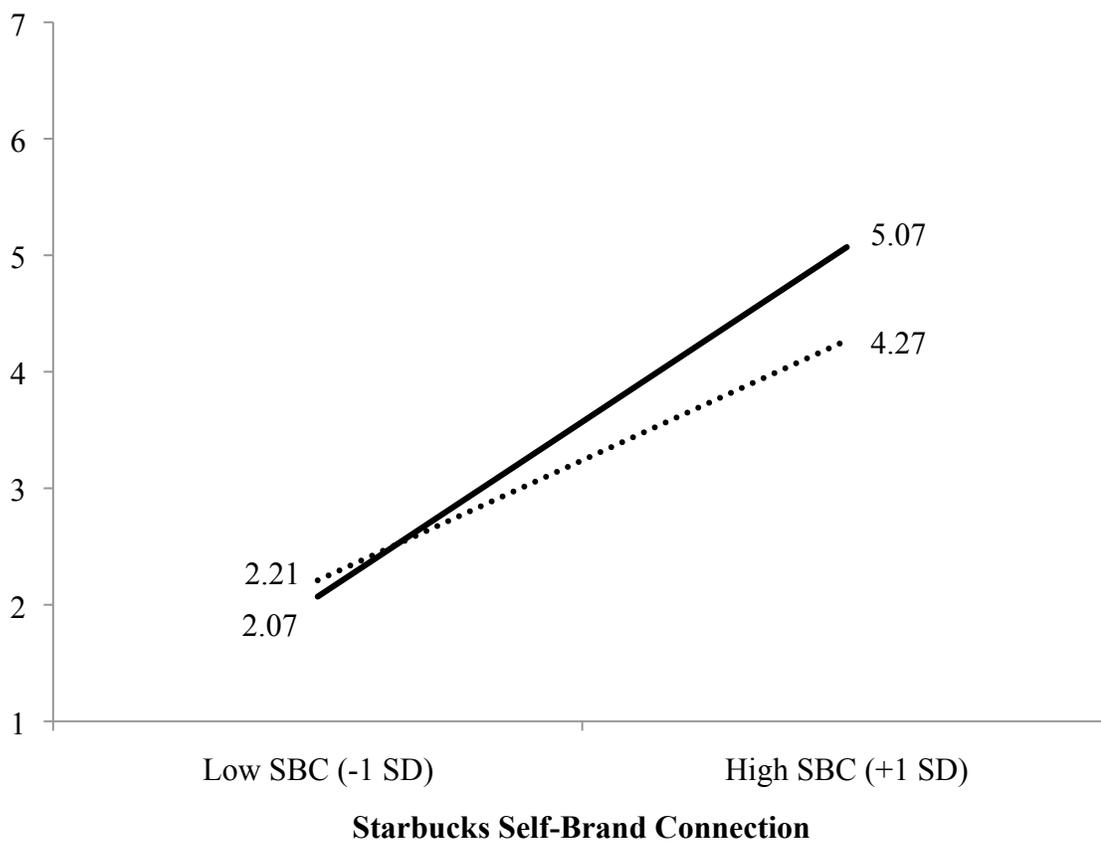
Table 1. Essay II. Pre-Test of Brand Co-Creation Activities

	Brand co-creation activity	Brand knowledge potential score
1	Post your own brand idea (Starbucks)	5.67
2	Crafting your own bag story, a design for bags given out in stores (Chipotle)	5.62
3	Upload images of what makes your local Starbucks a warm, inviting “third place” (Starbucks)	5.41
4	Write own story about what the brand means to you (UA)	5.38
5	Build your own commercial representing a common brand association using Facebook album content in less than 5 minutes (Coca-Cola)	5.31
6	Write your thoughts about the brand (UA)	5.23
7	Design a brand sticker to appear in stores (Chiquita)	5.08
8	Creating a scene that is representative of the brand’s slogan using an online design tool (Coca-Cola)	5.05
9	Assemble content (i.e., images, words, video clips, etc.) expressing brand slogan (Coca-Cola)	5.04
10	Vote on one best brand experience idea and write why you think it expresses the brand (Starbucks)	4.91
11	Fill in the blank with a word or phrase. {Brand slogan} My House is: _____ (UA)	4.87
12	Rate what the brand slogan means using 15 provided meanings (UA)	4.67
13	Rate an ad for a campaign (Coca-Cola)	4.66
14	Sort brand facts (Chipotle)	4.40
15	Design a brand sticker for fun (Chiquita)	4.39
16	Rate others' brand ideas using good-bad scale (Starbucks)	4.37
17	Comment on another's story (UA)	4.11
18	Evaluate another's story using 5 ratings (UA)	3.85
19	Play a game involving two brand associations (Chipotle)	3.56

FIGURE 1. ESSAY II

STUDY 1. EFFECT OF SELF-BRAND CONNECTION AND BRAND KNOWLEDGE
POTENTIAL ON STARBUCKS BRAND ENGAGEMENT INTENTIONS

Starbucks Brand
Engagement
Intentions



— High Brand Knowledge Potential Low Brand Knowledge Potential

FIGURE 2. ESSAY II

STUDY 2. EFFECT OF SELF-BRAND CONNECTION AND BRAND KNOWLEDGE
POTENTIAL ON UNDER ARMOUR BRAND ENGAGEMENT INTENTIONS

Under Armour
Brand Engagement
Intentions

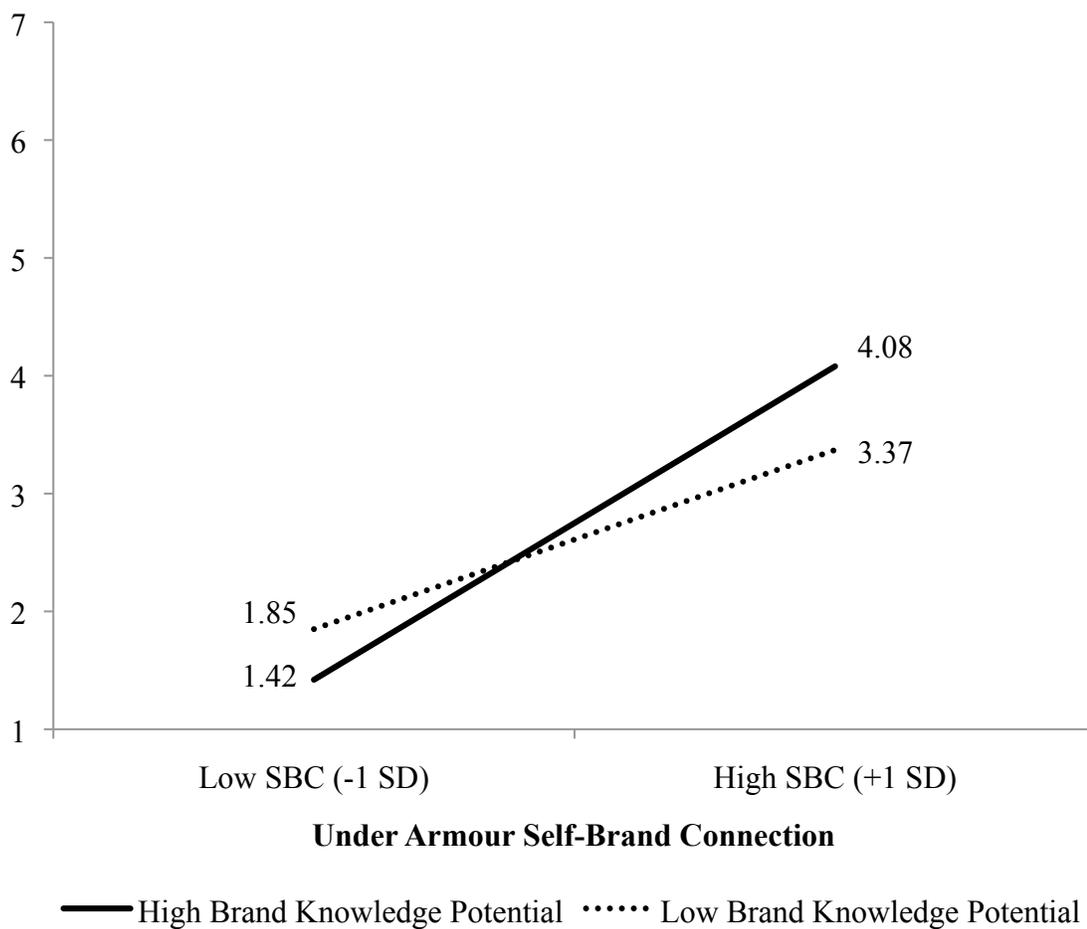
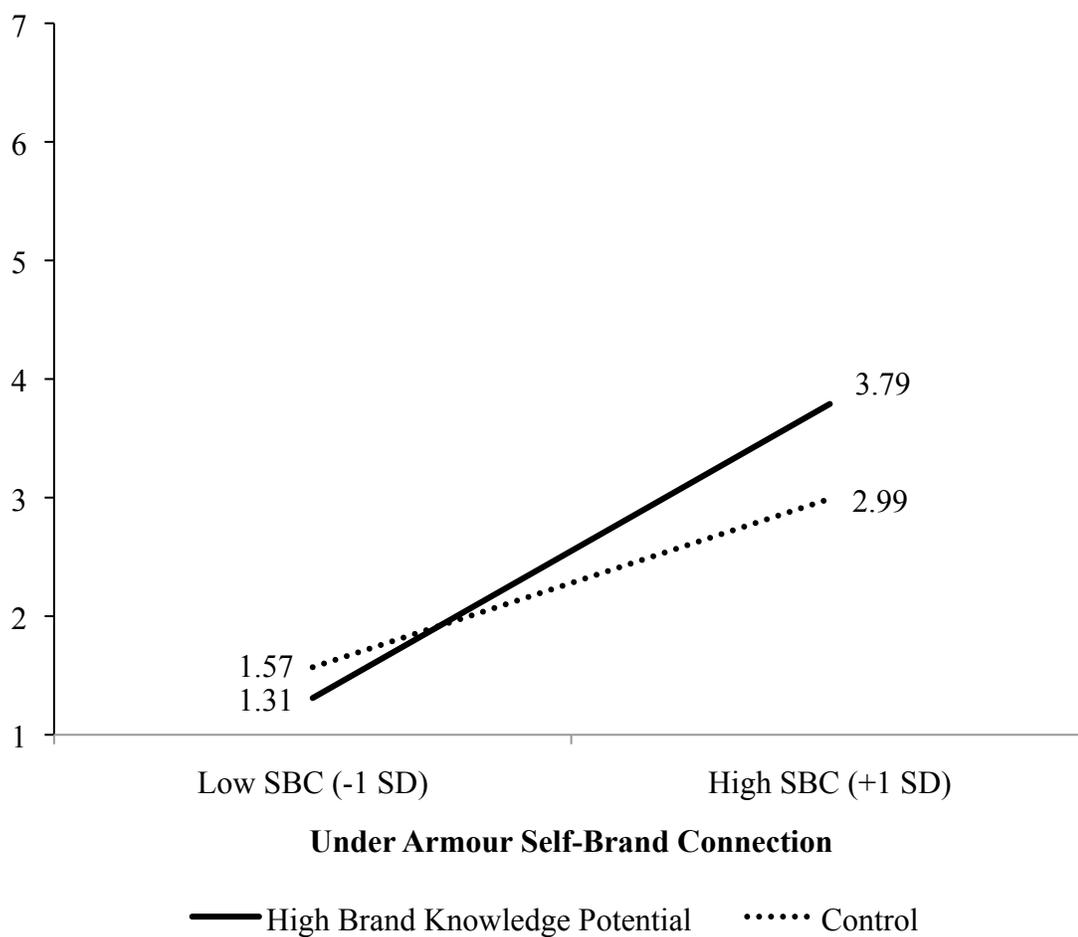


FIGURE 3. ESSAY II

STUDY 3. EFFECT OF SELF-BRAND CONNECTION AND BRAND KNOWLEDGE
POTENTIAL ON UNDER ARMOUR BRAND ENGAGEMENT INTENTIONSUnder Armour
Brand Engagement
Intentions

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