

ABSTRACT

Title of dissertation: OBSERVER INTERPRETATION OF
 SIGNALING IN CONSUMER
 DECISION MAKING

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This dissertation includes two essays exploring the effects of observers' interpretation of signaling behavior by others on the inferences and decision making of the observers. The first essay investigates how observers make inferences about other people's brand attachment. We propose that observers use the proximity of branded objects to the physical being of the user and the costs incurred to acquire the object to determine the degree of self-extension of the object - that is, to what extent it represents a part of the person's self-concept. Through two studies, we show that to the extent that an object is seen as self-extensive, the user would be inferred to be engaging in self-expression, attempting to convey aspects of their personality to others by using the object. These beliefs about self-expression then lead observers to infer that the individual is attached to the brand.

In the second essay, we consider how a brand's advertising appeals should be

affected by its market position. Building on an experimental study, we present a duopoly model of brand advertising copy decisions, where consumer motives are influenced by Quality-based and Image-based advertising appeals. We show that each brand's decision to select one type of advertising appeal over the other is a function of its market position. We find that larger brands will use Quality-based appeals while smaller brand will use Image-based appeals. We empirically test these findings by examining advertising decisions for major brands found in a popular newsmagazine. Consistent with the model, we find that larger market share brands use Quality-based advertising appeals to a greater extent, while smaller brands use more Image-based appeals. Further, we find that brands that deviate from the predictions of the model are less profitable. Our results suggest that marketing managers should consider their position in the market when crafting advertising appeals, with larger brands emphasizing product quality in their appeals and smaller brands emphasizing the fit of their products with consumers' self-image.

OBSERVER INTERPRETATION OF SIGNALING
IN CONSUMER DECISION MAKING

by

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Dedication

For Deborah.

Acknowledgments

This work, as with all academic work, represents not the sole efforts of one individual, but a collaborative effort - in this case, from thousands of people who have contributed, critiqued, inspired, aided, supported, helped and bailed me out on any number of occasions. Without the contributions of these individuals, I would have never stood a chance.

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Chapter 1

Introduction

Individuals frequently use brands as signals to communicate about themselves, their relationships and their status to other people. In this research, we examine the ways in which these signals are perceived by others, by considering the inferences that observers make about other people based on their use of brands as signals, and how brands can use their advertising to affect the inferences that people make about users of their products.

Chapter 2, entitled “Carrying the Torch for the Brand,” considers the ways in which observers make inferences about other people’s attachment to brands - that is, the extent to which they have a long-lasting connection to the brand. Drawing from literature on the extended self, we argue that observers make judgments about the extent to which the objects represent extensions to the users’ selves. We broadly consider any branded object as a potential source of these inferences, including soft drinks, cars, t-shirts and tattoos. These inferences are based on the proximity of the objects to the user and the costs incurred. Observers infer that individuals using self-extensive objects do so to satisfy self-expression motives, trying to express their true self, values or personality. These beliefs about the motives behind the behavior lead observers to the conclusion that the individuals are attached to the brands they use. In two studies, we show that individuals using products that are more

self-extensive, as a function of both proximity to the self and costs, are inferred to be self-expressing, and that these inferences lead them to be viewed as more attached.

In Chapter 3, “Matching the Motive to the Market,” we propose that when choosing the advertising appeals to use in their marketing, brands must take into account their relative position in the market. We consider two types of appeals, Quality-based and Image-based, and show how these types of appeals affect the characteristics that consumers weigh when making purchase decisions. We employ a multi-methodological approach, encompassing an experimental study, an analytical model and empirical analysis of real-world brand behavior. Our results suggest that advertisers should consider their position their market position when choosing the types of advertising appeals to use. Specifically, brands that are market leaders are better served by focusing on the quality of their products in their appeals, while small brands are likely to benefit from emphasizing the ability of their products to meet their customers’ needs to communicate their image.

Chapter 2

Carrying the Torch for the Brand: The Extended Self and Inferences of Attachment

Consumers are routinely presented with opportunities to display brand names on and around their physical bodies. In one striking example, clothing designer Marc Ecko recently offered a 20% discount to consumers who elected to be “branded for life,” and have the brand’s logo tattooed on their body (Turco 2011). Additionally, the designer provided an online gallery where these consumers could display their modified bodies. From the observers’ perspective, an economic argument may provide some insight into the consumers’ motivations for engaging in this behavior – that is, to save money. However, it seems implausible that thrift alone would represent consumers’ primary motivation for such a radical action. More likely, these consumers have a feeling of deep, long-lasting connection to the brand and choose to convey it by altering their body in a permanent way. While tattoos provide an extreme example, there are many other ways consumers can demonstrate their sense of connection to a brand, or their level of *brand attachment* (Thomson et al. 2005, Park et al. 2010). For attached individuals, the brand is not just an everyday object, but is viewed as an extension of his or her self. Use of a brand’s products, wearing a t-shirt with the brand’s logo, or even liking a brand on Facebook may provide information about an individual’s attachment to it. But, how do these behaviors differ from one another and how can observers distinguish levels of attachment based on these actions?

In this research, we address these questions by considering how a consumer’s use of different types of branded objects can relay information to observers about their connections to brands. Because observers cannot directly know a given individual’s unobservable characteristics (Richins 1994), such as attachment, they rely

on the use of branded objects to infer the motives behind the individuals' behavior. When observers see others using branded objects, they attempt to understand why the brand is being used, particularly so when the behavior is noticeable or unusual. We argue that when the motives behind the brand use behavior are believed to be intrinsic, self-expressive motives (as opposed to extrinsic, flaunting brand related behaviors (Ferraro et al. 2013)), observers are likely to think about the individual's attachment to the brand. These perceptions of the individual's connection to the brand may also influence the observers' view of the brand. Seeing an individual with an Apple tattoo may lead an observer to conclude that the brand does not just fulfill a utilitarian purpose for the individual, but is a meaningful part of the her identity and could potentially fulfill the same role for the observer.

We propose that observers make these judgments about other consumers' brand attachment by evaluating the degree to which these objects represent a component of the users' extended self (Belk 1988). We broadly consider objects as any category of branded item that consumers can deploy in communication with others, which could include a computer, a wristwatch or a t-shirt. The extended self is comprised of any attributes or objects that are not a part of the physical self (that is, not part of the corporeal being), but still play a critical role in the formation of the self-concept. For example, cars are often viewed as an expression of an individual's personality (Bloch 1982) and tattoos, which physically modify the body, are strongly tied to a sense of self (Bengtsson et al. 2005). When these objects bear brand logos, they may be used by observers to construct inferences about the individual.

We define the perceived self-extension of an object as the degree to which observers regard the object as a component of the user's extended self. Observers' judgments of self-extension are affected by both the physical proximity to the user's body and the costliness of the object to the user (Belk 1988). Specifically, we propose that objects that are more proximal to the physical core of the self will be viewed as more self-extensive by observers (Rook 1985). For example, a t-shirt, which rests directly on the core of the body, would be more proximal than an object such as a coffee mug. Prior research has also shown that when an individual spends resources (such as money) on an object, the object is seen by observers as more meaningful to the individual (Kirmani 1990, Morales 2005). Therefore, we expect that self-extension inferences will also be affected by the costs associated with acquiring and using branded objects.

In turn, these beliefs about the self-extensive nature of objects will affect the motives that observers think are behind the behavior. When considering self-extension, inferences of self-expression motives are likely to dominate, where observers believe that individuals are attempting to communicate with others about their true selves, values or personalities (Snyder and DeBono 1987). An inference of self-expression represents the observer's beliefs about the motives behind the individuals' behavior – in this context, the use of branded, self-extensive objects. To the extent that an object is understood to be a part of that person's extended self, the user is more likely to be viewed as using the object in service of self-expression. Because self-expression represents a motive to communicate about the self, when individuals using brand objects are inferred to be self-expressing, observers will be

more likely to view them as having a higher degree of brand attachment. This also distinguishes self-expression from self-extension, in that self-extension is a function of the object the individual uses, while self-expression is an inference about the motives of the individual.

This work contributes to existing literature in several important ways. First, we expand upon research on the extended self by showing how the degree to which objects are viewed as a part of their users' extended selves affects the inferences that observers draw from the use of the object. Second, while recent research has examined the antecedents and consequences of brand attachment (Thomson et al. 2005, Park et al. 2010), we expand on this stream by showing how observers can assess the extent to which individuals are attached to brand.

The findings of this research may further provide some insights for the development of promotional strategies used by marketing practitioners. Our results suggest that, for brands whose products are relatively low in self-extension, an effective promotional strategy might involve the use of other types of objects bearing the brand logo that are more self-extensive, which would effectively communicate their users' attachment to the brand. For example, a soft drink company (a low self-extensive product) could give away branded t-shirts, which are viewed as more self-extensive, as part of a promotional effort. Not only does this help customers express themselves, but it may also have potential benefit for the brand beyond building awareness, such as helping to build the image of the brand as a potential relationship partner (Fournier 1998).

In the following sections, we discuss existing work on brand attachment and

how an observer may infer attachment based on the properties of the branded objects individuals use – specifically, the extent to which these objects represent a part of the individual’s self-concept. We also discuss the role of self-expression in constructing these inferences. We present two studies demonstrating the predicted relationships between the self-extensive properties of products and inferences about the attachment of their users. We also show the mediating role of self-expression between observer beliefs about an object’s self-extensive properties and attachment inferences. In the first study we consider variations in the self-extending properties of different objects while in the final study, we specifically consider the costs associated with an object while holding the type of object constant. Finally, we conclude by discussing the theoretical implications of the work and the potential applications for marketing practice.

2.1 Self-Extension

Brand attachment is defined as “the strength of the bond connecting the brand with the self” (Park et al. 2010). Literature on brand attachment draws heavily from the framework established by the study of the extended self. Attachment contains both cognitive and emotional components capturing the extent to which the brand reflects the self. Highly attached individuals feel affection, passion and connection to the brand (Thomson et al. 2005, Swaminathan et al. 2009), so much so that the brand becomes a part of their self-concept (Park et al. 2010). Consumers only develop these relationships with brands that they can use to express themselves

(Batra et al. 2012), which increases the salience of the brand's identity in their minds (Bhattacharya and Sen 2003). For members of the Harley Owners Group (Schouten and McAlexander 1995) or the Mac Users Group (Muniz and O'Guinn 2001), for instance, the brand is not just method of transportation or computing, but a significant component of the members' conception of themselves.

From the observer's perspective, however, these connections with the brand are not immediately obvious. Instead, observers must rely on cues, such as product choices, to learn about individuals' preferences, their self-perceptions, or their ideal self-views. Although considerable prior research has investigated how observers interpret product choices as signals of consumers' unobservable characteristics (Belk 1978, Belk et al. 1982, Holman 1981, Mick 1986, Richins 1994), research on the use of products as signals has experienced a contemporary renaissance. This work has primarily focused on how the perceptions of current brand users impacts potential brand users' purchase behavior and attitudes (Berger and Heath 2007, 2008, Escalas and Bettman 2005, Ferraro et al. 2013). Comparatively less attention has been paid to inferences about the individuals based on their use of products. One exception is work by Gosling and colleagues (Gosling et al. 2002, Vazire and Gosling 2004), utilizing an attribution-theory approach to consider the stability of inferences made across multiple observers.

In the context of brand attachment, observers know that individuals tend to behave consistently with their self-conceptions (Swann 1987, Aaker 1999), choosing products according to their preferences (Ariely 2000, Torelli 2006) or personality (Kirmani 2009, Ahuvia 2005). Observers also register those choices made by others

to make inferences about the individuals' unobservable characteristics (Belk et al. 1982, Holman 1981, Gosling et al. 2002). Thus, observers should consider the choice to use a branded object as an indication of that user's relationship with the brand.

However, not all objects are created equal. In most cases, consumers use branded objects to fulfill a specific, utilitarian purpose, without feeling a deep connection to these goods. However, for a select few objects, the people that use them view the object as a part of themselves. Such objects represent an extension of their physical body (Belk 1988) because, due to factors such as proximity to the self and the investment of resources, they have been integrated into the larger self-concept. They may broadly include typical products such as t-shirts and cars as well as other vehicles for the brand's logo, such as a tattoo. This bond may lead individuals to keep the self-extensive object close to themselves, and to feel a sense of loss when separated from it. One key finding of research on the extended self is that individuals may classify objects within a spectrum of "self-ness" (Belk 1989, Prelinger 1959), or the degree to which the objects represent a part of the extended self.

Within the concept of the extended self there is likely to be some stratification in the perceived "self-ness" of possessions. Prior research has shown that objects such as one's own body and personal attributes (occupation or age for example) were viewed as closer to the self, compared to other bodies and objects in the physical environment (Prelinger 1959, Rook 1985). For example, objects such as clothing have been found to be relatively central to the self, versus other objects like shampoo and toothpaste (Belk 1987). In the context of this paper, we consider the continuum between objects proximate and distant from the physical self as one

determinant of self-extension, the degree to which an object is seen as part of its user's extended self.

We also expect that self-extension will be affected by the costs incurred to acquire an object. Individuals expend resources to develop relationships with brands they are attached to (Park et al. 2010), and observers infer that when actors expend resources on something, the object is meaningful to the actor (Kirmani 1990, Morales 2005). Further, attribution theory has shown that when actions are known to entail costs, the action is attributed more to internal sources (that is, the actor's true self) than to external factors (Kelley 1973). These costs may include monetary costs, but can also include opportunity costs and social resources (Park et al. 2010). Observers may consider all of these costs when assessing the self-extensive nature of the objects used by others. Because the expenditure of resources on a product necessarily implies a loss of those resources to the individual, more expensive products will necessarily be inferred to be a more fundamental part of his or her self-concept, i.e., "if she spent so much on it, it must really be meaningful to her." Thus, objects that are more costly to acquire should be perceived by observers to be more self-extensive for the user.

2.2 Self-Expression

Observers use these beliefs about the self-extensiveness of objects to make inferences about the objects' users. We propose that, to the extent that a product is viewed as self-extensive, observers are likely to infer that the person using it is

attempting to express themselves. As part of the inferencing process proposed by attribution theory (Kelley 1973, Weiner 1985) and employed in later research on impression formation based on product use (Gosling et al. 2002), the link between observed behavior and trait inferences is made by causal reasoning about the observed behavior. That is, observers attempt to infer the motives that underlie the observable behavior and use this to make inferences about the individual's characteristics. While a variety of motives can underlie the choices of branded products (Gilbert and Malone 1995), these motives are commonly grouped into four categories: knowledge, utilitarian, social-adjustive and self-expressive (Bearden and Etzel 1982, Katz 1960, Shavitt 1990).

Knowledge motives allow individuals to organize and structure information about the world, and all other motives serve this broader motive to varying degrees (Fazio 1989). The utilitarian motive helps to maximize rewards and minimize punishments intrinsically associated with consumption of the product – for example, driving a sports car may provide superior handling (a reward) while also having higher repair costs (a punishment; Shavitt et al. (1992)). The social-adjustive motive enables individuals to maintain their relationships with others and gain approval in social situations. This may entail behaving in ways that do not fit with the individuals' true values, but instead are driven by the desire to fit in with a desirable social group (Snyder and DeBono 1987). This contrasts with the self-expression motive, which enables individuals to affirm their attitudes, beliefs, values and personality (Grewal et al. 2004), and to communicate these elements of self-view to others (Wilcox et al. 2009).

Because self-expression is so closely associated with the individual's self-concept, we expect that observers will infer this motive when individuals use objects that are viewed as self-extensive. Furthermore, the idea of expressing the self through the brand is consistent with research findings on attachment indicating that individuals highly attached to brands frequently engage in communication about their relationship with the brand (Feick and Price 1987, Johnson and Rusbult 1989, Richins and Root-Shaffer 1988). These communications about brand use can satisfy emotional needs (Dichter 1966), and enable the individual to express positive feelings about the brand (Sundaram et al. 1998). We anticipate that, to the extent that people are viewed to be self-expressing, they will be viewed as attached to the brand. Thus, our full model proposes that when observers see individuals using branded objects that they view as more self-extensive (based on physical proximity to the user and the costs incurred to acquire it), the observers infer this behavior is motivated by self-expression, and that the individuals are attached to the brand. Formally, we propose the following hypotheses:

Hypothesis 2.1. *Branded objects that are more proximal to the physical self will be viewed as: i) more self-extensive; ii) more likely to reflect self-expression motives; and iii) indicating higher brand attachment.*

Hypothesis 2.2. *Branded objects that are more costly will be viewed as i) more self-extensive; ii) more likely to reflect self-expression motives; and iii) indicating higher brand attachment.*

Hypothesis 2.3. *The relationship between the self-extension of a product and brand*

attachment inferences is mediated by inferences that the user is engaged in self-expression.

In support of these hypotheses, we present a pretest and two studies. The studies employ a variety of different products and brands, demonstrating that the effects may be generalized. In the pretest, we identify the self-extensive properties of a variety of products, including soft drinks, t-shirts and cars, which we will subsequently use as manipulations. The first study provides initial evidence for the hypotheses 2.1-2.3 by showing that observers regard individuals who use products strongly associated with self-extension as being more attached to the brand. We also show the mediating role of a motive of self-expression in constructing inferences of attachment (hypothesis 2.3). In the second study, we consider 2.2 by manipulating costs alongside proximity to show the effect of both factors on inferences of attachment.

2.3 Pretest

The purpose of the pretest was to identify objects representing a range of self-extension to serve as manipulations in the main studies. The pretest was conducted using a paid online panel ($N = 30$, 53.3% female). Participants considered 16 categories of common objects (see Table A.1 for full list) that would serve as focal objects in the subsequent studies. Participants rated each of the object categories on two seven-point scales, derived from prior work on the extended self (Belk 1988, 1989). These measures captured the extent to which the objects represented an

extension of their users' self ($r = .96$). Specifically, the participants were asked, "For the following products, please rate the extent to which you feel the product would be identified with their users' self-concept; (i.e., to what extent would these products be considered a 'part' of their users)" (1 = "Not identified with self-concept", 7 = "Intensely identified with self-concept") and "When you see someone wearing or using the following products, to what extent do you think the product represents an extension of that person's self?" (1 = "Not at all", 7 = "Very much").

The results of the pretest are consistent with findings from prior work on the extended self (Belk 1988, Bloch 1982, Sanders 1988), where objects such as snack foods and soft drinks were relatively low compared to cars and tattoos. Soft drinks ($M = 3.45$) were seen as less self-extensive compared to laptop computers ($M = 4.42$, $t(29) = 3.81$, $p < .01$), which were less self-extensive than cars ($M = 5.35$, $t(29) = 4.21$, $p < .01$). We also identified prepared coffee as another familiar object, similar to soft drinks in terms of self-extension ($M = 3.68$, vs. soft drinks: $t(29) = .77$, $p > .45$; vs. laptop: $t(29) = 2.58$, $p < .02$).

We also considered t-shirts and tattoos as branded objects that could be used across different brands while keeping self-extension constant. These objects also convey information about consumers' relationship with a brand. For example, consumers may choose to use promotional products that bear the brand's logo, or they may elect to tattoo the brand's logo on their body (Orend and Gagné 2009). The soft drink manufacturer Red Bull may sell t-shirts with the Red Bull logo on them, but t-shirts are not typically associated with the brand or viewed as a primary product. If objects such as branded t-shirts are viewed as part of their user's extended

self, the user's choice of these branded objects should lead observers to follow the same process as for the brand's other products and infer that the user is attached to the brand.

Pretest ratings for self-extension for these objects indicated they were significantly different from one another ($M_{t-shirt} = 4.38$, $M_{tattoo} = 5.87$, $t(29) = 3.94$, $p < .01$). Furthermore, t-shirts were seen as more self-extensive than soft drinks and prepared coffee, less self-extensive than cars, and were not different than laptops. Tattoos were rated as more self-extensive than all other objects except for cars. As a result, in the first study, we employ soft drinks, laptops and cars as manipulations, along with t-shirts and tattoos. In the second study, we compare prepared coffee and t-shirts.

2.4 Studies

2.4.1 Study 1

The purpose of the first study was to provide initial evidence for the proposed relationship between the degree of self-extension offered by a branded object and observers' inferences about the user's sense of brand attachment and their desire to self-express. We expected that inferences about a user's attachment to a brand and the extent to which they would be viewed as engaged in self-expression would increase as the self-extensive nature of the branded objects increased. Based on the pretest, we chose three brands whose products are objects representing different degrees of self-extension: Red Bull (soft drink), Apple (laptop computer) and Prius

(car). As we propose a direct relationship between self-extension, self-expression and attachment, we expect a linear increase in inferences of attachment and self-expression motives when comparing individuals using the primary products of Red Bull, Apple and Prius.

Beyond the three primary product objects, we also consider t-shirts and tattoos as branded objects that can be used to construct attachment inferences. Using these types of branded objects (i.e., t-shirts and tattoos) enables within-brand comparisons across different levels of self-extension (e.g. a Red Bull soft drink compared to a Red Bull t-shirt); in addition, it enables comparisons within a single object category between brands (e.g. a Red Bull t-shirt versus an Apple t-shirt), where we do not expect to see differences as the self-extension of the objects do not change. In addition, these comparisons within brands provide results of potential interest for marketing practitioners, as they show how inferences drawn from the brand's core products and those that might be used in promotional efforts may differ. Based on the pretest self-extension ratings for t-shirts and tattoos, we expected that inferences of brand attachment would differ between these two objects. However, because the proximity to the self and the costs of the object would not differ between brands, we did not expect to observe differences in attachment within a single type of object.

2.4.1.1 Method

The study used a 3 (Brand: Red Bull, Apple, Prius) x 3 (Object Type: primary, t-shirt, tattoo) repeated-measures design, with participants viewing one Ob-

ject Type for each of the three Brands. Sixty-three undergraduate students from a large Midwestern university completed the study for partial course credit (60.2% female). Participants were presented with, in a randomized order, three images of people using a branded object in natural settings including at a café, on the street and in a parking lot (see Figure B.1 for stimuli), along with the name of the brand. The targets' genders varied across brands (one male and two female). Using photo manipulation software, the images of the targets were modified to depict the target either using the brand's primary product (primary), wearing a t-shirt with the brand's logo (t-shirt), or with a tattoo of the brand's logo on their arm (tattoo). The order of photo presentation was programmed such that participants saw one image for each brand, and one image of each type of object – for example, one potential order could be viewing a Prius car, Apple t-shirt and Red Bull tattoo. After viewing each image, participants rated their perceptions of the target's attachment to the brand and the extent to which the individual was engaged in self-expression. Finally, participants rated the self-extension of the five object categories used in the study: cars, laptop computers, soft drinks, t-shirts and tattoos.

Measures. After participants viewed the images, they responded to several sets of items capturing their inferences about the person's attachment to the brand and extent to which the person was engaged in self-expression. Attachment was measured using six items derived from Thomson et al. (2005), where participants rated the extent to which the words “passionate,” “delighted,” “captivated,” “bonded,” “attached,” and “connected” described the individual in the photo's typical feelings towards the brand (1 = “Not at all”, 7 = “Very well”, $\alpha = .93$). The extent to

which the target was engaged in self-expression was measured using four items derived from Grewal et al. (2004), where participants rated the extent to which they agreed the branded product made the person feel good about themselves, that it reflected the kind of person they saw themselves to be, that it was an instrument of their self-expression, and that it helped them establish the kind of person they saw themselves to be (1 – “Disagree”, 7 – “Agree”, $\alpha = .90$).

Because the study used a repeated measures design, participants rated the self-extension for each of the five object categories (three within Primary product, along with t-shirts and tattoos) at the end of the study, using the same two items used in the pretest ($r = .83$, $p < .01$). These five individual ratings were used to construct a measure of object category self-extension for each of the three images that the participant saw, conditioned on the type of object used by the individual for whom participants evaluated on attachment and self-expression. That is, when participants saw the individual using the primary product, the self-extension measure was equal to the self-extension rating for the specific product category (car, laptop, soft drink or wristwatch). When participants saw an individual using a t-shirts or a tattoo, the self-extension measure was equal to the participants’ ratings of self-extension for t-shirts and tattoos, respectively.

2.4.1.2 Results

Discriminant validity. A confirmatory factor analysis (CFA) was conducted to establish discriminant validity for the primary constructs used in the subsequent

analysis. A three-factor model with self-extension, self-expression and attachment as latent constructs indicated by the corresponding measured responses was estimated using the SEM package in R, and fit the data well ($\chi^2(51) = 109.46$, $p < .01$, RMSEA = .078, NNFI = .956, CFI = .966, see Table A.3). Using the procedure described by Fornell and Larcker (1981), the average variance extracted for each of the three factors was found to be larger than the shared variances, suggesting that there was discriminant validity between the constructs. Thus, self-extension, self-expression motive, and brand attachment are distinct constructs.

Manipulation check. To evaluate the manipulation, a separate, five-level Object Type factor was constructed, with levels corresponding to each of the objects that participants may have viewed over the course of the study: soft drink, laptop, t-shirt, car and tattoo. A one-way ANOVA on self-extension with the five-level Object Type factor revealed a significant main effect ($F(1, 184) = 40.50$, $p < .01$). Planned contrasts indicated that all five objects were viewed as significantly different from one another (see Table A.4 for summary). Most importantly, the three primary Object Types had different levels of self-extension (Red Bull = 2.96, Apple = 4.00, Prius = 5.55), as did t-shirts and tattoos (t-shirt = 4.74, tattoo = 6.45). Thus, the manipulation of self-extension was successful.

Brand attachment. The central focus of study 1 was to compare the inferences of brand attachment for the primary products of three brands. A one-way ANOVA with Brand as the independent variable revealed a significant main effect ($F(2, 60) = 5.16$, $p < .01$, see Table A.5). As predicted, the linear contrast for Brand was significant ($F_{Linear}(1, 60) = 10.75$, $p < .01$), indicating that within Pri-

mary products, as the self-extension of the object being used increased (from a can of Red Bull to an Apple Laptop to a Prius car), attachment inferences increased.

In addition to the primary analysis, we also considered inferences about individuals using t-shirts and tattoos. Because of the repeated-measures design of the study, each participant saw one image of a person using a branded t-shirt and with a brand tattoo, and therefore the analysis was conducted using a mixed model, with Object Type and Brand as fully crossed fixed factors and participant as a random factor. The analysis revealed the expected significant main effect of Object Type ($F(1, 60) = 27.16, p < .01$) and an unexpected main effect of Brand ($F(2, 105.68) = 5.03^1, p < .01$, see Table A.6). The interaction effect was not significant ($F(2, 87.28) = .53, p > .59$). The main effect of Object Type indicated that individuals with brand tattoos were viewed as more attached to the brand ($M = 5.57$) compared to those wearing branded t-shirts ($M = 4.42$). Post hoc tests indicated that attachment inferences differed between the Apple and Red Bull conditions ($p < .05$, Bonferroni t), such that the Apple user was seen as more attached than the Red Bull user. No other post hoc comparisons were significant. This unexpected difference could be a function of other contextual factors that may influence assessments of brand attachment, which we consider further in the discussion.

Self-expression. As with inferences of attachment, the analysis of self-expression focused on inferences between the primary products of the three brands. A one-way ANOVA with Brand as the independent variable revealed a significant

¹The use of a mixed model in this analysis leads to degrees of freedom that are not whole numbers.

main effect ($F(2, 60) = 19.33, p < .01$, see Table A.5). The linear contrast for Brand was significant ($F_{Linear}(1, 60) = 38.56, p < .01$), indicating that, as with attachment, when the self-extension of the object increased, inferences of self-expression increased. The same mixed model with fixed effects of Object Type and Brand and participant as a random factor used to analyze attachment effects for t-shirts and tattoos was also used to model the effects on self-expression. The analysis revealed the expected significant effect of Object Type ($F(1, 60) = 32.93, p < .01$, see Table A.6), with no other significant main or interaction effects (All F s $< .46$, All p s $> .63$). Individuals using branded t-shirts were viewed as engaging in self-expression to a lesser degree ($M = 4.46$) compared to those with brand logo tattoos ($M = 5.42$).

Mediation. To understand the mediating effect of self-expression on the relationship between self-extension and attachment, we conducted a simple mediation analysis using the MEDIANTE SPSS application provided by Hayes and Preacher (2011). This tool allows the use of a bootstrapping estimation procedure to separate estimates of the direct effect of the independent variable (Brand) on the dependent variable (attachment) from the indirect (that is, mediating) effect of the independent variable on the dependent variable through the mediator (self-expression) Bootstrapping is preferred over earlier methods, such as the Sobel test, as it better addresses the potential issues of non-normality in the distribution of the direct and indirect effects (Mackinnon et al. 2004). Because Brand had three levels, indicator coding was used with Prius as the comparison. Thus, the modeled indirect effects represent relative indirect effects of the Apple and Red Bull brands compared to Prius. The

model was estimated using 5000 bootstrap samples. The relative indirect effects of both Apple and Red Bull on brand attachment through self-expression were each significant, as the 95% confidence intervals did not contain zero ($\beta_{Apple} = -.75$, $SE = .29$, $CI = -1.39$ to $-.25$; ($\beta_{RedBull} = -1.58$, $SE = .39$, $CI = -2.42$ to $-.88$). Furthermore, the relative direct effects were not significant (All $ts < .81$, all $ps > .42$), indicating that the effect of Brand on attachment occurred entirely through self-expression.

Similar analysis was used to consider the indirect effect of Object Type on attachment through self-expression. The MEDIATE SPSS application was used to estimate the model using 5000 bootstrap samples. The indirect effect of Object Type was significant, as the 95% confidence interval did not contain zero ($\beta = .57$, $SE = .18$, $CI = .25$ to $.96$), however the direct effect was also significant ($\beta = .57$, $t(125) = 2.73$, $p < .01$). The presence of the direct effect only in comparisons between t-shirts and tattoo indicates that at least part of the effect on attachment inferences was not due to self-expression. This may occur because of the surprising nature of the object used – brand logo tattoos are uncommon and relatively extreme compared to t-shirts, which may lead observers to more readily construct attachment inferences.

2.4.1.3 Discussion

The results of the first study provide initial evidence for the role of the self-extensive properties of products and inferences about attachment. Consistent with

the predictions of hypothesis 2.1, individuals using branded objects were seen as more attached to the brands they used when the branded products were more self-extensive. This effect occurred when considering both the primary products of each of the brands as well as for comparisons between other types of branded objects. We also found support for hypothesis 2.3, demonstrating the mediating role of self-expression inferences between the self-extension of a product and inferences of attachment.

However, the results of the first study are limited by the use of a within-subjects design. While this issue is attenuated by the fact participants saw only one image for each brand and only one image for each type of object (one of the brand's primary products, one t-shirt and one tattoo), there is still a possibility for demand effects. Additionally, the unexpected Brand effect observed in the analysis of t-shirts complicates the interpretation of these results. Within a category of object, we did not expect to see differences in terms of attachment inferences between brands, yet inferences about attachment to the Apple brand were significantly different compared with the other brands for individuals wearing branded t-shirts and brand logo tattoos. However, no differences were observed for self-expression, suggesting that inferences of attachment may be driven by other contextual factors for example, the model in the photo may have been judged to be more consistent with the stereotypical Apple user compared to those in the other conditions. In the next study, we avoid this limitation by keeping the model constant across brands. The next study also considers the predictions of hypothesis 2.2 within product categories, by manipulating costs of a t-shirt for two brands of prepared coffee.

2.4.2 Study 2

The purpose of this study is to provide evidence for the role of costs associated with the products within brands, while addressing some of the limitations of the earlier study. We consider the prepared coffee category, and use two different brands: Starbucks and West End Coffee. Using these two brands also allows consideration of a potential boundary condition where our effects might only occur for brands that observers recognize. Starbucks is a widely known national brand, while West End is single-store operation in a small town in South Carolina, making it unlikely to be recognized by participants drawn from a national pool. We compare the inferences drawn from using each brand's primary product – coffee – to those from wearing the brand's t-shirts. To consider costs while keeping proximity constant, we nest a manipulation of object costs by varying the cost of the t-shirt within the category.

2.4.2.1 Method

The study used a 2 (Brand: Starbucks, West End) x 2 (Object type: primary, t-shirt) x 2 (T-shirt Cost: Low, High) nested design, with Brand and Object Type as between-subjects factors and t-shirt cost as a nested factor within Object Type. One hundred and eighty-four members of an online panel completed the study for pay (59.8% female). The procedure was largely the same as in the previous study. In the primary Object Type condition, the female target was shown with a cup of coffee in her hand and either a Starbucks or West End logo on the cup. In the t-shirt condition, the target was shown wearing the same t-shirt with artwork containing

the brand’s logo, and was told that the t-shirt was an anniversary t-shirt” for the brand. Nested within the t-shirt condition were two levels of t-shirt cost. In the low cost condition, participants were told that the target paid \$20 for the t-shirt; in the high cost condition, they were told they paid \$85.

Measures. After viewing the images, participants responded to the same attachment measures as in study 1 ($\alpha = .96$) Participants also responded to five items assessing the perceived costs associated with acquiring the product, which served as a manipulation check. Participants rated the extent to which acquiring and having the product was effortful, costly, time consuming, risky, and expensive (1 = “Not at all effortful”, “...costly”; 7 = “Very effortful”, “...costly”, $\alpha = .82$). A slightly different measure of self-expression was used in Study 2, with two items designed to capture the components of self-expression: fit with self-concept and expression of self. These components were measured by the extent to which the individual was seen as using the product because it fit with their personality, and to which they used the product to convey something about themselves to others (1 = Not at all, 7 = Very much, $r = .55$, $p < .01$). Finally, participants rated their familiarity with the brand using one item (1 = “Not at all familiar”, 7 = “Very familiar”)

2.4.2.2 Results

To analyze the nested design, we first considered a simplified model with the two levels of the nested factor (T-shirt Cost) combined with the primary Object

Type cells to make a single, three-level factor. This was crossed with Brand to test for the presence of any interaction effects. We first consider the brand familiarity measure to determine if this manipulation was successful. A 3 x 2 ANOVA revealed a significant main effect of Brand ($F(1, 178) = 407.65, p < .01$), with no other significant effects (all F s < 2.14 , all p s $> .12$), indicating that participants were more familiar with the Starbucks brand ($M = 5.73$) compared to West End ($M = 1.67$). This suggests that manipulation of brand familiarity was successful.

For the primary dependent measures, while we acknowledged the possibility of brand-specific main effects, we did not expect interaction effects that would indicate the expected differences in Object Type and T-shirt Costs were dependent upon brand. Supporting this conclusion, 3 X 2 ANOVAs for the attachment, self-expression and costs measures revealed significant main effects of the three-level Object Type/T-Shirt Cost variable (All F s > 8.76 , all p s $< .01$), a significant main effect of Brand on attachment ($F(1, 178) = 11.29, p < .01$), and no other significant main (All F s < 2.37 , all p s $> .12$) or interaction effects (All F s $< .46$, all p s $> .63$). This main effect of Brand indicated that participants viewed individuals using Starbucks products as more attached ($M = 4.83$) compared to those using West End ($M = 4.14$). However, with no interaction effects, this suggests that brands did not alter the general pattern of results with regards to object category and attachment inferences. Therefore, in the subsequent analysis, we include a Brand main effect, but do not model any interaction effects.

The Object Type and T-shirt cost factors were dummy coded, and the two variables were interacted. The nested model used in the subsequent ANOVA anal-

yses was composed of the Brand main effect, the main effect of Object Type, and the interaction effect of Object Type and T-shirt Cost.

Manipulation check. A nested ANOVA revealed a significant effect of the Object Type x T-shirt Cost interaction on costs ($F(1, 180) = 10.47, p < .01$), with no significant effects of Object Type ($F(1, 180) = .49, p > .48$) or Brand ($F(1, 180) = .08, p > .77$). This pattern of results indicates that high cost t-shirts were seen as more expensive ($M = 3.70$) compared to low cost t-shirts ($M = 2.99$) and to the primary Object Type condition (coffee, $M = 2.84$), but the primary product and low cost t-shirts were not seen as differentially costly. This suggests that the manipulation of costs was successful.

Brand attachment. A nested ANOVA revealed the already discussed effect of Brand ($F(1, 180) = 11.29, p < .01$), as well as effects of Object Type ($F(1, 180) = 6.32, p < .01$) and of Object Type x T-shirt Cost ($F(1, 180) = 8.33, p < .01$). The interaction effect indicated that individuals using high cost t-shirts were inferred to be more attached ($M = 5.20$) compared to those using low cost t-shirts ($M = 4.46$), supporting hypothesis 2.2. In addition, the Object Type effect indicates that individuals in the t-shirt conditions were more attached compared to those in the primary product condition ($M = 3.76$), supporting 2.1 by showing that individuals using a more proximal product (t-shirt) were viewed as more attached compared to one using a proximal one (prepared coffee).

Self-expression. A nested ANOVA revealed a significant effect of Object Type ($F(1, 180) = 9.85, p < .02$) and a marginal effect of Object Type x T-shirt Cost ($F(1, 180) = 6.27, p < .06$). The interaction effect indicated that individuals

using high cost t-shirts were inferred to be self-expressing ($M = 5.67$) more than individuals using low cost t-shirts ($M = 5.24$). The effect of Object Type indicated that individuals using t-shirts were inferred to be self-expressing ($M = 5.34$) more than individuals using the primary product ($M = 4.67$). The main effect of Brand was not significant ($F(1, 180) = 4.12, p > .12$).

Mediation. As in study 1, a mediation bootstrap analysis with 5000 samples was conducted using the procedure described by Hayes and Preacher (2011), with self-expression mediating the effects of Object Type and Object X T-shirt Cost on attachment inferences, and Brand included as a control variable. The 95% confidence interval for the relative indirect effect of Object Type did not contain zero ($\beta = .29, SE = .15, CI = .03$ to $.62$). This indicates that the positive effect of t-shirts compared to Primary products on attachment inferences occurs through inferences about self-expression. Similarly, the 95% confidence interval for the relative indirect effect of Object Type X T-shirt Cost did not contain zero ($\beta = .23, SE = .11, CI = .04$ to $.47$), indicating that the positive effect of high cost t-shirts compared to low cost t-shirts on attachment inferences occurs through inferences of self-expression. The direct effect of Object Type was not significant ($\beta = .40, t(180) = 1.60, p > .11$), however the direct effect for the Object Type X T-shirt Cost interactive was significant ($\beta = .56, t(180) = 2.25, p < .03$). As in the prior study, the direct effect occurs in comparison between an atypical product, an exceptionally expensive t-shirt, and a more commonly priced one. This is consistent with the idea that extreme objects may elicit more pronounced attachment inferences from observers. We consider this possibility further in the general discussion.

2.4.2.3 Discussion

The results of the final study replicate the earlier findings – showing that individuals using more proximal products are viewed as attached to their brands. More specifically, when holding proximity constant within a product category, as users incur more costs to acquire and use the product they are viewed as more attached to the brand. We also show that these inferences are mediated by the perception that the individuals are engaging in self-expression. These results help to address the potentially confounding issues of proximity and cost, by demonstrating that differences in attachment inferences can occur where proximity differs and costs did not (that is, between the two Object conditions), as well as in instances where costs differ but proximity did not (between the two T-shirt Cost conditions). This supports the proposed interactive relationship between proximity and costs in the construction of attachment inferences.

Finally, while there were significant differences between the brands in terms of attachment, the lack of a significant difference in the general pattern of effects for West End coffee compared to Starbucks suggests that the findings with regard to self-extension and brand attachment do not depend on knowledge of the brand to be observed. The participants in our sample had almost no familiarity with the West End brand, and yet the same pattern of results held across both brands.

2.5 General Discussion

The purpose of this research was to examine the process by which observers construct inferences about the attachment of other people to the brands that they use. The results of the studies depict one way in which observers make these inferences, by demonstrating the role of an object's self-extension. Drawing from earlier work by Belk (1988), Prelinger (1959) and others, we considered two drivers of perceived self-extension: proximity to the physical self and costs. As in prior studies, objects were viewed as more self-extensive when they were more proximal to the user, as well as when the user incurred more costs to acquire and use the object. We have shown that observers use these perceptions of the self-extension of branded objects to construct inferences about the user's attachment to the brand. In addition, as branded objects are viewed as more a part of individuals' extended self, observers infer that the targets have a motive of self-expression; this motive inference, in turn, leads to the inference that the targets are more attached to the brand.

We also found that attachment inferences are generally not a function of the brand itself, but instead depend upon the self-extensive nature of objects. Though we did observe some brand specific effects on attachment in both studies, interaction effects did not occur, suggesting that the effect of self-extension on inferences of self-expression and attachment is orthogonal to that of brands. This suggests that the general pattern of results is not specific to the brands that appeared in the studies, and that any brand's logo that is plausible and recognizable could be used on an object to generate the observed effects.

These findings expand upon the current understanding of brand attachment by showing how observers make inferences about other peoples' attachment. Recent work by Thomson et al. (2005), Fedorikhin et al. (2008), and Park et al. (2010) has investigated brand attachment, its components (including a self-integrative component similar to self-brand connection (Escalas and Bettman 2005) and an emotional component), and its consequences, while distinguishing attachment from attitudes. Work by Malär et al. (2011) and Batra et al. (2012) has further explored the emotional side, or "brand love," and connected back to existing literature by showing the importance of congruence between the actual self and the brand, as opposed to the ideal self. However, the question of how observers construct these inferences has not yet been addressed. The present work addresses this gap, by connecting the related literature on the extended self (Belk 1988), showing how the characteristics of the objects (in terms of self-extension) affect the inferences that observers construct.

Our approach differs from work by Kleine et al. (1995) and Ahuvia (2005), who focus on emotional connections to objects, as opposed to the connections to brands. In this research stream, the objects themselves are viewed as the target of the connection, and these loved objects are employed to construct the user's identity. For example, in Ahuvia (2005), the objects themselves, such as a mother's heirloom purse, are the targets of the user's affections. By contrast, in our work, the brand is the target, and the objects individuals use are understood as vehicles to express their connection to the brand. Because observers typically do not have access to the complex narratives and history of interactions that are instrumental in the object relationships (Murray 2002, Thompson and Haytko 1997), from the

observer's perspective, one object is relatively interchangeable with another similar object, as long as it is viewed similarly in terms of self-extension.

This research also provides a companion to recent work by Ferraro et al. (2013), which investigates how observers react to individuals using branded products in a conspicuous manner – that is, the individuals are inferred to be motivated by extrinsic motives – showing that such individuals are perceived negatively and these negative attitudes carry over to the brand used for individuals low in self-brand connection. By contrast, the present work considers situations in which individuals are thought to be engaged in self-expression, an intrinsic motive, and shows how these inferences affect observers' perceptions of brand attachment. Taken together, the two papers show how the intrinsic/extrinsic distinction (Deci and Ryan 1985) leads to very different outcomes in the observers' beliefs about the brand users, highlighting the importance of motive inferences in understanding brand signaling behavior.

2.5.1 Implications for Practitioners

An interesting potential impact of our findings comes from considering the promotional strategies of brands using branded items such as t-shirts. Our findings suggest that consumers who are very attached to the brand may enjoy using these types of branded products, because they enable them to express their brand attachment to others. Beyond this benefit to current customers, these types of objects may convey to observers that the brand is not just a brand that the customers en-

joy for functional reasons, but is also a brand they have a relationship with. For some potential consumers, this may be a desirable aspect to the brand (Fournier 1998) and the brand may benefit by enabling its customers to convey this to others.

At the same time, these results indicate that, at least in terms of building the perception of the brand as an important part of people's self-concept, the common use of promotional tie-ins to soft drinks and snack foods may be comparatively ineffective. While these may help to build awareness, observers will not infer that people using these products have strong relationships to the brand, because these are relatively low in self-extension. More effective strategies could be built around products higher in self-extension, such as t-shirts, beers or tattoos, as in the example of Marc Ecko clothing.

2.6 Limitations and Further Research

While the studies presented here do provide evidence for the proposed relationships among self-extension, self-expression and brand attachment, there are some important limitations to be considered in the findings. The artificial nature of the methods utilized in these studies may limit their external validity. While the stimuli appear to be in natural settings, participants were directed to consider attachment and self-expression, and it is not clear how often observers in the real world will actually engage in this level of thinking about the motives behind others' use of brand products. Such inferences would most likely occur naturally when the behavior is particularly unobtrusive or unusual, prompting observers to consider

the motives behind the behavior (Kelley 1973). Consistent with this, we observe that attachment inferences were not entirely explained by self-expression inferences when individuals were observed using atypical branded objects: brand logo tattoos and expensive branded t-shirts. The unexpected nature of these and other objects may prompt observers to make additional inferences about the motives behind the behavior, and to make these inferences more spontaneously.

One potential extension of this work involves considering a public manner people utilize to express and communicate their relationships with brands via their social media presence. Individuals often communicate about the brands they use on websites such as Facebook and Twitter. It would be interesting to consider the forms these discussions assume and the extent these discussions about brands lead observers to infer that an individual is attached to a brand. Furthermore, these findings would potentially identify mechanisms for brands to more effectively use promotions in social media as part of the marketing mix.

Another area to be investigated involves further exploration of cross-promotional efforts. Our studies have focused exclusively on single-branded products, but brands frequently cross promote. For example, Coca-Cola may feature an upcoming movie or musical artist on the labels of their products or event t-shirts may feature logos from multiple sponsoring organizations. This could create a synergistic effect between the organizations, wherein attachment to the multiple brands is viewed as higher compared to any brand individually.

Appendices

Appendix A

Tables

Table A.1: Pretest Object Self-Extension Ratings and T-tests for Differences

	Mean	Movie Studio	Grocery store	Department store	Soft drink	Snack food	Prepared coffee	Video game console	Wrist-watch	T-shirt	Laptop	Shoes	Beer	Casual clothing	Motorcycle	Car	Tattoo
Mean	2.60	2.60	2.87	3.37	3.45	3.47	3.68	3.92	3.98	4.38	4.42	4.48	4.52	4.77	4.97	5.35	5.87
Movie studio	2.60	2.60	2.87	3.37	3.45	3.47	3.68	3.92	3.98	4.38	4.42	4.48	4.52	4.77	4.97	5.35	5.87
Grocery store	2.87	1.09 ¹	2.69	2.36	2.79	2.94	3.36	4.31	3.74	5.53	5.75	5.88	5.38	6.25	5.94	7.42	7.50
Department store	3.37	-2.69	-2.36	2.36	1.97	2.18	2.72	3.03	2.89	4.13	4.55	4.58	5.10	5.76	5.47	6.90	7.26
Soft drink	3.45	-2.79	-1.97	-0.25 ²	0.25 ²	0.32 ²	1.18 ²	1.45 ²	1.79 ¹	2.72	3.77	3.25	3.27	4.11	4.44	6.04	5.81
Snack food	3.47	-2.94	-2.18	-0.25 ²	-0.08 ²	0.08 ²	0.77 ²	1.91 ¹	1.48 ²	3.10	3.81	3.75	3.83	4.34	4.19	6.34	6.38
Prepared coffee	3.68	-3.36	-2.72	-1.18 ²	-0.77 ²	-0.61 ²	0.61 ²	1.67 ²	1.19 ²	2.60	3.01	3.15	3.49	3.76	3.58	5.33	5.85
Video game console	3.92	-4.31	-3.03	-1.45 ²	-1.91 ¹	-1.67 ²	-0.65 ²	0.65 ²	0.93 ²	2.01 ¹	2.58	2.56	2.37	3.48	4.32	5.60	6.09
Wristwatch	3.98	-3.74	-2.89	-1.79 ¹	-1.48 ²	-1.19 ²	-0.93 ²	-0.18 ²	0.18 ²	1.67 ²	1.69 ²	2.27	2.45	3.47	3.18	4.85	5.84
T-shirt	4.38	-5.53	-4.13	-2.72	-3.10	-2.60	-2.01 ¹	-0.18 ²	1.39 ²	1.31 ²	0.13 ²	0.97 ²	1.40 ²	2.81	3.08	4.39	4.83
Laptop	4.42	-5.75	-4.55	-3.77	-3.81	-3.01	-2.58	-1.69 ²	-1.31 ²	-0.13 ²	0.13 ²	0.27 ²	0.38 ²	1.92 ¹	1.76 ¹	3.81	3.94
Shoes	4.48	-5.88	-4.58	-3.25	-3.75	-3.15	-2.56	-2.27	-1.74 ¹	-0.97 ²	-0.27 ²	-0.10 ²	0.10 ²	1.53 ²	1.70 ²	3.99	3.97
Beer	4.52	-5.38	-5.10	-3.27	-3.83	-3.49	-2.37	-2.45	-1.40 ²	-0.38 ²	-0.33 ²	-0.10 ²	0.10 ²	0.83 ²	1.55 ²	3.18	5.03
Casual clothing	4.77	-6.25	-5.76	-4.11	-4.34	-3.76	-3.48	-3.47	-2.81	-1.92 ¹	-1.27 ²	-1.53 ²	-0.83 ²	0.75 ²	0.75 ²	2.83	4.03
Motorcycle	4.97	-5.94	-5.47	-4.44	-4.19	-3.58	-4.32	-3.18	-3.08	-1.76 ¹	-1.65 ²	-1.70 ²	-1.55 ²	-0.75 ²	1.99 ²	1.99 ²	3.54
Car	5.35	-7.42	-6.90	-6.04	-6.34	-5.33	-5.60	-4.85	-4.39	-3.81	-4.21	-3.99	-3.18	-2.83	-1.99 ²	2.12	2.12
Tattoo	5.87	-7.50	-7.26	-5.81	-6.38	-5.85	-6.09	-5.84	-4.83	-3.94	-3.86	-3.97	-5.03	-4.03	-3.54	-2.12	-2.12

¹ Denotes t-tests results where $.05 < p < .10$.

² Denotes t-tests results where $p < .05$.

Table A.2: Study 1. Measurement Model

Construct	Attachment	Self-expression	Self-extension
ATTACHM1	0.85		
ATTACHM2	0.67		
ATTACHM3	0.78		
ATTACHM4	0.85		
ATTACHM5	0.88		
ATTACHM6	0.87		
SELFEXP1		0.75	
SELFEXP2		0.86	
SELFEXP3		0.88	
SELFEXP4		0.80	
SELFEXT1			0.92
SELFEXT2			0.90
Composite Reliability	0.92	0.90	0.91
Average Variance Extracted	0.67	0.69	0.83

All coefficient t-tests significant at $p < .01$.

Model fit: $\chi^2(51) = 109.46$, $p < .01$, NNFI = .956, CFA = .966, RMSEA = .078

Table A.3: Study 1. Correlations, Means and Standard Deviations among study variables

Construct	Attachment	Self-expression	Self-extension
Attachment	0.925	0.640 ²	0.454 ²
Self-expression	0.640 ²	0.895	0.494 ²
Self-extension	0.454 ²	0.494 ²	0.658
Mean	4.753	4.713	4.706
Standard Deviation	1.473	1.470	1.373

²: Correlation is significant at $p < .01$.

Numbers on the diagonal are the Cronbach's α , except for Self-extension, which is Pearson's r .

Table A.4: Study 1. Self-Extension Ratings and Contrast T-Test Results

	Mean	Soft Drink (Red Bull)	Laptop (Apple)	T-shirt	Car (Prius)	Tattoo
Mean		2.96	4.00	4.74	5.55	6.45
Soft drink (Red Bull)	2.96		2.74	5.75	6.71	11.28
Laptop (Apple)	4.00	-2.74		5.34	3.96	7.77
T-shirt	4.74	-5.75	-2.34		2.53	7.68
Car (Prius)	5.55	-6.71	-3.96	-2.53		2.81
Tattoo	6.45	-11.28	-7.77	-7.68	-2.81	

All t-tests significant at $p < .05$.

Table A.5: Study 1 Self-Expression and Attachment Results - Primary Objects

	Self-expression (1-7)	Attachment (1-7)
Red Bull	3.14 (1.27)	3.61 (1.17)
Apple	4.33 (1.14)	4.39 (1.25)
Prius	5.43 (1.16)	4.88 (1.37)
Mean	4.26 (1.50)	4.27 (1.35)

Self-expression: Brand: $F(2, 60) = 19.33, p < .01$
Attachment: Brand: $F(2, 60) = 5.16, p < .01$

Table A.6: Study 1 Self-Expression and Attachment Results - T-shirts and Tattoos

Brand	Self-expression (1-7)		Attachment (1-7)	
	T-shirt	Tattoo	T-shirt	Tattoo
Red Bull	4.42 (1.49)	5.43 (1.26)	3.94 (1.40)	5.38 (1.48)
Apple	4.36 (1.43)	5.60 (1.23)	4.93 (1.50)	6.05 (.86)
Prius	4.59 (1.18)	5.21 (1.43)	4.41 (1.08)	5.23 (1.52)
Mean	4.46 (1.35)	5.42 (1.30)	4.42 (1.37)	5.57 (1.34)

Self-expression: Object Type: $F(1, 60) = 32.93, p < .01$
Attachment: Object Type: $F(1, 60) = 27.16, p < .01$

Table A.7: Study 2. Self-Expression and Attachment Results

Object Category	Cost	Self-expression (1-7)	Attachment (1-7)
Primary		4.67 (1.62)	3.76 (1.70)
	<i>Total</i>	5.45 (1.14)	4.83 (1.53)
T-shirt	Low	5.24 (1.30)	4.46 (1.50)
	High	5.67 (0.93)	5.20 (1.48)
Self-expression:	Object Type: $F(1, 180) = 9.85, p < .02$		
	Object Type x T-shirt Cost: $F(1, 180) = 6.27, p < .06$		
Attachment:	Object Type: $F(1, 180) = 6.32, p < .01$		
	Object Type x T-shirt Cost: $F(1, 180) = 8.33, p < .01$		

Appendix B

Figures

Figure B.1: Study 1 Stimuli

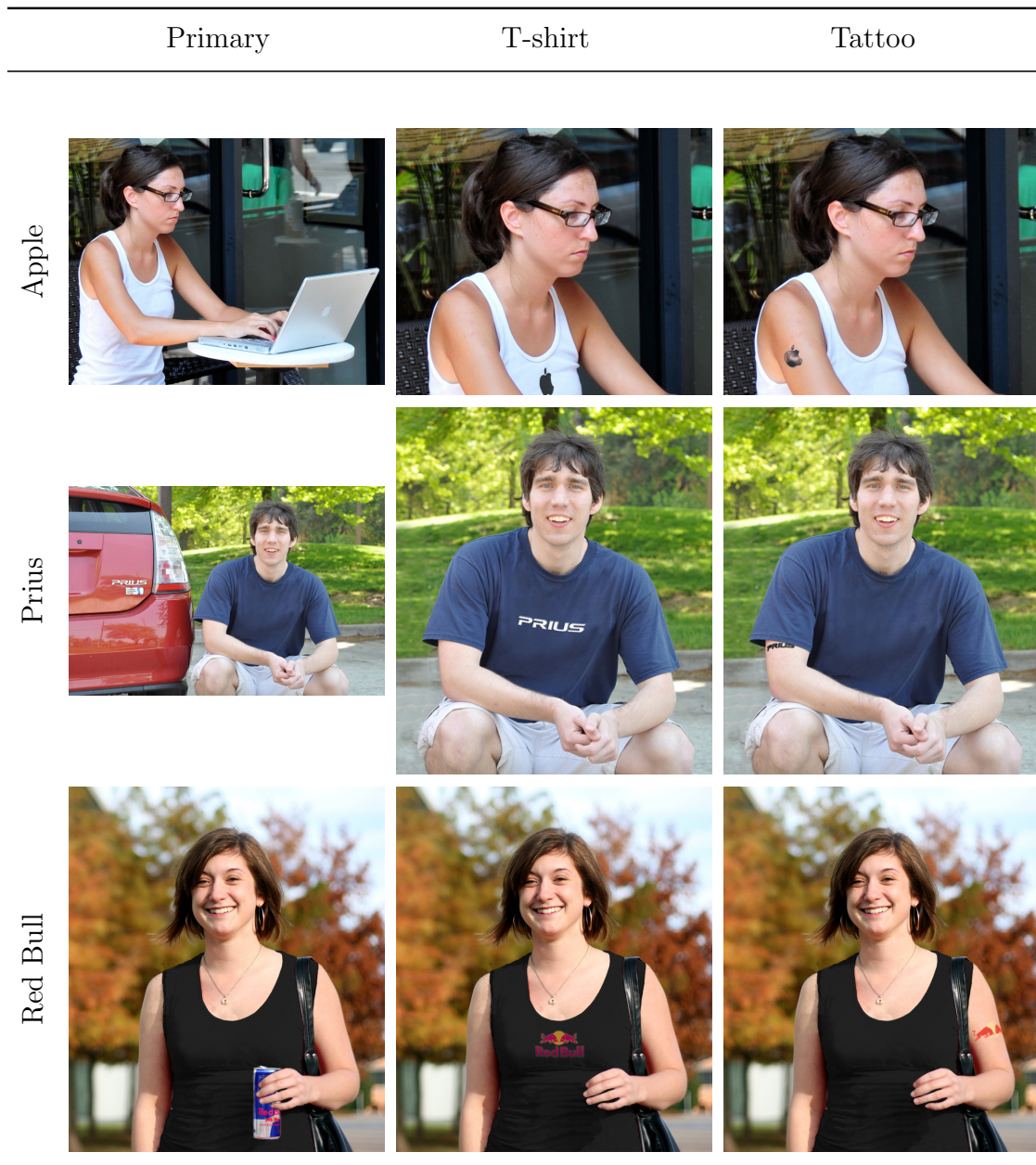


Figure B.2: Study 2 Stimuli



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Chapter 3

Matching the Motive to the Market: Advertising for Socially Influenced Consumer Decisions

3.1 Introduction

The marketing strategy decisions faced by a brand manager are often daunting, and must be weighed and balanced against numerous factors including the brand's product and position, customers, and the nature of the competitive environment it faces. The purpose of this research is to provide guidance for the selection of some of these strategies, by characterizing how they can influence consumer motives and how a brand's ad copy focus should be a function of its market position. We concentrate on markets as conceptualized by the brand's consumers, where brands have comparable products and similar marketing capacities¹.

Following prior research on advertising, we consider two types of appeals: Quality-based and Image-based (LeBoeuf and Simmons 2010, Snyder and DeBono 1985). We argue that Quality-based appeals, focusing on the brand's products and their intrinsic properties, will lead consumers to evaluate the product based on its functional benefits. In contrast, Image-based appeals emphasize the brand's positioning and its ability to fit with consumers' self-perceptions. Image appeals may lead consumers to evaluate the brand's products based on what using the product may communicate to others.

Through these different appeals, brands can affect their consumers' motives and impact what the consumers consider important when making a choice between competing brands (Johar and Sirgy 1991). Therefore, the choice of advertising

¹Toyota and Tesla might be considered as major and niche players, respectively, within the same industry, as they are both car manufacturers. However, for most consumers these two brands would not be viewed as competitors.

strategy can be informed by considering the effects appeals will have on evaluations and purchase intentions for the brand’s products. Tailoring advertising appeals and their associated motives to match the market position will allow the brand to increase sales and maximize efficiency (Shavitt 1990). We empirically show that not only do brands generally behave consistently with the predictions of the model, but also those that do not are less profitable.

This research contributes to existing literature by expanding the understanding of the role of consumer motives in socially influenced product decisions. By linking the findings of an analytical model with behavioral experiments and empirical analysis, we are able to provide normative suggestions to brand managers for the most effective use of advertising in given market conditions. Further, we provide an alternative to the conceptual approach of “snobs” and “conformists” models (Amaldoss and Jain 2005, Corneo and Jeanne 1997) by conceptualizing individual consumers as possessing motivations consistent with these behaviors, and examining how these may operate within the individual and be affected by marketing actions. Additionally, our work contributes to the general need for study of advertising employing multi-methodological approaches (Chandy et al. 2001), by combining laboratory experiments, analytical modeling, and empirical analysis.

In the following sections, we first show experimentally how brand advertisements can affect the extent to which consumers weigh Quality and Image motives in their decisions. We then describe a model of brand advertising decisions in a duopoly marketplace, where consumers evaluate the brands’ offerings in terms of quality and its fit with their preferences, and consider how advertising can affect

the importance consumers assign to these utilities. Next, we examine real-world advertising behavior to show that, consistent with the predictions of the model, brands with larger numbers of customers choose advertising messages using Quality-based appeals, while those with smaller customer bases choose advertising messages that use Image-based appeals. We close with discussion of the implications of our research for theory, and by providing rules of thumb for managers with regard to their own advertising decisions.

3.2 Quality-Based and Image-based Appeals

Considerable research has investigated the links between the appeals used in advertising messages and the resultant motivations these appeals engender in viewers. In this stream of research, two types of advertising appeals are frequently identified, targeting the oft-recognized distinction between the “instrumental” and “image” motives that individuals may have for consuming products (Johar and Sirgy 1991, Katz 1960, LeBoeuf and Simmons 2010, Shavitt et al. 1992, Snyder and DeBono 1985). We refer to these types of appeals as Quality-based and Image-based appeals. Exposure to these appeals elicit Quality and Image motives, respectively, in consumers.

Quality-based appeals emphasize a product’s functional benefits, extolling the virtues of the advertised products fit, performance or craftsmanship. Image-based appeals focus on how the product will help the consumer communicate about themselves to others. Prior research has shown that these types of appeals elicit Quality

and Image motives in consumers (Snyder and DeBono 1985, LeBoeuf and Simmons 2010). Quality motives are associated with extracting the highest rewards and minimal punishments from the direct consumption of a product. For example, Shavitt et al. (1992) suggest that a sports car can provide specific rewards from its high performance, while its increased maintenance costs can represent a punishment.

In contrast, Image motives are associated with explicit consideration of how a product may lead its users to be evaluated by others. Consumers may wish to express their views of themselves (Grewal et al. 2004) and to manage the impression they make upon others (Bearden and Etzel 1982, Wilcox et al. 2009). Because the products people use are often readily observable and can be relied upon to communicate about their identities (Wernerfelt 1990), consumers motivated by Image concerns may consider how others will react to their decision to buy a product. To effectively communicate about themselves to others through their product choices, consumers with Image motives may try to find products that best fit with their self-concept.

We therefore expect that quality appeals may lead consumers to more heavily consider the functional benefits of using a product when making a decision between options in the category, leading them to put more value on satisfying a Quality motive. By contrast, exposure to image appeals may lead consumers to consider how well a product could represent themselves and their preferences to others, moving them to weigh Image motives as more important. More formally, we propose the following hypotheses:

Hypothesis 3.1. *Quality-based advertising appeals will lead consumers to weigh Quality motives more heavily for decisions within a product category compared to Image-based appeals.*

Hypothesis 3.2. *Image-based advertising appeals will lead consumers to weigh Image motives more heavily for decisions within a product category compared to Quality-based appeals.*

In the following section, we present an experiment testing these hypotheses. We then incorporate these findings into an analytical model demonstrating how brands can strategically use the Quality and Image appeals as a function of their market positions.

3.3 Laboratory Experiment

In this section, we present the results from a study testing the hypotheses set forth in the theoretical framework. Specifically, we proposed in hypotheses 3.1-3.2 that brands can affect the weighting that consumers assign to Quality and Image motives at a category level through the appeals of their marketing strategies. The study tests the predictions of these hypotheses by showing how Quality and Image-based appeals for real brands affect the importance consumers assign to Quality and Image motives.

3.3.1 Study

The purpose of the study was to provide evidence that a brand's marketing strategy affects the category-level weights consumers assign to Quality and Image motives. We build upon the findings of LeBoeuf and Simmons (2010) by showing how within categories and brands, advertising appeals can affect the importance consumers assign to the forms of utility they get from the category. We predict that Quality-based appeals will lead consumers to weigh Quality motives more heavily at the category level, while Image-based appeals will result in greater weight given to Image motives.

3.3.1.1 Method

The study used a 2 (Appeal: Quality, Image) X 4 (Brand: Seiko, Levi's, Estée Lauder, Dolce&Gabbana) mixed design, with Appeal as a between factor and Brand as a within factor. One hundred and eleven participants drawn from an MTurk panel completed the study (54.0% female). The product categories were selected based on prior research suggesting that they would serve both Quality and Image motives (Shavitt et al. 1992). Participants were told they would be viewing advertisements and would then be asked questions about them. Participants were shown four advertisements, with between one and four of the ads being drawn from the target brands and the remainder being filler advertisements (See Figure D.1 for example stimuli).

For each brand, participants saw one of two ads, with appeals derived from

those used in prior research on advertising appeals designed to elicit Quality and Image motives in consumers (Snyder and DeBono 1985, LeBoeuf and Simmons 2010). For Quality-based appeals, the advertising taglines emphasized the product's functional benefits, such as "The best fitting jeans" for Levi's and "Fully polarized to block harmful UV rays" for Dolce&Gabbana. For Image-based appeals, the taglines emphasized symbolic benefits associated with Image motives: "The best looking jeans" for Levi's and "The only way to be seen in summer" for Dolce&Gabbana.

After viewing the advertisements, participants responded to questions about their evaluations of the product category and their attitude towards the advertisement. All items were measured using seven-point scales. Category evaluations were elicited from two items adapted from LeBoeuf and Simmons (2010), where participants considered "I typically think of [product category] in terms of whether or not they give me certain benefits" (1 = "Generally disagree," 7 = "Generally agree"), measuring the amount of weight participants assigned to Quality motives for the category, and "I typically think of [product category] in terms of whether or not they symbolize certain things" (1 = "Generally disagree," 7 = "Generally agree"), measuring the weight participants assigned to Image motives. Participants rated their attitude towards the advertisement using one item (1 = "Unfavorable," 7 = "Favorable").

3.3.1.2 Results

The data were analyzed using a 2 (Appeal) x 4 (Brand) ANOVA. The analysis revealed main effects of Appeal on Quality and Image. Consistent with our predictions, ads using Quality-based appeals increased the weight assigned to Quality motives ($M = 5.26$) for category decisions compared to those using Image-based appeals ($M = 4.76, (F(1, 240) = 5.55, p < .02)$). Similarly, ads using Image-based appeals increased the weight assigned to Image motives ($M = 3.70$) compared to those using Quality-based appeals ($M = 3.09, F(1, 240) = 6.26, p < .02$). In addition, there were main effects of Brand on both Quality ($F(3, 240) = 3.00, p < .04$) and Image (marginal, $F(3, 240) = 2.60, p < .06$), indicating that for both types of utility, there were differences in how each brand was perceived. However, there were no interaction effects observed, suggesting that these differences did not affect the overall conclusions about the effects of appeals on the importance assigned to the different utilities. There were significant effects of Brand on attitude ($F(3, 240) = 8.29, p < .01$), but there were no other significant effects (all F 's $< .548$, all p 's $> .65$), indicating that although there were differences in participants' attitudes towards the advertisements at the brand level, the different appeals did not have an effect, ruling out attitudes as a potential confound.

3.3.1.3 Discussion

The results of this study provide evidence to suggest that consumers' category-level motives for consumption can be affected by the advertising appeals used by

brands. Consistent with hypotheses 3.1-3.2, we have shown that Quality and Image-based appeals lead individuals to weigh Quality and Image motives more heavily not simply for an evaluation of the brand, but for the entire category. Thus, one brand's advertising can affect evaluations of every brand's product by all consumers in the market. This finding serves as the basis for our model of advertising decisions, by showing how brands can use their advertising to shift the weights that consumers assign to Quality and Image motives.

3.4 Model of Brand Advertising Decisions

In this section, we present an analytical model of advertising copy decisions. The results of the experiment presented in the prior section showed how brands could use their advertising to affect what consumers consider important when evaluating competing options in a product category. Based on this, we show that the brand's advertising decision between Quality and Image appeals is a function of its market position.

We consider a Hotelling marketplace with two brands selling a product. To control for the effects of advertising and positioning, we assume that both brands have equally attractive positionings and equal advertising budgets. Consumers make a forced, utility maximizing choice between the two brands. Each brand j has exogenous quality Q_j and positioning b_j . Without loss of generality, we assume that $0 \leq b_1 < b_2 \leq 1$. We assume that $Q_2 = 0$, with Q_1 representing the relative quality of brand 1 to brand 2, and that $Q_1 > 0$, again without loss of generality. Thus,

brand 1 is of higher quality than brand 2. To ensure equally attractive positioning, we assume that the brand positionings are equally distant from the middle of the market, with the distance between the brands represented by k . Thus, $b_1 = .5 - k$ and $b_2 = .5 + k$, with $0 < k \leq .5$.

3.4.1 Consumers

Consumers purchase the brand that maximizes their utility. We assume that each consumer has knowledge of each brand's quality and its positioning, as well as his or her own preference x_i . Across the population, consumer preferences are distributed uniformly on the interval $[0, 1]$. Consumers possess two motives for using the brand's products, Quality and Image, and receive higher utility from brands that are better able to satisfy these motives. Brands of higher quality Q are better able to satisfy the Quality motive. Brands that have positioning closer to that of the individual consumers' preferences (that is, brands that are more fitting to their preferences) are better able to satisfy Image motives, such that, $I_{ij} = (x_i - b_j)^2$. When making a decision between the two brands, consumers are affected by the importance they assign to Quality and Image motives as components of their overall utility. To capture this trade off, we introduce β (with $0 < \beta < 1$) to represent the weight consumers assign to Image motives, as compared to Quality motives. As $\beta \rightarrow 0$, consumers give more weight to Quality motives and give less weight for Image motives, while as $\beta \rightarrow 1$, consumers give more weight to Image motives and less weight to Quality motives. In addition to Quality and Image motives, the

consumer's overall utility is a function of the purchase price of the brand's product, $P_j > 0$, with consumers receiving disutility from higher purchase prices. Consumer i 's overall utility for brand j is given by

$$U_{ij} = (1 - \beta)Q_j - \beta S_{ij} - P_j \quad (3.1)$$

3.4.2 The brands

Brand managers are tasked with the deployment of scarce resources across a variety of marketing activities. Thus, when deciding how to most effectively use their advertising, it is important to match their choice of advertising appeals to the perception of product utility by their customers. This is because their marketing is most effective when they match the motives served by the products they promote (Shavitt 1990). That is, a brand's marketing is most likely to persuade customers to buy when their products are able to provide value that serves the motives raised by their strategy.

Each brand chooses its price and advertising strategy to maximize its profits. The brand's price is represented by $P_j > 0$ and its advertising decision by A_j . Because we focus on markets where brands have similar marketing capacities, we assume that the advertising budgets and the effectiveness of the advertising for the two brands are equal, represented by a . Thus, $A_j \in \{-a, a\}$, with $A_j = -a$ if the brand uses a Quality-based appeal and $A_j = a$ if the brand uses an Image-based appeal, and $0 < a < 1$. We assume zero marginal costs of production and that there

are no fixed setup costs to simplify the analysis, but the results do not depend upon it. The brand's market share is given by ms , therefore the profit for brand j is given by $\Pi_j = P_j ms_j$.

As demonstrated in the experiment, brand advertising can affect the weights that consumers assign to these motives. To represent these effects, we set $\beta = \beta_0 + A_1 + A_2$, where the exogenous parameter β_0 ($0 < \beta_0 < 1$) represents consumers' prior preference weighting for utility from Image motives compared Quality motives, before the effects of advertising are accounted for.

The market share for brand 1 is given by

$$ms_1 = \frac{(1 - \beta)Q_1 + \beta(b_2^2 - b_1^2) + P_2 - P_1}{2\beta(b_2 - b_1)} \quad (3.2)$$

Derivations are provided in Appendix C. Because consumers make a forced choice between the brands, the market share for brand 2 is given by $(1 - ms_1)$. From this, the brand's equilibrium pricing can be derived, shown in equation 3.3. Equilibrium prices for the brands are given by:

$$\begin{aligned} P_1^* &= \frac{(1 - \beta)Q_1 + \beta(b_2^2 - b_1^2) + 2\beta(b_2 - b_1)}{3} \\ P_2^* &= \frac{-(1 - \beta)Q_1 - \beta(b_2^2 - b_1^2) + 4\beta(b_2 - b_1)}{3} \end{aligned} \quad (3.3)$$

Again, the derivation is provided in Appendix C. Next, we consider the brand's choice of advertising strategy, which presents four cases depending upon the advertising decisions of the two brands (see Table 3.1). To analyze the brands' advertising

decisions, we consider the four possible cases for the value of β :

Table 3.1: Values of β

<hr/>		
$A_1 = -a$ $A_1 = a$		
<hr/>		
$A_2 = -a$	$\beta_0 - 2a$	β_0
$A_2 = a$	β_0	$\beta_0 + 2a$
<hr/>		

The direction in which each brand advertises (represented by the value that each brand chooses for A) depends upon the ability of the advertising to attract customers to the brand, or how the market share for the brand changes in response to the direction of its advertising ($\frac{\partial ms_j}{\partial A_j}$). In lemma 1 (presented in Appendix C), we show that the higher quality brand will have a higher market share than the lower quality brand. This allows us to prove the following propositions:

Proposition 1. *Advertising copy decisions depend on market position, such that...*

- a. The higher market share brand will use Quality-based appeals.*
- b. The lower market share brand will use Image-based appeals.*

Proof is provided in Appendix C. We find that the larger brand will choose to advertise using Quality-based appeals, and that the competing brand will use Image-based appeals in their advertisements. To further illustrate how the relative sizes of the brands play a role in the effects of each brand’s advertising, we consider how the effects of Image motive salience and relative quality on market share vary as a function of market share and positioning.

Proposition 2. *The effect of higher levels of Image motive salience...*

- a. decreases when the larger brand has a higher market share,*

b. and decreases when the brands are less distinct from one another.

Again, proof is provided in Appendix C. We observe that when the larger brand has a greater share of the market, the negative effect of higher Image motive salience decreases. Alternatively, as the larger brand has more customers, employing Quality-based appeals becomes even more effective of a strategy. We also find that when the brands are located closer to one another, higher levels of Image motive salience have a smaller effect, potentially leading a Quality-based strategy to become more attractive. Alternatively, when the brands are more differentiated from one another, they become more similar to monopolists, with less direct competition for the same customers. In addition to these effects of Image motive salience, we consider how the effects of increases in relative quality change as market share and positioning change.

Proposition 3. *The effect of higher levels of relative quality...*

- a. decreases when the larger brand has a higher market share,*
- b. and increases when the brands become less distinctive from one another.*

Again, proof is provided in Appendix C. When the larger brand has a greater share of the market, higher levels of quality help to differentiate the brand from the competitor, leading to even greater increases in the attraction of customers. From Proposition 2, the smaller brand must instead rely on its competitive advantage – its superior positioning for niche customers – which leads to increased importance of Image motive salience for attracting customers. Furthermore, when the brands are less differentiated, it is more challenging for one brand to credibly argue that its

positioning is distinct from the competitor's, and relative quality is more important, as it is a way for the brands to distinguish themselves.

Though not the primary question to be addressed, we also explore the implications of differences in quality and positioning on the brands' equilibrium pricing (see Appendix C for derivations). We find that, unsurprisingly, when the larger brand is of higher quality it charges a higher price, while the smaller brand will charge a lower price. We also find that both brands charge higher prices as they are positioned more distinctively from one another. That is, as the two brands are located further apart, they can charge a higher price as their more distinct products are better able to fit the identity needs of their customers.

3.4.3 Discussion

The results of the model show that, for brands deciding between advertising using Quality-based and Image-based appeals, it is important to consider how the brand's market share may affect this choice. Controlling for the effects of attractiveness of positioning and advertising budget, we show that a higher quality brand will have a greater market share. These larger brands are able to increase their market share by using Quality-based appeals, while smaller brands are better off to use Image-based appeals. Furthermore, these distinctions are amplified as the difference in size between the brands grows. As the large brand has a greater share of the market, it realizes a greater upside for using Quality-based appeals over Image-based. Similarly, the benefits of having a higher initial quality compared to

competitors are also amplified with greater market share. In the next section, we consider actual brand advertising decisions to see if these decisions are consistent with the predictions of the model, and how these may affect the brand's profitability.

3.5 Evaluating Real-World Brand Behavior

In the prior sections, we have shown how brands can use their advertising to affect consumer motives, how the market positions of the brands affect these advertising copy decisions, and experimentally demonstrated that consumer motives are affected at a category level by brand advertisements. We now turn our focus to real-world brand behavior, and consider how brands marketing strategies compare to those predicted by the model and the effects they may have on the brands profitability. Based on the predictions of the model, we expect that brands with relatively small customer bases would be more likely to use Image-based appeals in their advertising, while those with large numbers of customers would be more likely to use Quality-based appeals. We tested this proposition by examining the advertisement behavior of major brands in a wide-circulation news magazine in the United States and subsequently comparing this to the brands' market positions.

3.5.1 Methodology

3.5.1.1 *Newsweek* Advertisements

We selected *Newsweek* magazine as the source of our advertisement sample due to its broad appeal and wide circulation, as well as its use in prior literature

(LeBoeuf and Simmons 2010). We collected every advertisement for 53 issues of *Newsweek* magazine, dating from January 3, 2011 to March 19, 2012. This initial set contained 671 advertisements (summarized in table E.1). Due to the limited availability of financial data, the initial set was narrowed by eliminating advertisements for privately owned companies, non-profit foundations, companies headquartered overseas, and for specific drugs and medicines. From this smaller set of 119 ads, we removed duplicate advertisements (advertisements for the same brand featuring the same content run in different issues). The final advertisement set contained 73 advertisements from 23 brands (see Table E.2 for summary statistics).

To code the advertisements for the type of appeal used, seven participants were recruited from an online paid pool (28.6% female). Participants were told they would be shown a series of advertisements, and would be rating each on the extent to which the ad focused on concrete benefits (indicating a Quality-based appeal) and to which it focused on what the product symbolized (indicating an Image-based appeal). Before starting the task, participants were shown example advertisements excluded from the main set of ads that employed these types of appeals.

In the body of the study, participants were presented with each of the 73 advertisements on individual web pages and rated the extent to which they agreed or disagreed with two statements (derived from LeBoeuf and Simmons (2010)): “This ad focused on the concrete benefits the product provides,” and “This ad focused on what the product symbolizes” (1 = “Generally disagree”, 7 = “Generally agree”). To ensure that participants considered each advertisement adequately, it was displayed for 15 seconds before they were able to advance to the next advertisement.

Participants' responses were combined to create measures of the presence of Quality-based and Image-based appeals in the advertisements. Reliability analysis indicated that internal consistency for both measures was acceptable ($\alpha_{Quality} = .84, \alpha_{Image} = .88$). The ratings were then standardized and used to construct a measure of the brand's perceived Advertising Direction, by subtracting the presence of Quality-based appeals from that of Image-based appeals. Thus, the measure echoed the representation of brand advertising decisions in the model (A_j), with values larger than zero indicating a greater presence of Image-based appeals, while values less than zero indicating a greater presence of Quality-based appeals.

3.5.1.2 Brand Classification and Market Shares

To operationalize the market shares of the target brands, it was necessary to classify the brands into appropriate markets. One such market classification scheme is the North American Industry Classification System (NAICS), which is commonly used in marketing (Morgan and Rego 2006, Choi and Bell 2011, Rust and Huang 2012). The NAICS system classifies companies based on the production process used for its core products. Thus, there may be great disparities between brands that NAICS views as being in the same market. For example, Toyota and Tesla are both classified together as automobile manufacturers. However, from the target of the advertising appeals – the consumer's – perspective, such a classification may be incongruous with how he or she may think about these brands.

To address this limitation, we employ an alternative classification scheme de-

veloped by Hoberg and Phillips (2010, 2011), the Text-based Network Industry Classifications (TNIC). This classification system uses the text of the brand's 10-K Securities and Exchange Commission filings to identify the brand's competitors. The method is based on propensity of competitors to use similar terminology in the description of the products in these filings, and thus identifies markets based on the products firms produce, rather than other industry factors. Therefore, this classification system considers the experience customers have when deciding between products in the market in contrast to other systems based on the process of production (Hoberg and Phillips 2011). This suggests that the organization of companies into markets provided by TNIC is more customer-centered, because it accounts for the experience that customers have when deciding between products in the market. Since potential customers are ultimately the targets of the brands' advertising efforts, the TNIC classification is well suited to our needs because it better captures the true position of the brands within their markets as perceived by their customers. A scatter plot of Advertising Direction compared to Market Share is presented in figure D.2. In addition to classifying brands by TNIC, we also employ the NAICS system to serve as a baseline for comparison against the TNIC.

3.5.1.3 Model of Advertising Decisions

We build our empirical model of advertising decisions to test our hypothesis that a brand's market share affects the type of appeals it uses in its advertising. We expected that larger brands would be use more Quality-based appeals, while

smaller brands would use more Image-based appeals. We also included Tobin's q , brand focus (represented by the number of segments the brand serves) and market capitalization as control variables. Our model of advertising decisions is represented by:

$$ADIR_j = \beta_0 + \beta_1 MS_j + \beta_2 q_j + \beta_3 SEG_j + \beta_4 \ln MCAP_j + \epsilon_1 \quad (3.4)$$

where

- $ADIR_j$ = Advertising direction for brand j ,
- MS_j = Market share for brand j ,
- q_j = Tobin's q for brand j ,
- SEG_j = Number of distinct segments in which the brand competes j , and
- $\ln MCAP_j$ = Log-transformed market capitalization j .

The sign of β_1 , the coefficient of the market share for the brand based on TNIC classification, tests our hypothesis that the brand's advertising decisions are influenced by the market share of the brand. As we have operationalized it, a positive value of $ADIR$ indicates the use of Image-based appeals, while a negative value indicates Quality-based appeals. Thus, we expect $\beta_1 < 0$, indicating that brand's with greater market share will use more Quality-based appeals.

3.5.1.4 Financial Performance

In addition to examining how brands choose to advertise, we also considered how brand advertising decisions affect their outcomes. We expected that brands that

deviated from the predictions of the advertising decision model would realize lower overall financial performance. Given our focus on consumer experiences with brands, we employed Return on Sales (ROS) as our measure of the brand's performance (Homburg et al. 2008). We included the same control variables as in the advertising decision model. Thus, our model of financial performance is represented by:

$$ROS_j = \delta_0 + \delta_1 ARES + \delta_2 q_j + \delta_3 SEG_j + \delta_4 \ln MCAP_j + \epsilon_2 \quad (3.5)$$

where

- ROS_j = Return on sales for brand j , and
- $ARES$ = Absolute value of residuals from regression of advertising direction as a function of market share.

The remaining variables were the same as in the advertising decision model. The coefficient for the absolute value of the residuals from the model of the brand's advertising decisions, δ_1 , tests our hypothesis about brand advertising decisions and financial outcomes. A negative sign indicates that brands that deviate from the prediction of the model have lower financial performance.

3.5.2 Data

In addition to the Advertising Direction variable, additional data on the brands' market conditions was collected from CRSP/Compustat. Market sizes were calculated by defining the markets for each brand using the most recently available (2008) TNIC classification data and summing over sales for all brands in the market.

Market shares were calculated by dividing the brand's sales by the market size. Similar calculations were employed to create market shares using NAICS classification scheme.

For the model of financial outcomes, we again employed CRSP/Compustat as our data source. Return on Sales (ROS) is defined as the ratio of income to total sales (Ittner and Larcker 1998). To calculate this, we divided the brand's net income by its overall revenues.

The residuals (ARES) were derived from the model of advertising decisions, by taking the absolute value of the residuals from the regression of advertising direction as a function of market share. This measure represents the brand's deviation from the model's predicted strategy given its market position. The same measure of market share was used in the financial outcome model.

Tobin's q was calculated using the formula of Chung and Pruitt (1994), with total market value given by equity given by the shares outstanding multiplied by the fiscal-year closing share price plus the value of preferred stock. Long and short term debt were added to this value, and the total then divided by the brand's assets.

We used the business segment data from COMPUSTAT to compute the diversification measure by counting the number of unique businesses that an individual company operates in. Market capitalization was calculated by multiplying the shares outstanding by the fiscal-year closing share price.

3.5.3 Results

For the brand's advertising decisions, we expected to see a negative, linear relationship between a brand's market share and the measure of Advertising Direction, indicating that as market share increased, brands would use Quality-based appeals to a greater extent and Image-based appeals to a lesser extent.

The results of the analysis are presented in table E.3. A regression of the model presented in equation 3.4 revealed a significant, negative effect of market share ($\beta_1 = -3.12, t(68) = -2.35, p < .03$). As predicted, this result indicated that as market share increased, brands' advertisements used Quality-based appeals to a greater extent, compared to Image-based appeals. By comparison, an alternative specification using market shares derived from NAICS (in lieu of TNIC) was not significantly related to ADIR ($\beta'_1 = -.79, t(68) = -1.01, p > .31$), suggesting that the customer-focused TNIC-based market size may have more effectively captured customers' inferences.

In addition to modeling the behavior of brands relative to the predictions of the proposed model, we also considered how brands that deviated from the predictions of the model would fare compared to those that behaved as predicted. Regression was used to estimate the model in equation 3.5. The results are summarized in table E.4. As predicted, δ_1 , the coefficient of the absolute residuals, was different from zero, and had a negative sign ($\delta_1 = -.035, t(68) = -2.00, p < .05$). These results provide evidence to suggest that, as brands deviated from the predicted relationship between the number of customers the brand has in the market and the direction of

their advertising, their profitability decreased.

3.5.4 Discussion

The results of the analysis of real-world brand behavior indicated that the brands under study behaved consistently with the predictions of the model. Larger brands advertised with appeals that were Quality-based, while smaller brands used Image-based appeals. Moreover, we also found that brands that deviated from the predicted relationship between market share and Advertising Direction were less profitable.

While these findings are limited by the fact that they are correlational, they are congruent with the brands studied in the analytical model. Further study using time-series data and the analysis of advertising shocks through major campaign changes could potentially address the correlational limitations.

3.6 General Discussion

The purpose of this paper was to examine how Quality- and Image-based advertising appeals affect consumers, and how brands can use these types of appeals most effectively by considering the characteristics of their market. We demonstrated that using these appeals leads consumers to evaluate aspects of the product category differently and to give more weight to different motives associated with consuming the product, subsequently affecting their preferences. We then illustrated how a brand can use these differences in appeals most effectively depending upon the

characteristics of their market, with larger brands generally benefiting from the use of Quality-based appeals, while smaller brands were better off using Image-based appeals. Finally, we presented evidence for behavior consistent with the predictions of the model among real-world brands by comparing their choices of advertising appeals with their positions in the market. Furthermore, we showed that brands deviating from the predicted advertising behavior of the model were less profitable.

Our research contributes to the existing body of literature in multiple ways. First, our work combines multiple methodologies to explore several aspects of the central question of brand's advertising appeal decisions, showing consistent results across all paradigms. Second, our modeling approach expands upon those used in prior research which typically view consumers as of a singular type, such as Amaldoss and Jain (2005), Corneo and Jeanne (1997) and Johar and Sirgy (1991). By contrast, our approach considers the motives within individual consumers, which allows us to show how these motives can be affected by the brand's advertising decisions.

We also expand upon the literature on attitude functions (Shavitt et al. 1992), by showing how brand advertising using appeals to specific attitudes can affect consumers' views on the category itself. Taken together with the findings of LeBoeuf and Simmons (2010), our research suggests that mismatches between branding advertising messages may also be driven by the brand's market positions. This is because the effectiveness of utilitarian, Quality-based appeals may not be just a function of the fit with the attitude functions, but also by the fact that the brand is a leader in its market.

Our work also relates to research on consideration sets by Nedungadi (1990),

which argues that advertisements for a specific brand may evoke a consideration set that includes other brands. In this way, the advertising of a single brand may affect consumer views towards the entire category. Similarly, the laboratory experiment shows that individuals' evaluations of category-level properties (and therefore for other brands within the same category) may be affected by the actions of a single brand.

3.6.1 Limitations and Future Research

There are several important limitations of the empirical results. Because market positions and advertising direction are measured contemporaneously, the ability to draw causal claims about their relationship and its effect on brand performance is limited. This also presents some issues for the interpretation of the analysis, specifically the possibility of endogeneity. That is, it is not entirely clear whether market positions drive advertising copy decisions or vice-versa.

This issue could be addressed by constructing time-series data, and using lagged values of market share to predict advertising direction decisions. However, such an analysis also presents issues because of the high likelihood that market share is autoregressive, such that there is a serial correlation between market shares over time, presenting further problems for such an approach. One potential solution would employ a structural model, and focusing the investigation on shocks in the form of major changes in advertising positioning. Examining a brand's performance immediately after a change and comparing it to that beforehand may provide a

stronger case for a causal relationship between the use of advertising appeals and the number of the brand's customers, as well as address the potential endogeneity issues.

One avenue for further investigation concerns maximizing the performance of advertising copy decisions. While the model does suggest a particular direction for advertising messages, it does not offer any sort of optimization for the brand to maximize the effect of their advertising spending relative to the increase in the utility that their customers receive from purchase as a result of brand positioning shifts. A useful extension of our model would be to relax the assumption that both brands have equal advertising budgets, as well as assigning value to each customer the brand is able to attract. This extension will allow us to show how a brand may trade off the costs of making changes to their positioning through advertising with the value of each additional point of market share they are able to gain by doing so.

Another extension is to consider how individual brands may use different advertising messages to motivate consumers. In our model as it is constructed, the coefficients for each component of the consumer's utility are fixed across brands. By allowing the weight assigned to Image motives compared to Quality motives (β) to be brand-specific, each brand is allowed to stake out its own territory based on its position in the market. These extensions could provide additional insights from our research, both for practitioners and researchers.

3.6.2 Implications for Marketing Practitioners

For the practitioner, our findings provide some initial guidance for managers as they choose the types of appeals to use in their advertising messages. Specifically, our results suggest that, in markets where there is relative parity between competitors in terms of marketing power and the distinctiveness of positioning, larger brands benefit from emphasizing quality in their advertising appeals. We show that brands in this position will attract more customers while extracting higher prices, and we further observe that real-world brands that follow this strategy tend to realize greater profits. This situation becomes even more pronounced when the brand occupies a more dominant position in the market, making the use of Quality-based appeals that much more attractive.

Our findings also suggest that smaller brands should play to their strength, by choosing Image-based appeals that lead consumers to consider the brand's ability to fulfill Image motives. This strategy becomes more attractive when the two brands are more distinct from one another, by reducing the direct competition between the brands for the same customers, effectively enabling them to be more monopolistic. While both brands effectively benefit from the decline in direct competition for customers, such a strategy also weakens the larger brand's advantage for employing Quality-based appeals. Further research may clarify the strategic implications for the larger brand in the trade offs between these two forces.

Appendices

Appendix C

Derivations and Proofs

Derivation of Equation 3.2: Consumers are uniformly distributed and make a forced, utility maximizing choice between the two brands. Because the utility functions are quadratic, there are at most two values where there is an indifferent consumer. From equation 3.1, these indifferent customers' locations are equal to x_i when $U_{i1} = U_{i2}$. Solving this equation, $ms_1 = \frac{(1-\beta)Q_1 + \beta(b_2^2 - b_1^2) - P_1 + P_2}{2\beta(b_2 - b_1)}$. As there is only one intersection, x_i represents the market for brand 1. Because consumers make a forced choice between the two brands, brand 2's market share is $ms_2 = 1 - ms_1$.

Derivation of Equation 3.3: Each brand chooses price P_j to maximize profit $\Pi_j = P_j ms_j$. The first-order conditions for each brand with respect to their prices are given by $\frac{\partial \Pi_1}{\partial P_1} = \frac{(1-\beta)Q_1 + \beta(b_2^2 - b_1^2) - 2P_1 + P_2}{2\beta(b_2 - b_1)}$ and $\frac{\partial \Pi_2}{\partial P_2} = \frac{-(1-\beta)Q_1 - \beta(b_2^2 - b_1^2) + 2\beta(b_2 - b_1) + P_1 - 2P_2}{2\beta(b_2 - b_1)}$, respectively. Second-order conditions are given by $\frac{\partial^2 \Pi_1}{\partial P_1^2} = \frac{\partial^2 \Pi_2}{\partial P_2^2} = \frac{-1}{\beta(b_2 - b_1)} < 0$, so solutions for P for the first-order-conditions represent local maximums. Setting these equal to zero and solving, $P_1 = \frac{Q_1(1-\beta) + \beta(b_2^2 - b_1^2) - P_2}{2}$ and $P_2 = (\beta - 1)Q_1 - \beta(b_2^2 - b_1^2) + 2P_1$. Solving this linear system provides the equilibrium pricing for both brands, $P_1^* = \frac{(1-\beta)Q_1 + \beta(b_2^2 - b_1^2) + 2\beta(b_2 - b_1)}{3}$ and $P_2^* = \frac{-(1-\beta)Q_1 - \beta(b_2^2 - b_1^2) + 4\beta(b_2 - b_1)}{3}$.

Lemma 1. *Under conditions of equally attractive positioning and equal advertising budgets, the higher quality brand will have higher market share.*

Proof: The difference in market share between the two brands is given by $ms_1 -$

$ms_2 = \frac{Q_1 - \beta(b_1 - b_2)(b_1 + b_2 - 1)}{3\beta(b_2 - b_1)}$. Since $b_1 = .5 - k$ and $b_2 = .5 + k$, $b_2 - b_1 = 2k$ and $0 < 2k < 1$. Therefore, $ms_1 - ms_2 = \frac{Q_1}{3k\beta} > 0$ and the market share for brand 1, the higher quality brand, is greater than that for brand 2. \square

Proof of Proposition 1: Brands choose the direction of their advertising A_j to maximize their market share. The partial derivatives of market share for each brand with respect to their advertising decisions are given by $\frac{\partial ms_1}{\partial A_1} = \frac{-Q_1}{6(A_1 + A_2 + \beta_0)^2(b_2 - b_1)} < 0$ and $\frac{\partial ms_2}{\partial A_2} = \frac{Q_1}{6(A_1 + A_2 + \beta_0)^2(b_2 - b_1)} > 0$. Thus, the two brands will advertise in opposition to one another. From lemma 1, the higher quality brand will have greater market share compared to the lower quality brand. Therefore, the larger brand will set $A_1 = a$ (advertising using Quality-based appeals) and the smaller brand will set $A_2 = -a$ (advertising using Image-based appeals). \square

Proof of Proposition 2: From the proof of Proposition 1, an increase in Image salience β (due to an increase in A_1) leads to a decrease in market share for the larger brand, brand 1. To examine how this effect may differ when the larger brand has a greater market share, we examine how the rate of change of market share with respect to β changes with respect to market share, which will show how brand 1's ability to attract customers as a function of its advertising decision changes as a function of its market position. Formally, we derive the partial derivatives of $\frac{\partial ms_1}{\partial \beta} = \frac{-Q_1}{6\beta^2(b_2 - b_1)}$ with respect to brand 1's market share, ms_1 .

$$\frac{\partial \frac{\partial ms_1}{\partial \beta}}{\partial ms_1} = \left(\frac{\partial \frac{\partial ms_1}{\partial \beta}}{\partial Q_1} \right) \left(\frac{\partial Q_1}{\partial ms_1} \right) = \frac{-1}{6\beta^2(b_2 - b_1)} \cdot \frac{2\beta(b_2 - b_1)}{1 - \beta} = \frac{-1}{3\beta(1 - \beta)} < 0$$

This implies that as market share increases, the effect of Image motive salience on the larger brand's market share decreases. That is, the effect of Image motive salience decelerates as market share increases. We also derive the partial derivative of $\frac{\partial ms_1}{\partial \beta}$ with respect to the distinctiveness of the positioning of the two brands, $k = \frac{b_2 - b_1}{2}$.

$$\frac{\partial \frac{\partial ms_1}{\partial \beta}}{\partial k} = \frac{\partial \left(\frac{-Q_1}{4\beta^2 k} \right)}{\partial k} = \frac{Q_1}{4\beta^2 k^2} > 0$$

When the brands are positioned more [less] distinctively from one another, the effect of higher levels of Image motive salience on market share increases [decreases]. \square

Proof of Proposition 3: To examine how the effect of increases in relative quality changes as market share increases, we rely on a similar approach to that used in the proof of Proposition 2, by using the partial derivative with respect to β and multiplying by $\frac{\partial \beta}{\partial ms_1} = \frac{6\beta^2(b_2 - b_1)}{-Q_1}$:

$$\frac{\partial \frac{\partial ms_1}{\partial Q_1}}{\partial ms_1} = \left(\frac{\partial \frac{\partial ms_1}{\partial Q_1}}{\partial \beta} \right) \left(\frac{\partial \beta}{\partial ms_1} \right) = \frac{-1}{2\beta^2(b_2 - b_1)} \cdot \frac{-6\beta^2(b_2 - b_1)}{Q_1} = \frac{3}{Q_1^2} > 0$$

When the difference in quality between the two brands is greater, the effect of increases in relative quality on market share increases. That is, as the relative quality of the larger brand compared to the smaller brand increases, its effect on the larger brand's market share accelerates. As in the proof of Proposition 2, we also derive the partial derivative of $\frac{\partial ms_1}{\partial Q_1}$ with respect to the distinctiveness of the

positioning of the two brands.

$$\frac{\partial \frac{\partial ms_1}{\partial Q_1}}{\partial k} = \frac{\partial \left(\frac{1-\beta}{4\beta k} \right)}{\partial k} = \frac{\beta - 1}{4\beta k^2} < 0$$

When the brands are positioned more [less] distinctively from one another, the effect of a higher level of relative quality on market share decreases [increases]. \square

Derivation of Pricing results: Equilibrium prices for the brands are given by $P_1^* = \frac{(1-\beta)Q_1 + \beta(b_2^2 - b_1^2) + 2\beta(b_2 - b_1)}{3}$ and $P_2^* = \frac{-(1-\beta)Q_1 - \beta(b_2^2 - b_1^2) + 4\beta(b_2 - b_1)}{3}$. The partial derivatives with respect to relative quality Q_1 are given by $\frac{\partial P_1^*}{\partial Q_1} = \frac{1-\beta}{3} > 0$ and $\frac{\partial P_2^*}{\partial Q_1} = -\frac{1-\beta}{3} < 0$. As relative quality increases, the larger brand will charge a higher price and the smaller brand will charge a lower price in equilibrium. Similarly, the partial derivatives with respect to the distinctiveness of positioning between the brands, represented by k , are given by $\frac{\partial P_1^*}{\partial k} = \frac{\partial P_2^*}{\partial k} = 2\beta > 0$. As the positioning of the two brands become more distinct from one another, they will both raise their prices.

Appendix D

Figures

Figure D.1: Stimuli from Study



Dolce&Gabbana - Quality Appeal



Dolce&Gabbana - Image Appeal



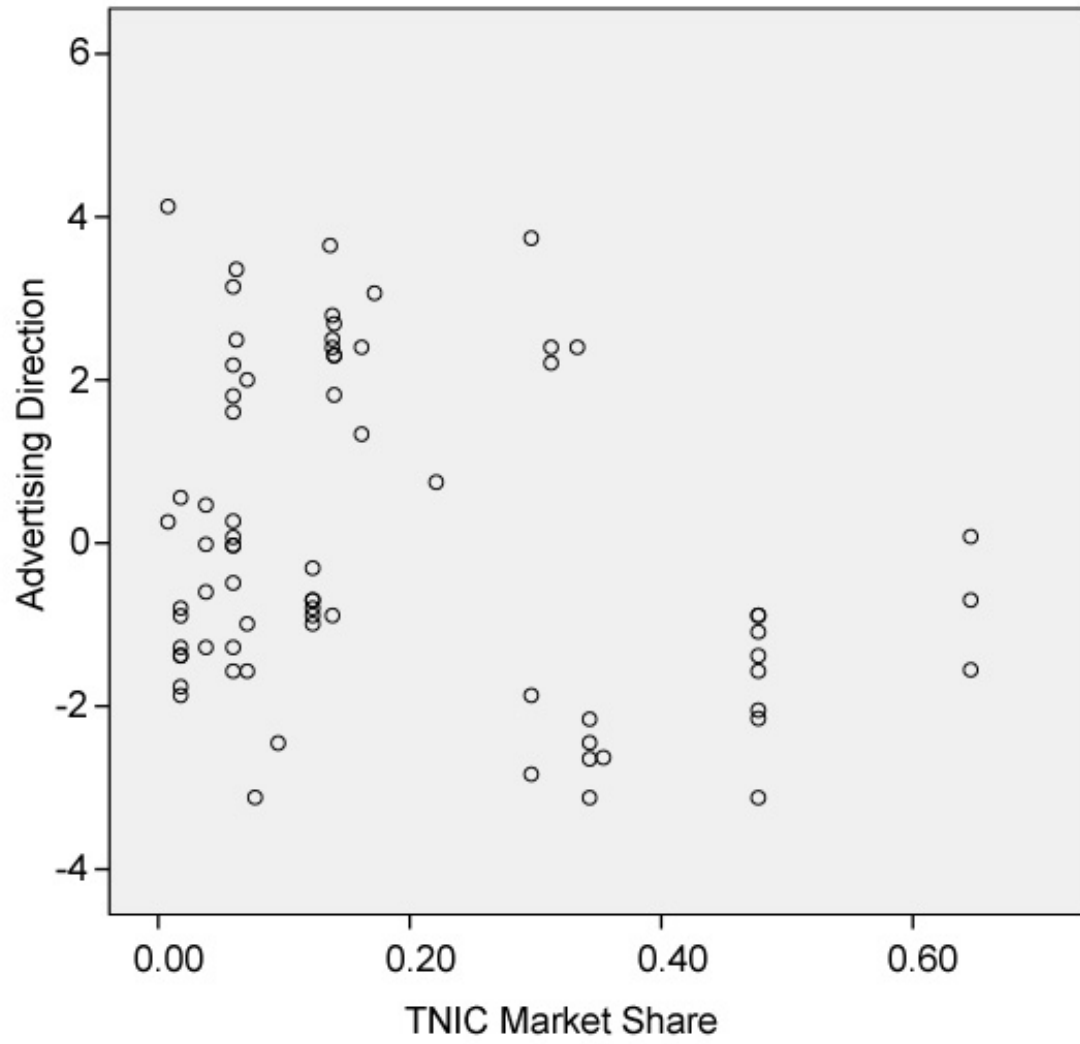
Levi's - Quality Appeal



Levi's - Image Appeal

Note: Participants saw similar advertisements for Seiko and Estée Lauder.

Figure D.2: TNIC Market Share and Advertising Direction



Appendix E

Tables

Table E.1: Summary of Advertisements in *Newsweek*

Product Category	Number of ads
Public	119
Private	293
Non-profit/advocacy	103
Drugs/Medical	67
Media	39
Foreign Companies	55
<i>Total</i>	676

Table E.2: Summary of Brands used in Empirical Analysis

Brand	Number of Ads	Assets \$k	Market Cap. \$k	Sales \$k	Net Income \$k	Market Size \$k	Market Share
Apple	1	75,183	295,455	65,225	14,013	295,133	0.22
AT&T	4	268,488	173,668	124,280	19,864	362,340	0.34
Bank of America	1	2,264,910	134,537	134,194	(2,238)	780,749	0.17
Charles Schwab	4	92,568	20,573	4,474	454	118,126	0.04
ConocoPhillips	3	156,314	97,435	175,752	11,358	1,269,611	0.14
Dell	2	33,652	28,103	52,902	1,433	327,207	0.16
Discover	1	60,785	10,093	8,241	765	86,485	0.10
Expedia	1	6,651	6,873	3,348	422	24,177	0.14
ExxonMobil	2	302,510	364,064	341,578	30,460	1,093,714	0.31
Ford	8	164,687	63,512	128,954	6,561	270,267	0.48
HP	3	124,503	92,784	126,033	8,761	424,902	0.30
Humana	1	16,103	9,221	33,868	1,099	440,169	0.08
Intel	1	63,186	115,896	43,623	11,464	319,300	0.14
Microsoft	6	86,113	241,924	62,484	18,760	509,028	0.12
PepsiCo	1	68,153	103,287	57,838	6,320	173,579	0.33
Progressive	11	21,150	13,162	14,945	1,068	251,009	0.06
Ralph Lauren	2	4,649	7,952	4,979	480	80,233	0.06
Sleep Number	1	170	506	606	32	1,711	0.35
Sprint	3	51,654	12,639	32,563	(3,465)	460,928	0.07
T. Rowe Price	8	3,642	16,700	2,371	672	133,135	0.02
Tempur-Pedic	3	716	2,743	1,105	157	1,711	0.65
United Colors of Benetton	2	10,708	24,912	5,914	1,446	764,286	0.01
United Healthcare	4	63,063	39,215	94,155	4,634	673,066	0.14

Table E.3: Estimates for Model 3.4: Market share’s Effect on Direction of Brand Advertising Appeals

ADIR: Advertising Direction		
Constant	−.368	[1.896]
TNIC Market Share	−3.121 ¹	[1.328]
Tobin’s q	−.202	[.163]
Diversification	.002	[.018]
<i>ln</i> (Market Capitalization)	.118	[.180]
ADIR: Advertising Direction		
Constant	−.243	[1.957]
NAICS Market Share	−1.118	[1.109]
Tobin’s q	−.190	[.169]
Diversification	.016	[.019]
<i>ln</i> (Market Capitalization)	.059	[.183]

Standard errors are in parentheses.

¹ Denotes coefficients significant at $p < .05$.

Table E.4: Estimates for Model 3.5: Brand Advertising Appeal Deviation's Effect on Financial Performance

	ROS: Return on Sales	
Constant	-.230 ¹	[.065]
Residuals	-.035 ¹	[.017]
Tobin's q	.063 ¹	[.005]
Diversification	.001 ¹	[.001]
<i>ln</i> (Market Capitalization)	.024 ¹	[.006]

Standard errors are in parentheses.

¹ Denotes coefficients significant at $p < .05$.

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