Let the logo do the talking: the influence of logo descriptiveness on brand equity

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LET THE LOGO DO THE TALKING:

THE INFLUENCE OF LOGO DESCRIPTIVENESS ON BRAND EQUITY

Abstract

Logos frequently include textual and/or visual design elements that are descriptive of the type of product/service marketed by brands. However, knowledge about how and when logo descriptiveness can influence brand equity is limited. Using a multimethod research approach across six studies, the authors demonstrate that more (vs. less) descriptive logos can positively influence brand evaluations, purchase intentions, and brand performance. They also demonstrate that these effects occur because more (vs. less) descriptive logos are easier to process and thus elicit stronger impressions of authenticity, which consumers value. Furthermore, two important moderators are identified: the positive effects of logo descriptiveness are considerably attenuated for brands that are familiar (vs. unfamiliar) to consumers and reversed (i.e., negative) for brands that market a type of product/service linked with negatively (vs. positively) valenced associations in consumers' minds. Finally, an analysis of the logos of 597 brands suggests that marketing practitioners might not fully take advantage of the potential benefits of logo descriptiveness. The theoretical contributions and managerial implications of these findings are discussed.

Keywords: branding, logo design, logo descriptiveness, brand equity, authenticity.

Logos—visual and textual marks used to identify brands and their products[1]—are ubiquitous brand elements. Logo (re)design choices are thus important marketing decisions (Airey 2014; Krishna 2013). However, knowledge about the effects of logo design characteristics is incomplete. To fill this knowledge gap, a growing stream of research sheds light on the effects of logo design characteristics (e.g., dynamism and incompleteness) on consumer behavior (Cian, Krishna, and Elder 2014; Hagtvedt 2011; Luffarelli, Stamatogiannakis, and Yang 2019). We contribute to this research stream by examining how and when logo descriptiveness—the extent to which the textual and/or visual design elements of a logo are indicative of the type of product marketed by a brand—can impact brand equity.

Both more and less descriptive logos are used by brands. For instance, the logo of Costa Coffee (a coffeehouse chain) includes coffee beans and the word "coffee," the logo of the Pittsburgh Penguins (a sports franchise) contains an ice hockey stick and a pair of skates, and the logo of Toys "R" Us (a toy retailer) features the word "toys." Conversely, the logos of Starbucks, the New England Patriots, and Hamleys contain textual and/or visual design elements that are not indicative of the type of product these brands market (see Figure 1).

—————Insert Figure 1 about here—————

While more and less descriptive logos are used by brands, the current understanding of the effects of logo descriptiveness is limited. Can logo descriptiveness influence brand equity? If so, what variables can moderate this relationship and what mechanism underlies it? We help address these questions using a multimethod research approach across six main studies: four experiments, one large-scale survey, and one secondary data study. We report four additional experiments in the Web Appendices.

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[1] For simplicity, we use to term "product" broadly to refer to both products and services.

Building on literature showing that stimuli that are easier to process are perceived to be more trustworthy and credible (Reber and Unkelbach 2010; Schwarz 2004), and that trustworthiness and credibility are key dimensions of perceived brand authenticity (Morhart et al. 2015; Napoli et al. 2014), we demonstrate that more (vs. less) descriptive logos are easier to process and thus elicit stronger impressions of authenticity. Because consumers value authenticity in brands (Beverland and Farrelly 2010; Newman and Dhar 2014), we also demonstrate that more descriptive logos can positively affect brand evaluations and purchase intentions. Furthermore, because more favorable brand evaluations and higher purchase intentions can improve brands' financial performance (Datta, Ailawadi, and van Heerde 2017; Morwitz, Steckel, and Gupta 2007; Srinivasan, Vanhuele, and Pauwels 2010), we show that more descriptive logos can positively influence the financial performance of brands. Finally, we identify two variables—brand familiarity and product valence—that moderate the relationship between logo descriptiveness and brand equity and shed some light on a mechanism underlying this relationship. We show that the positive effects of logo descriptiveness are considerably attenuated for brands that are familiar (vs. unfamiliar) to consumers and reversed (i.e., negative) for brands that market a type of product linked with negatively (vs. positively) valenced associations in consumers' minds. Figure 2 summarizes our hypotheses and the key results of our main studies.

—————Insert Figure 2 about here—————

THEORETICAL BACKGROUND AND HYPOTHESES

Theoretical Background

Well-designed logos can offer substantial benefits to brands and, in particular, boost brand equity (Stamatogiannakis, Luffarelli, and Yang 2015). For instance, they can improve brand attitude (Brasel and Hagtvedt 2016) and facilitate brand recognition (Henderson and

Cote 1998). Extant work shows that the fonts (Childers and Jass 2002; Henderson, Giese, and Cote 2004), colors (Gorn et al. 2004; Labrecque and Milne 2012), designs (Hagtvedt and Patrick 2008; Sundar and Noseworthy 2014), and forms (Bloch 1995; Orth and Malkewitz 2008) of stimuli such as logos can affect brand equity by eliciting specific brand impressions. For example, logo dynamism (Cian, Krishna, and Elder 2014), incompleteness (Hagtvedt 2011), and asymmetry (Luffarelli, Stamatogiannakis, and Yang 2019) can impact consumer behavior by evoking impressions of modernity, innovativeness, and excitement, respectively.

Although extant studies provide detailed insights into the effects of key characteristics of logo design, the current understanding of the effects of logo descriptiveness—the extent to which the textual and/or visual design elements of a logo are indicative of the type of product marketed by a brand—is limited. Our research helps fill this gap in the literature.

Hypotheses

Prior work shows that stimuli that convey more (vs. less) information are easier to process (Keller, Heckler, and Houston 1998). For instance, brand names that convey a product benefit (e.g., "LifeLong Luggage") are processed more easily than those that do not (Lee and Ang 2003; Leong, Ang, and Tham 1996). In line with this literature, more (vs. less) descriptive logos should be easier to process, as the textual and visual design elements they comprise convey more information about the type of product marketed. More descriptive logos should typically be easier to process because they are more conceptually fluent, not more perceptually fluent (for discussions of conceptual and perceptual fluency, see Labroo, Dhar, and Schwarz 2008; Lee and Labroo 2004). The reason is that more descriptive logos need not have different design characteristics than less descriptive logos (e.g., need not be more symmetrical) but should more strongly activate associations related to the type of product marketed by brands. While perceptual and conceptual fluency are distinct concepts, they often have parallel effects on evaluative judgements and typically lead to the same

general experience of ease of processing (Lee and Labroo 2004; Reber, Wurtz, and Zimmermann 2004). We thus build our hypotheses using prior studies on both types of fluency.

The subjective experience of ease with which individuals can process stimuli affects the way individuals evaluate stimuli (Labroo, Dhar, and Schwarz 2008; Lee and Labroo 2004). Because individuals hold a metacognitive belief that the experience of processing fluency is diagnostic of truth and credibility, stimuli that are easier to process tend to be perceived as more trustworthy and credible (Alter and Oppenheimer 2009; Reber and Unkelbach 2010; Schwarz 2004). For example, statements such as "Osorno is in Chile" or "the capital of Madagascar is Toamasina" are judged to be truer when presented in high (vs. low) figure-ground contrast, as higher figure-ground contrast facilitates processing (Reber and Schwarz 1999; Unkelbach 2007). Consumers might thus judge brands that have more descriptive logos to be more trustworthy and credible, as more (vs. less) descriptive logos are easier to process.

Brand authenticity is a "subjective evaluation of genuineness ascribed to a brand" (Napoli et al. 2014; p. 1091). Prior research shows that consumers view a brand as authentic when they believe that it stays true to its promises, makes credible claims, and is honest and transparent (Beverland 2009; Beverland and Farrelly 2010; Fournier and Avery 2011). Brands that are judged to be trustworthy and credible are often perceived as authentic (Morhart et al. 2015; Napoli et al. 2014). Because consumers might judge brands that have more descriptive logos to be more trustworthy and credible, and because trustworthy and credible brands are often viewed as authentic, we propose (albeit with certain qualifications we discuss later) that more descriptive logos can elicit stronger impressions of authenticity.

H1: (a) Compared with less descriptive logos, more descriptive logos elicit stronger impressions of authenticity. **(b)** This effect is mediated by ease of processing.

Given that the consumption of authentic brands provides important identity benefits to consumers, consumers typically appreciate and value authenticity in brands (Beverland 2009; Beverland and Farrelly 2010). Brands that are perceived to be more (vs. less) authentic can thus, for example, form stronger relationships with consumers, benefit from more positive word-of-mouth (Morhart et al. 2015), and charge a higher price (Beverland 2005). Authentic brands also tend to be evaluated more favorably (Spiggle, Nguyen, and Caravella 2012) and enjoy higher purchase intentions (Napoli et al. 2014; Newman and Dhar 2014). Building on these studies, we propose that because more descriptive logos elicit stronger impressions of authenticity consumers greatly value authenticity in brands, more descriptive logos can positively affect consumer responses.

H2: Compared with less descriptive logos, more descriptive logos positively influence **(a)** brand evaluations and **(b)** purchase intentions. **(c)** Logo-elicited impressions of authenticity mediate these effects.

We argue that more (vs. less) descriptive logos can result in stronger impressions of authenticity because they facilitate processing by more strongly activating product-related associations. If this is the case, we anticipate that two variables might moderate the positive effects of logo descriptiveness. The first is brand familiarity. While consumers familiar with a brand hold in memory strong, formed associations (and thus impressions) related to the brand and the type of product it markets, consumers unfamiliar with a brand do not hold such associations (Alba and Hutchinson 1987; Keller 1993). As such, when exposed to the marketing stimulus of an unfamiliar brand, consumers cannot draw on existing associations and instead tend to rely on their evaluations of the stimulus to form brand impressions (Campbell and Keller 2003; Stammerjohan et al. 2005). In this case, the process we described previously is likely to operate and consumers might form stronger impressions of authenticity following exposure to a more descriptive logo. However, consumers generally draw on

existing associations to evaluate familiar brands, which limits the influence of marketing stimulus on the formation of brand impressions. When consumers are familiar (vs. unfamiliar) with a brand, they are thus less likely to update their impressions of brands following exposure to a more descriptive logo. We therefore propose that the positive effect of logo descriptiveness on consumer responses should be greatly attenuated for brands that are familiar to consumers.

> **H3:** For brands that are familiar to consumers, more (vs. less) descriptive logos have a less positive effect on **(a)** brand evaluations and **(b)** purchase intentions. **(c)** Logo-elicited impressions of authenticity mediate these effects.

Prior research shows that judgements of authenticity are weakened by negative affect (Lenton et al. 2013) and that individuals tend to evaluate negatively (vs. positively) valenced behaviors and personality traits as less authentic (Jongman-Sereno and Leary 2016). Moreover, brands that behave in a negative (vs. positive) manner are perceived as less authentic (Morhart et al. 2015). Prior research thus shows that perceived authenticity and negative valence are inversely related. Accordingly, consumers might judge brands that market a type of product linked with negatively (vs. positively) valenced associations as less authentic. We therefore anticipate that product valence moderates the positive effects of logo descriptiveness. As argued previously, logo descriptiveness activates associations related to the type of product marketed by brands in consumers' minds. More descriptive logos should thus more strongly activate negatively valenced product-related associations for brands that market negatively valenced products. In contrast, for these brands, less descriptive logos should impede or limit the activation of negative product-related associations. Because more negative product-related associations are likely to lower perceived brand authenticity, more descriptive logos should elicit weaker impressions of authenticity than less descriptive logos for brands that market negatively valenced products, thereby damaging brand equity.

H4: For brands that market negatively valenced products, more (vs. less) descriptive logos have a negative effect on **(a)** brand evaluations and **(b)** purchase intentions. **(c)** Logo-elicited impressions of authenticity meditate these effects.

In H2, we proposed that more (vs. less) descriptive logos can positively affect brand evaluations and purchase intentions. Building on prior work showing that higher brand evaluations and purchase intentions often result in superior financial performance (Datta, Ailawadi, and van Heerde 2017; Morwitz, Steckel, and Gupta 2007; Srinivasan, Vanhuele, and Pauwels 2010) and prior work showing that well-designed marketing stimuli can improve brands' financial performance (Landwehr, McGill, and Herrmann 2011; Landwehr, Wentzel, and Herrmann 2013; Luffarelli, Stamatogiannakis, and Yang 2019; Mahmood, Luffarelli, and Mukesh 2019), we further propose that logo descriptiveness can improve brand performance.

H5: Compared with less descriptive logos, more descriptive logos positively influence brands' financial performance.

STUDY 1

In this study, we examined whether more (vs. less) descriptive logos can elicit stronger impressions of authenticity and whether this effect occurs because such logos are easier to process.

Stimuli and Pretest

We created two pairs of logos, one for a basketball equipment manufacturer and one for a brand of running shoes (see the Appendix). Each pair included a more descriptive logo and a similar, less descriptive counterpart. For the basketball equipment manufacturer, the more descriptive logo included an orange basketball in the background and a player holding a basketball in one hand in the foreground. To create a similar but less descriptive logo, we replaced the basketball with an orange circle and removed the basketball in the player's hand.

For the running shoe brand, the more descriptive logo included the mark of a running shoe sole and the less descriptive logo included a footprint. Using fabricated logos allowed us to control for factors that could have influenced participants' responses (e.g., existing attitudes). We used the logos of actual brands in Studies 3 and 6.

We conducted a two-part pretest. In the first part, participants (n = 80) were shown only the logos we created and asked to evaluate key design characteristics. In the second part, they were explicitly told that the logo belonged to a basketball equipment manufacturer or a running shoe brand. Participants were then asked to evaluate logo descriptiveness (1 = not at all, and 9 = very). The first part of this pretest confirmed that the two logos of each pair were perceived to be equally symmetrical, complex, likable, familiar, and dynamic (ps > .10), allowing us to control for the potential confounding effects of these design characteristics. The second part confirmed that, for each pair, the more descriptive logo was perceived to be significantly more descriptive than its less descriptive counterpart (ps < .05).

Method and Measures

One hundred eighty individuals (M_{age} = 34 years; 46% female) recruited on Amazon Mechanical Turk (MTurk) participated in this study. We randomly assigned them to one of the four conditions of a 2 (logo descriptiveness: less vs. more) × 2 (replicates: basketball equipment manufacturer vs. running shoe brand) between-participant experiment. We manipulated logo descriptiveness and replicates using the stimuli described previously. After participants saw their assigned logo, they rated the extent to which it elicited impressions that the brand was authentic on three nine-point scales presented in a random order (authentic, trustworthy, and credible; 1 = not at all, and 9 = very; adapted from Morhart et al. 2015; Napoli et al. 2014). We averaged these scales into a single measure (α = .94). Next, participants rated the extent to which the logo could easily be processed on two nine-point scales presented in a random order (1 = not at all fluent/difficult to process/not at all eye-

catching, and 9 = very fluent/easy to process/very eye-catching; adapted from Labroo, Dhar, and Schwarz 2008; Lee and Aaker 2004), which we averaged into a single measure (α = .77).

Analyses and Results

Impressions of authenticity. We conducted a 2 × 2 between-participant analysis of variance (ANOVA) with logo descriptiveness (less vs. more) and replicates (basketball equipment manufacturer vs. running shoe brand) as fixed factors, and impressions of authenticity as the dependent variable. In support of H_{1a}, the more descriptive logos (M = 5.89) elicited significantly stronger impressions of authenticity than the less descriptive logos (M = 4.82; $F(1, 176) = 17.69$, *p* < .001). The main effect of replicates was also significant ($F(1, 176) = 7.09$, *p* = .008). However, the logo descriptiveness × replicates interaction was not significant ($F(1, 176) = .36$, *p* > .50), indicating that the effect of logo descriptiveness did not statistically differ across replicates. Planned contrasts are shown in Figure 3a.

Ease of processing. We conducted a mediated moderation regression analysis with logo descriptiveness, replicates, and their interaction as independent variables, ease of processing as the mediator, and impressions of authenticity as the dependent variable (PROCESS Model 8; Hayes 2017; see Figure 3b). Although the effect of the logo descriptiveness × replicates interaction was not significant in the prior analysis, we conducted a mediated moderation regression analysis (vs. collapsed data across the two replicates to perform a simple mediation analysis)[2] for two reasons. First, we wanted to ensure that the effect of this interaction on ease of processing was also not significant. Second, we wanted to confirm that the effect of this interaction on impressions of authenticity remained not significant when we controlled for the effect of ease of processing. In support of H_{1b}, the effect of logo descriptiveness on ease of processing was significant and positive (β = .53; $t(176) = 2.06$, *p* =

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[2] In a simple mediation analysis, the effect of logo descriptiveness on ease of processing remained significant and positive (β = .48; $t(178) = 2.59$, *p* = .01), and higher ease of processing still resulted in stronger impressions of authenticity (β = .64; $t(177) = 6.93$, *p* < .001).

.04), and higher ease of processing resulted in significantly stronger impressions of authenticity ($\beta = .61$; t(175) = 6.44, $p < .001$). As expected, the logo descriptiveness × replicates interaction did not significantly predict ease of processing and impressions of authenticity (ps > .60), indicating that the more descriptive logos had statistically equivalent effects across the two brand replicates. In fact, the more (vs. less) descriptive logo had a more positive indirect effect on impressions of authenticity through ease of processing for both the basketball equipment manufacturer (95% CI: [.16, .71]) and the running shoe brand (95% CI: [.003, .62]). Indicating a partial mediation, the residual direct effect of logo descriptiveness was significant ($\beta = .90$; t(175) = 2.73, $p = .007$).

—————Insert Figure 3 about here—————

Discussion and Replication Studies

The results of Study 1 show that more (vs. less) descriptive logos can elicit stronger impressions of authenticity and that ease of processing underlies this effect. Note that a logo need not be more concrete to be more descriptive, as the two logos of the running shoe brand are concrete. Note also that one of these logos is descriptive of a part of the human body (i.e., a foot) and the other is descriptive of the product marketed (i.e., shoes). This suggests that the results of Study 1 cannot be attributed to a general form of descriptiveness but to differences in the extent to which logos' design elements are indicative of the type of product marketed.

We conducted two replication studies (see Web Appendix A). In the first study, we used stimuli different than those used in Study 1. In the second, we manipulated (rather than measured, as in Study 1) the ease with which logos could be processed. The results of these studies confirmed that more descriptive logos can elicit stronger impressions of authenticity and provide further evidence for the underlying role of ease of processing.

STUDY 2

In Study 2, we sought to show that more (vs. less) descriptive logos can positively influence brand evaluations and that impressions of authenticity mediated this effect. We also sought to show that the results of Study 1 can be replicated using other logos, a different manipulation of logo descriptiveness, and a different population of participants.

Stimuli and Pretests

We created two brand descriptions, one of a brand of outdoor gear and one of a sushi restaurant. We also created two pairs of logos, each including a more descriptive logo and a similar, less descriptive counterpart (see Web Appendix B). The more descriptive logo of one pair included the image of a snowy mountain. The more descriptive logo of the other pair included the image of a sushi. To create the less descriptive logos, we made these two design elements less identifiable by replacing the snowy mountain with a black triangle and the sushi with a black cylinder. A two-part pretest (n = 80), similar to the one described in Study 1, confirmed that the two logos of each pair were perceived to be equally symmetrical, complex, likable, familiar, and dynamic (ps > .10). Moreover, the more descriptive logo was perceived to be significantly more descriptive than its less descriptive counterpart (ps < .01).

Method and Measures

Two hundred forty-seven students (M_{age} = 21 years; 58% female) recruited from the subject pools of two universities in England participated in this study. We randomly assigned them to one of the four conditions of a 2 (logo descriptiveness: less vs. more) × 2 (replicates: outdoor gear brand vs. sushi restaurant) between-participant experiment. Logo replicates and descriptiveness were manipulated using the stimuli described previously. After participants viewed their assigned logo and brand description, they rated the extent to which the logo elicited impressions that the brand was authentic on three nine-point scales (α = .89) identical to those used in Study 1. They then evaluated the target brand on two nine-point scales

presented in a random order (1 = do not like at all/very unfavorable, and 9 = like a lot/very favorable), which we averaged into a single measure (r = .81).

Analyses and Results

Brand evaluations. We conducted a 2×2 between-participant ANOVA with logo descriptiveness (less vs. more) and replicates (outdoor gear brand vs. sushi restaurant) as fixed factors, and brand evaluations as the dependent variable. In support of H_{2a}, the more descriptive logos (M = 5.04) resulted in more favorable brand evaluations than the less descriptive logos (M = 4.25; $F(1, 243) = 12.41$, $p = .001$). The main effect of replicates was also significant ($F(1, 243) = 12.77$, $p < .001$). However, the logo descriptiveness $\times$ replicates interaction was not significant ($F(1, 243) = .09$, $p > .70$). Planned contrasts are shown in Figure 4a.

Impressions of authenticity. We conducted a mediated moderation regression analysis[3] with logo descriptiveness, replicates, and their interaction as independent variables, impressions of authenticity as the mediator, and brand evaluations as the dependent variable (PROCESS Model 8; Hayes 2017; see Figure 4b). In support of H_{2c}, the effect of logo descriptiveness on impressions of authenticity was significant and positive ($\beta = .83$; $t(243) = 2.99$, $p = .003$) and stronger impressions of authenticity were associated with significantly more favorable brand evaluations ($\beta = .81$; $t(242) = 15.56$, $p < .001$). As expected, the logo descriptiveness $\times$ replicates interaction was not a significant predictor of impressions of authenticity and brand evaluations ($ps > .70$), showing that logo descriptiveness had statistically equivalent effects across the two brand replicates. In fact, the more (vs. less) descriptive logo had a more positive indirect effect on brand evaluations through logo-elicited

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[3] For the same reasons as those explained in Study 1, we did not collapse data across replicates to perform a simple mediation analysis. In such analysis, the effect of logo descriptiveness on ease of processing remained significant and positive ($\beta = .78$; $t(245) = 3.73$, $p < .001$), and higher ease of processing still resulted in stronger impressions of authenticity ($\beta = .79$; $t(244) = 16.39$, $p < .001$).

impressions of authenticity for both the outdoor gear brand (95% CI: [.27, 1.19]) and the

sushi restaurant (95% CI: [.20, 1.05]). The residual direct effect of logo descriptiveness was

not significant (β = .19; t(242) = .82, *p* > .40), indicating a full mediation.

————————Insert Figure 4 about here————————

Discussion

      Study 2 shows that more (vs. less) descriptive logos lead to more favorable brand

evaluations and that logo-elicited impressions of authenticity underlie this effect. Together,

Studies 1 and 2 provide robust evidence for the positive effect of logo descriptiveness on

impressions of authenticity, as similar results were obtained using different manipulations of

logo descriptiveness, stimuli, and populations of participants.

      Although pretests indicated that the two logos of each pair used as stimulus were

perceived to be equally complex, some of the less descriptive logo versions were created by

removing design elements from their more descriptive counterparts. These logos thus

contained fewer elements, which can lead to lower perceived complexity (see Pieters, Wedel,

and Batra 2010). We address this potential confound in Studies 3 and 6 by measuring (not

manipulating) logo descriptiveness, and in Studies 4 and 5 by using less descriptive logos that

comprise the same number of elements than their more descriptive counterparts.

STUDY 3

      In Study 3, we aimed to show that more descriptive logos can influence consumers'

purchase intentions and that impressions of authenticity mediated this effect. We also aimed

to show that the results reported previously hold when we control for numerous logo design

characteristics, conduct a survey (rather than an experiment), use actual (rather than

fabricated) logos, and measure (rather than manipulate) logo descriptiveness.

Stimuli

We used 174 logos composed of a multitude of design characteristics (e.g., different colors and shapes). These logos were obtained on two crowdfunding platforms on which relatively unknown, early-stage startups in the U.K. raise funds for projects. A pretest (n = 300; each participant evaluated ten logos) with a subsample of 58 logos (one-third of our sample) selected randomly from our sample of logos showed that 11 of these logos had been seen by no more than one participant (these might be cases of false recognition) and 47 logos had not previously been seen by a single participant.

Method and Measures

Dependent and mediating measures. Purchase intentions and impressions of authenticity were obtained by surveying 1,327 individuals (M_{age} = 36 years; 56% female) recruited on MTurk. Following an established method (Henderson and Cote 1998; Henderson, Giese, and Cote 2004; Orth and Malkewitz 2008), each participant was shown two logos randomly selected from our sample of 174 logos. Each logo was shown with the description of the product posted by the brands on the crowdfunding platforms. After viewing each of their two assigned logos and associated product descriptions, participants recorded their purchase intentions on two nine-point scales presented in a random order (1 = very unlikely/not probable at all, and 9 = very likely/very probable; r = .96).[4] Subsequently, they indicated the extent to which the logos they saw elicited impressions of authenticity on three nine-point scales (α = .93) identical to those used in Studies 1 and 2.

Independent measure. Logo descriptiveness was obtained by surveying 1,303 individuals (M_{age} = 34 years; 50% female) recruited on MTurk. These participants were different from those surveyed to obtain our dependent and mediating measures to minimize the potential effects of common method bias (see Podsakoff et al. 2003). They were also

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[4] As this survey is part of a larger research project on the influence of logos, other variables were also measured (e.g., perceived quality).

presented with two logos randomly selected from our sample of 174 and their associated product descriptions. After viewing each of these stimuli, participants indicated on a nine-point scale how descriptive of the product the logo was (1 = not at all, and 9 = very).

Control measures. We controlled for thirteen key characteristics of visual stimuli. We obtained six of these characteristics by asking the participants who provided ratings of logo descriptiveness to also evaluate the two logos they viewed on the following characteristics: symmetry (1 = not at all, and 9 = very), roundedness (1 = not round at all/very angular, and 9 = very round/not angular at all; $r = .46$), elaborateness (complexity: 1 = not complex at all/few distinct elements, and 9 = very complex/many distinct elements; depth: 1 = to no extent at all, and 9 = to a very large extent; dynamism: 1 = no movement at all/not dynamic at all, and 9 = a lot of movement/very dynamic; $\alpha = .73$), repetition (1 = to no extent at all, and 9 = to a very large extent), orientation (1 = moves clearly from right to left, and 9 = moves clearly from left to right), and liking (1 = not like at all/not attractive at all/not aesthetically pleasing at all, and 9 = like a lot/very attractive/very aesthetically pleasing; $\alpha = .88$). These measures were presented in a random order. A research assistant blind to the purpose of this study coded the seven other design characteristics: color saturation, color lightness (both measured using Adobe Photoshop; values of both variables can range from 0 to +100; higher values indicate higher levels of saturation and lightness), color hue (0 = black, 1 = blue, 2 = green, 3 = grey, 4 = orange, 5 = pink, 6 = red, 7 = yellow, 8 = violet, 9 = brown, 10 = others), naturalness (0 = absence of natural elements, and 1 = presence of natural elements), proportion (height over width; in cm), shape (0 = circle, 1 = rectangle, 2 = square, 3 = others), and logo type (0 = mixed logo—those consisting of both a wordmark and an icon, 1 = icon-only logo, 2 = wordmark). We measured the saturation, lightness, and hue of the most used color in the logo. Shape, hue, and logo type were transformed into dummy variables.

Analyses and Results

Hypotheses-testing results. We subjected purchase intentions to a simple mediation analysis with logo descriptiveness as the independent variable, impressions of authenticity as the mediator, and the thirteen logo design characteristics as control variables (see Table 1). This analysis showed that logo descriptiveness was marginally significant and positively associated with stronger impressions of authenticity ($\beta = .08$; $t(147) = 1.86$, $p = .065$), which in turn led to higher purchase intentions ($\beta = .88$; $t(146) = 14.60$, $p < .001$). Logo descriptiveness had a significant and positive indirect effect on purchase intentions through logo-elicited impressions of authenticity at the 93% significance level (93% CI: [.001, .14]). This indirect effect included zero at the 95% level because the relationship between logo descriptiveness and impressions of authenticity was only marginal. The residual direct effect of logo descriptiveness was not significant ($\beta = -.04$; $t(146) = -.1.13$, $p > .25$).

—————————Insert Table 1 about here—————————

Boundary condition test—logo type. Consumers often process and respond to pictorial and textual stimuli differently (Childers and Houston 1984; Pieters and Wedel 2004). Moreover, in an experiment reported in Web Appendix F, we manipulated logo type (i.e., wordmark vs. icon-only logo vs. mixed logo) and found that mixed logos tend to be perceived as more descriptive than icon-only logos, which tend to be perceived as more descriptive than wordmarks. We thus sought to explore whether logo type moderates the influence of logo descriptiveness by conducting two mediated moderation regression analyses (PROCESS Model 8; Hayes 2017). In both analyses, impressions of authenticity was the mediator, brand evaluations was the dependent variable, and all the control measures mentioned previously were included. In the first analysis, logo descriptiveness, a wordmark dummy (0 = icon-only logo or mixed logo, and 1 = wordmark), and their interaction served as independent variables. In the second analysis, logo descriptiveness, an icon-only logo dummy (0 = wordmark or mixed logo, and 1 = icon-only logo), and their interaction term

served as independent variables. Suggesting that the effect of logo descriptiveness did not vary significantly for different types of logos, neither the logo descriptiveness × wordmark dummy interaction nor the logo descriptiveness × icon-only logo dummy interaction was a significant predictor of impressions of authenticity and purchase intentions (for detailed results, see Web Appendix D). Taken together, these results and those reported in Web Appendix F suggest that logo type is an antecedent of logo descriptiveness but not a moderating factor of the relationship between logo descriptiveness and brand equity. We further explore the potential moderating effect of logo type on brand equity in Study 6.

Additional analyses. In Web Appendix G, we provide evidence that rules out logo liking and brand personality impressions as alternative mechanisms. We also show that there is no inverted U-shaped relationship between logo descriptiveness and either impressions of authenticity or purchase intentions.

Discussion

Study 3 provides support for H_{2b} and H_{2c} and shows that even when controlling for thirteen key design characteristics, logo descriptiveness can positively affect impressions of authenticity and, in turn, purchase intentions (these results were significant at the 93% level). Thus, providing additional evidence for the generalizability, validity, and reliability of our prior results. This study also rules out alternative mechanisms and shows that the effect of logo descriptiveness does not vary as a function of logo type.

STUDY 4

In this study, we sought to demonstrate that more descriptive logos have a less positive effect on brand evaluations and purchase intentions for brands that are familiar to consumers.

Stimuli and Pretest

We used the description of an actual, relatively unknown London-based tea brand called Nemi. This description was the one posted on the brand's website. We also created a more and a less descriptive logo (see Web Appendix H). Both logos comprised the name of the brand. However, the more descriptive logo included a teapot and the less descriptive counterpart comprised a stylized "n." A two-part pretest (n = 80), similar to the one described in Study 1, confirmed that the two logos were perceived to be equally complex and likable (ps > .13), and that the more descriptive logo (M = 7.38) was perceived to be significantly more descriptive than its less descriptive counterpart (M = 2.80; F(1, 78) = 114.26, $p < .001$). The less descriptive logo was perceived to be significantly more symmetrical and dynamic than its more descriptive counterpart (ps < .01). We still used these logos as stimuli because our other studies provide evidence that dynamism and symmetry do not confound the effects of logo descriptiveness. Furthermore, because dynamism and symmetry often lead to more favorable stimuli evaluations (Cian, Krishna, and Elder 2014; Reber, Schwarz, and Winkielman 2004), using this logo pair allowed for a conservative test of our key proposition, which is that more descriptive logos can positively affect brand equity.

Method and Measures

One hundred six individuals (M_{age} = 24 years; 70% female) recruited from the subject pools of two universities in England participated in this study. We assigned them to one of the four conditions of a 2 (logo descriptiveness: less vs. more) × 2 (brand familiarity: unfamiliar vs. familiar) between-participant experiment. Participants in the familiar conditions were students from one of the two universities who worked for a full term on a one-year marketing plan aiming at growing Nemi's sales. This plan was a written, group-based assignment that accounted for 50% of students' final mark for a course taught by one of the authors. A month after students had submitted their assignments, they were told that Nemi's owner had decided to change the logo of the brand, following suggestions they had

made in their marketing plans (this was a cover story). They were then presented either the more or less descriptive logo described previously. Both logos were different than the actual logo of Nemi. Participants in the unfamiliar conditions were students from either of the two universities who did not take the aforementioned course and were thus unfamiliar with Nemi. They were also told that Nemi's owner had decided to change the brand's logo and were shown one of the two logos described previously. After participants saw their assigned logo, they evaluated the target brand on two nine-point scales identical to those used in Study 2 ($r =$ .80) and recorded their purchase intentions on two nine-point scales identical to those used in Study 3 ($r = .82$). They then rated the extent to which the logo elicited impressions of authenticity on three nine-point scales identical to those used in Study 1 ($\alpha = .81$) and indicated how familiar they were with the brand (1 = not at all, and 9 = very).

Analyses and Results

Manipulation check. As expected, participants assigned to the familiar brand conditions felt significantly more familiar with the target brand (M = 6.25) than participants assigned to the unfamiliar brand conditions (M = 2.76; $t(104) = 7.66$, $p < .001$).

Brand Evaluations and Purchase Intentions. We conducted a 2×2 between-participant ANOVA with logo descriptiveness (less vs. more) and brand familiarity (unfamiliar vs. familiar) as fixed factors, and brand evaluations as the dependent variable. Unrelated to our predictions, the main effect of brand familiarity was also significant ($F(1, 102) = 4.30$, $p =$ .041). More importantly, the more descriptive logo (M = 5.64) resulted in more favorable brand evaluations than the less descriptive logo (M = 4.35; $F(1, 102) = 15.18$, $p < .001$) and we found a marginally significant logo descriptiveness $\times$ brand familiarity interaction ($F(1, 102) = 2.83$, $p = .096$). In support of H_{3a}, planned contrasts showed that the positive effect of logo descriptiveness was considerably attenuated for the familiar brand (see Figure 5a). Specifically, when participants were unfamiliar with the brand, the more descriptive logo (M

= 6.26) resulted in significantly more favorable brand evaluations than the less descriptive

logo (M = 4.41; $F(1, 102) = 13.75$, $p < .001$). However, when participants were familiar with

the brand, the more descriptive logo (M = 5.02) resulted only in marginally more favorable

brand evaluations than the less descriptive logo (M = 4.28; $F(1, 102) = 2.82$, $p = .096$). The

more descriptive logo also led to significantly less favorable brand evaluations when

participants were familiar with the brand (M = 5.02) than when they were unfamiliar with it

(M = 6.26; $F(1, 102) = 7.06$, $p = .009$). In support of H_{3b}, the results of planned contrasts with

purchase intentions as a dependent variable followed a similar pattern (see Figure 5b).

—————Insert Figure 5 about here—————

Impressions of authenticity. We conducted a mediated moderation regression analysis

with logo descriptiveness, brand familiarity, and their interaction as independent variables,

impressions of authenticity as the mediator, and brand evaluations as the dependent variable

(PROCESS Model 8; Hayes 2017). Providing some support for H_{3c}, the confidence intervals

of the conditional indirect effect of logo descriptiveness revealed that logo descriptiveness

had a positive effect on brand evaluations through impressions of authenticity both when

participants were unfamiliar (90% CI: [.85, 1.68]) and familiar (90% CI: [.03, 1.16]) with the

brand. Importantly, the index of moderated mediation revealed that the conditional indirect

effect of logo descriptiveness was lower when participants were familiar with the brand than

when they were unfamiliar with it (90% CI: [-1.36, -.001]). This indicates that more

descriptive logos have a less positive effect on impressions of authenticity and, in turn, brand

evaluations for brands that are familiar (vs. unfamiliar) to consumers. A similar analysis with

purchase intentions as the dependent variable replicated these results. Specifically, we found

that logo descriptiveness had a positive effect on purchase intentions through impressions of

authenticity when participants were unfamiliar (90% CI: [.88, 1.73]) and familiar (90% CI:

[.02, 1.20]) with the brand. The index of moderated mediation revealed that the conditional

indirect effect of logo descriptiveness on purchase intentions was lower when participants were familiar with the brand than when they were unfamiliar with it (90% CI: [-1.43, -.02]). Note that these results are significant at the 90% confidence level.

Discussion

The results of Study 4 show that compared with less descriptive logos, more descriptive logos have a less positive effect for brands that are familiar to consumers. Brand familiarity reflects one's experience with a brand and the brand associations that one holds in memory (Alba and Hutchinson 1987; Campbell and Keller 2003). As participants in the familiar conditions had experience with Nemi and held various associations about it in memory, they were familiar with this brand. However, our manipulation of brand familiarity has limitations. Participants' brand experience and associations might resemble more the experience and associations that exist in marketers' minds than those that exist in consumers' minds. In addition, the less descriptive logo version was more similar to Nemi's original logo than the more descriptive logo version (see Web Appendix H).

STUDY 5

Study 5 aimed to demonstrate that more descriptive logos can have a negative influence on brand equity for brands that market negatively valenced products.

Stimuli and Pretest

We created a more and a less descriptive logo for a vegetable oil producer (see Web Appendix I). The more descriptive logo featured two drops of vegetable oil. These drops were replaced by two circles to create a similar but less descriptive logo. A two-part pretest (n = 80), similar to the one described in Study 1, confirmed that both logos were perceived to be equally symmetrical, complex, likable, familiar, and dynamic (*p*s > .10), and that the more descriptive logo was perceived to be significantly more descriptive (M = 5.88) than its less

descriptive counterpart (M = 3.68; F(1, 78) = 32.66, p < .001). We also created two versions

of a brand description (see Web Appendix I). In one version, the brand was described as an

olive oil producer, while in the other, it was described as a palm oil producer. In a pretest,

other participants (n = 80) rated how they felt about the products marketed by these producers

(1 = very negatively, and 9 = very positively). The results confirmed that olive oil was a

positively valenced product and palm oil was a negatively valenced product (M = 6.15 vs. M

= 3.95; t(79) = 8.26, p < .001; these ratings were significantly lower and higher than the

midpoint of the scale, respectively; ps < .001).

Method and Measures

Two hundred forty individuals (M_{age} = 34 years; 66% female) recruited on Prolific

participated in this study. We randomly assigned them to one of the four conditions of a 2

(logo descriptiveness: less vs. more) × 2 (product valence: positive vs. negative) between-

participant experiment. We manipulated logo descriptiveness and product valence using the

stimuli described earlier. After participants saw their assigned stimuli, they evaluated the

target brand on two nine-point scales identical to those used in Study 2 (r = .82) and recorded

their purchase intentions on two nine-point scales identical to those used in Study 3 (r = .90).

They then rated the extent to which the logo elicited impressions of authenticity on three

nine-point scales identical to those used in Study 1 (α = .93). A CAPTCHA question was

included to mitigate the risk of bot-generated responses.

Analyses and Results

Brand Evaluations and Purchase Intentions. We conducted a 2 × 2 between-participant

ANOVA with logo descriptiveness (less vs. more) and product valence (positive vs. negative)

as fixed factors, and brand evaluations as the dependent variable. There was a significant

main effect of product valence: the producer of palm oil was evaluated less favorably than the

producer of olive oil (F(1, 236) = 19.46, p < .001). The main effect of logo descriptiveness

was not significant (F(1, 236) = .03, *p* > .85). As expected, we found a significant logo

descriptiveness × product valence interaction (F(1, 236) = 9.54, *p* = .002). In support of H$_{4a}$,

planned contrasts showed that the more descriptive logo (M = 5.50) resulted in significantly

more favorable brand evaluations than the less descriptive logo (M = 4.78; F(1, 236) = 5.29*,*

p = .022) for the brand that marketed a positively valenced product (see Figure 6). However,

for the brand that marketed a negatively valenced product, the more descriptive logo (M =

3.85) resulted in significantly less favorable brand evaluations than the less descriptive logo

(M = 4.49; F(1, 236) = 4.27*, p* = .040). In support of H$_{4b}$, the results of planned contrasts with

purchase intentions as a dependent variable followed a similar pattern (see Figure 6b).

—————————Insert Figure 6 about here—————————

Impressions of authenticity. We conducted a mediated moderation regression analysis

with logo descriptiveness, product valence, and their interaction as independent variables,

impressions of authenticity as the mediator, and brand evaluations as the dependent variable

(PROCESS Model 8; Hayes 2017). Providing some support for H$_{4c}$, this analysis revealed a

significant mediated moderation (95% CI: [-1.71, -.35]). Specifically, the confidence

intervals of the conditional indirect effect of logo descriptiveness revealed that logo

descriptiveness had a positive and significant effect on brand evaluations through impressions

of authenticity for the brand that marketed a positively valenced product (95% CI: [.06,

1.00]). Conversely, logo descriptiveness had a negative and significant effect on brand

evaluations through impressions of authenticity for the brand that marketed a negatively

valenced product (95% CI: [-.98, -.001]). A similar analysis with purchase intentions as the

dependent variable replicated these results. Specifically, we found that logo descriptiveness

had a positive effect on purchase intentions through impressions of authenticity for the brand

that marketed a positively valenced product (90% CI: [.17, .94]) but had a negative effect on

purchase intentions through impressions of authenticity for the brand that marketed a

negatively valenced product (90% CI: [-.92, -.08]). Note that the results of this second analysis are significant at the 90% confidence level.

Discussion

This study shows that more descriptive logos have a negative effect on brand equity for brands that market a type of product linked with negatively (vs. positively) valenced associations in consumers' minds. The findings confirm that product-related associations, which are more strongly activated by descriptive logos, underlie the effects we demonstrated.

STUDY 6

The purpose of this study was to show that more (vs. less) descriptive logos might also positively influence brand performance.

Sample and Data

Using the classification based on Standard Industrial Classification (SIC) codes by Srinivasan, Lilien, and Sridhar (2011),[5] we identified all business-to-consumer (B2C) brands among the 2,420 brands included in the 2013 KLD Stats dataset. There were 479 such brands. We focused on B2C (vs. business-to-business; B2B) brands because we reasoned that consumers are more likely to be influenced by logo design than organizational buyers. Financial information from the Compustat database was available for 423 of these 479 brands. We supplemented our dataset with ratings of logo design.

Measures

Dependent measure. Our main dependent variable is the natural logarithm of sales (Compustat item: sale). We used a logarithmic transformation to help reduce skewness (skewness of 10.07 and kurtosis of 140.66). We used other key measures of financial performance as dependent variables in a series of robustness tests reported later.

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[5] We thank them for sharing their classification.

Independent measure. Three research assistants blind to the purpose of this study rated the descriptiveness of the logos of the 423 brands included in our sample (0 = not descriptive, and 1 = descriptive). These logos were those the brands used in 2013; the year our data cover. Inter-rater agreement was 85% and divergences were resolved through discussion.

Control measures. We controlled for variables that could affect sales: advertising intensity (Compustat items: xad / sale), R&D intensity (Compustat items: xrd / sale), financial liquidity (Compustat item: ch; log transformed), total assets (Compustat item: at; log transformed), brand age (number of years since the brand first appeared in the Compustat database; log transformed),[6] and product-market profile (services brands = 0, goods brands = 1; classification based on SIC codes by Srinivasan, Lilien, and Sridhar 2011). We also controlled for key logo design characteristics. Four research assistants blind to the purpose of this study coded the logos on the following characteristics (two research assistants coded half the logos; the other two coded the other half): symmetry, roundedness, complexity, depth, dynamism, repetition, orientation, naturalness, shape, and type. These ratings were binary, except for orientation, shape, and type (for coding scheme and instructions, see Web Appendix J). Inter-rater agreement was 78% and divergences were resolved through discussion. Two other research assistants blind to the purpose of this study, each coded half the logos using Adobe Photoshop on four additional design characteristics: color saturation, color lightness, color hue, and proportion. These characteristics were coded as in Study 3.

Analyses and Results

Hypothesis-testing results. We regressed sales on logo descriptiveness and our control variables (see Table 2). In support of H_5, logo descriptiveness was significantly and positively associated with sales (β = .13; t(387) = 2.12, *p* = .035).

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[6] The results of our analyses are similar when we used the number of years since the brand was founded as a measure of brand age. These results are available upon request.

—————Insert Table 2 about here—————

Robustness tests. To examine whether the results presented previously were robust to the influence of potential outliers, we winsorized the dependent variable at the 99th percentile and repeated the analysis presented in Table 2. The results of this analysis were similar to those in Table 2: the effect of logo descriptiveness on sales was marginally significant and positive ($\beta = .11$; $t(387) = 1.95$, $p = .052$). To explore the influence of logo descriptiveness on other measures of financial performance, we repeated our hypothesis-testing analysis using gross profit, EBITDA, and net income (Compustat items: gp, ebitda, and ni; all log transformed) as dependent variables. Providing converging evidence to support H_5, there was a significant or marginally significant positive association between logo descriptiveness and gross profit ($n = 422$; $\beta = .16$; $t(386) = 2.80$, $p = .005$), EBITDA ($n = 410$; $\beta = .10$; $t(374) = 1.81$, $p = .071$) and net income ($n = 368$; $\beta = .22$; $t(332) = 1.94$, $p = .053$).[7]

Boundary condition test—logo type. In Study 3, we provided evidence that logo type does not moderate the effect of logo descriptiveness. To verify these results, we conducted a regression analysis such as the one in Table 2. However, we included the logo descriptiveness $\times$ wordmark dummy and logo descriptiveness $\times$ icon-only logo dummy interaction terms as additional independent variables. In line with the results of Study 3, these interactions were not significant predictors of sales (for detailed results, see Web Appendix K).

Additional analyses. In Web Appendix L, we show that our hypothesis-testing results are robust to the treatment of missing R&D and advertising data in the Compustat database, probably not confounded by managers' abilities, and not moderated by product-market profile (goods vs. services brand) or brand age.

Discussion

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[7] In these analyses, the sample size varies because of missing data in the Compustat database.

Study 6 shows that logo descriptiveness is positively associated with brand performance. However, this study has limitations. Caution is thus warranted when interpreting its results. For instance, we used a binary (vs. continuous, as in Study 3) measure of logo descriptiveness and several categorical control variables to measure design characteristics that are typically conceptualized on a continuum. Moreover, we used cross-sectional data and could not account for changes in logo design over time. Another limitation is that we could not test a mechanism underlying the relationship between logo descriptiveness and brand performance. Despite these limitations, the results of Study 6 still provide converging evidence that logo descriptiveness can influence brand equity.

GENERAL DISCUSSION

We show that more (vs. less) descriptive logos can positively affect brand equity and that this effect occurs because more descriptive logos are easier to process and elicit stronger impressions of authenticity. Moreover, we demonstrate that the positive effect of logo descriptiveness is attenuated for brands that are familiar (vs. unfamiliar) to consumers and reversed (i.e., negative) for brands that market a type of product linked with negatively (vs. positively) valenced associations in consumers' minds.

Theoretical Contributions

A contribution of our work is to document the positive influence of logo descriptiveness on several measures of brand equity, highlighting the importance of descriptiveness as a potent design characteristic and adding to existing knowledge about the effects of marketing stimuli's visual design on brand equity (Cian, Krishna, and Elder 2014; Hagtvedt and Patrick 2008; Krishna 2013; Krishna, Cian, and Aydınoğlu 2017; Landwehr, Wentzel, and Herrmann 2013; Luffarelli, Stamatogiannakis, and Yang 2019). Note that logo descriptiveness and logo-brand congruence can correlate because more (vs. less) descriptive

logos can evoke a greater number of associations that relate to a brand, and thus also result in

higher perceived congruence. In addition, logo descriptiveness and logo-brand congruence

can have parallel effects on brand equity because logo-brand congruence can also result in

more favorable consumer responses. Nevertheless, these constructs are conceptually distinct.

For example, a logo depicting a kimono is congruent with a sushi restaurant as both share the

association "Japan." However, such a logo is not descriptive of the type of product marketed

by a sushi restaurant. Likewise, imagine a logo with a basketball player and an orange circle

in the background and a similar logo with a basketball instead of an orange circle in the

background. Both logos evoke the association "basketball" and are thus congruent with a

basketball equipment manufacturer. The latter logo is, however, more descriptive than the

former because a basketball is more indicative of the type of product marketed by such

manufacturer than an orange circle. In Web Appendix M, we provide evidence that these two

constructs are also empirically distinct.

We note that our findings might appear inconsistent with those of Miller and Kahn

(2005), who show that products with uninformative (vs. informative) color and flavor names

are evaluated more favorably. However, our specific research context is not analogous to

theirs and the idiosyncratic characteristics of color and flavor names might help explain this

apparent inconsistency. Studies more closely related to ours show that more (not less)

informative product/brand names lead to more positive outcomes, including more favorable

evaluations (Klink 2001; Kohli, Harich, and Leuthesser 2005; Lee and Ang 2003).

Our research also adds to the understanding of the effects of logo design on the

formation of brand impressions (Cian, Krishna, and Elder 2014; Hagtvedt 2011; Luffarelli,

Stamatogiannakis, and Yang 2019) by showing a mechanism underlying the positive effect of

logo descriptiveness—more (vs. less) descriptive can logos elicit stronger impressions of

authenticity because they are easier to process. Our work thus establishes a link between ease

of processing and perceived authenticity, thereby adding to extant knowledge about the role of fluency in the design of marketing stimuli (Landwehr, Labroo, and Herrmann 2011; Sundar and Noseworthy 2014) and to extant knowledge about the effect of ease of processing on perceptions of trustworthiness and credibility (Reber and Unkelbach 2010; Schwarz 2004; Unkelbach 2007). Furthermore, by demonstrating that more descriptive logos can communicate impressions of authenticity, our work adds logo descriptiveness, and more broadly logo design, to the list of known antecedents of perceived brand authenticity (Beverland, Lindgreen, and Vink 2008; Fournier and Avery 2011; Morhart et al. 2015; Newman and Dhar 2014). Moreover, in support of the view that consumers value brand authenticity and that brands can benefit from being perceived as authentic (Beverland and Farrelly 2010; Morhart et al. 2015; Napoli et al. 2014; Spiggle, Nguyen, and Caravella 2012), our findings show a positive relationship between brand authenticity and brand equity.

Another contribution of our work is to explore moderators of the relationship between logo descriptiveness and brand equity. First, we find that the positive effects of logo descriptiveness are less pronounced for familiar (vs. unfamiliar) brands. This finding suggests that the visual identity of a brand (in our research, logos) is more likely to shape the responses of consumers that are unfamiliar with a brand. Moreover, this finding confirms that brand familiarity can, under certain circumstances, limit the effectiveness of specific marketing stimuli (Campbell and Keller 2003; Stammerjohan et al. 2005). Second, we find that the effect of logo descriptiveness is statistically equivalent for newer and older brands. To reconcile the results of Study 6 (in which we find no significant logo descriptiveness × brand age interaction) with those of Study 4 (in which we find a significant logo descriptiveness × brand familiarity interaction), one must keep in mind that while brand age and familiarity might be related, they are different constructs. For example, consumers are probably much more familiar with Tesla Motors, founded in 2003, than with Dick's Sporting

Goods, founded in 1948. Third, we find that the effect of logo descriptiveness is negative for brands that market a type of product linked with negatively valenced associations in consumers' minds. Adding to prior work (Luffarelli, Stamatogiannakis, and Yang 2019), this shows that logos can interact with other brand elements (in our research, product type) to affect brand equity. Fourth, we demonstrate that the effect of logo descriptiveness does not vary substantially for services and goods brands. Fifth, we find no evidence that logo descriptiveness interacts with brand personality. Finally, although we show that logo type (i.e., wordmarks vs. icon-only logos vs. mixed logos) is likely to affect logo descriptiveness (see Web Appendix F), we find no evidence that logo type moderates the effect of logo descriptiveness on brand equity (see Study 3 and Study 6).

Managerial Implications

While more and less descriptive logos are used by brands, an analysis of the logos of the 597 brands included in the samples of Studies 3 and 6 revealed that 41% of the logos used by these brands were descriptive and 59% were not ($\chi^2(1, N = 597) = 18.47, p < .001$; for more detail, see Web Appendix N). These results suggest that practitioners might not fully take advantage of the potential benefits of logo descriptiveness. Our work suggests that practitioners should consider using more descriptive logos for three reasons. First, consumers can view and process more descriptive logos more easily, which can be an advantage in cluttered and competitive markets where consumers are exposed to a plethora of marketing stimuli. Second, more descriptive logos can elicit stronger impressions of authenticity, which consumers often value. Third, more descriptive logos can positively affect consumer behavior and brand performance.

Our findings also show that practitioners might favor using mixed logos over icon-only logos and wordmarks to create more descriptive logos. We found that mixed logos are more effective at generating descriptiveness (probably because of synergies between textual and

visual design elements). Notwithstanding the importance of brands' visual identity, our work also indicates that practitioners can expect the effects on brand equity of logo descriptiveness, and more broadly logo design, to diminish as consumers become more familiar with a brand. Finally, our work reveals that practitioners who work for brands that market a type of product linked with negatively valenced associations might prefer using less descriptive logos.

Limitations and Research Directions

Our conceptualization of logo descriptiveness is specific to the type of product marketed by a brand. Logos' textual and visual design elements can, however, be descriptive of attributes other than product type. For instance, Apple (a technology brand) has a logo that is descriptive of its brand name and Puma (a sportswear brand) has a logo that is also descriptive of the personality traits it wants to project (e.g., speed and strength). Future work could add to ours by examining how these other conceivable forms of logo descriptiveness influence consumer responses. Moreover, mixed logos and wordmarks that are descriptive are often descriptive of the name of the brand (e.g., see Costa Coffee's logo in Figure 1). Thus, to avoid confounding logo descriptiveness with brand name descriptiveness, we primarily used icon-only logos in our experiments. Future research should seek to use logos that do not confound these two types of descriptiveness as stimuli.

We find some evidence that mixed logos tend to be more effective at generating descriptiveness than icon-only logos (see Web Appendix F), which tend to be more effective at generating descriptiveness than wordmarks. However, more research is needed to better understand the influence of logo type on logo descriptiveness. As more and less descriptive logos are used by brands, another worthwhile research direction is to explore the reasons that drive brands to opt for less or more descriptive logos.

As discussed previously, the data used in Study 6 have limitations. Future research could thus test the influence of logo descriptiveness on brand performance using different

data and seek to shed light on a mechanism underlying this relationship. Furthermore, future studies could seek to identify additional outcomes associated with the use of more and less descriptive logos. For example, more descriptive logos could make the launch of brand extensions less successful, as such logos include design elements that would not be related to the product introduced in a different product category. This phenomenon might explain why some brands prefer opting for less descriptive logos. We explored a potential link between brand diversification[8] and logo descriptiveness using the data of Study 6. More (less) diversified brands presumably have more (fewer) brand extensions. We found a significant negative correlation between these two variables ($r(377) = -.15, p = .003$),[9] suggesting that brands with more brand extensions might prefer opting for less descriptive logos (possibly because more descriptive logos make the launch of brand extensions less successful).

Marketing research that explores how consumers react to logo design changes is scant. In Study 6, we report evidence suggesting that logos tend to evolve to become less descriptive as brands grow older (Web Appendix L). Future work could add to ours by exploring how changes in logo descriptiveness moderate consumer responses. Furthermore, because logos are composed of a multitude of design characteristics, future studies could examine whether logo descriptiveness can interact with other design characteristics. We began to explore this possibility by testing potential interaction effects between logo descriptiveness and other design characteristics measured in Study 3. The results of this exploratory analysis suggested that logo descriptiveness can interact with logo orientation and roundedness (see Web Appendix O).

This article is, to our knowledge, the first to examine logo descriptiveness. We hope it will serve as a useful guide for the understanding of this design characteristic and that future

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[8] We used Palepu's (1985; Appendix 2) entropy-based measure to compute the degree of brand diversification. Data were obtained from the Compustat database.

[9] The sample size is less than n = 423 because of missing segment sales in the Compustat database.

studies will seek to further explore the antecedents, outcomes, and moderators of this

construct.

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TABLE 1: STUDY 3 — THE EFFECT OF LOGO DESCRIPTIVENESS ON CONSUMERS'
PURCHASE INTENTIONS THROUGH IMPRESSIONS OF AUTHENTICITY

	Panel A: Mediator Variable Model (Impressions of Authenticity)			
Model summary	R^2	Adj R^2	F	*p*
	.34	.22	2.92	< .001
Variables	β	SE	t	*p*
Constant	4.00	.57	7.02	< .001
Descriptiveness (X)	**.08**	**.04**	**1.86**	**.065**
Symmetry	.04	.03	1.14	.255
Roundedness	-.01	.05	-.36	.717
Elaborateness	-.06	.05	-.02	.982
Repetition	-.09	.06	-1.89	.061
Orientation	-.04	.06	-.74	.463
Proportion	.24	.17	1.43	.156
Naturalness	-.05	.17	-.49	.628
Lightness	.00	.10	1.69	.092
Saturation	-.00	.00	-1.21	.227
Liking	.35	.00	5.07	< .001
Shape dummies		Included		
Hue dummies		Included		
Logo type dummies		Included		

	Panel B: Dependent Variable Model (Purchase Intentions)			
Model summary	R^2	Adj R^2	F	*p*
	.73	.68	14.32	< .001
Variables	β	SE	t	*p*
Constant	-.25	.48	-.53	.598
Impressions of authenticity (M)	**.88**	**.06**	**14.60**	**< .001**
Descriptiveness (X)	**-.04**	**.03**	**-1.13**	**.258**
Symmetry	-.01	.03	-.22	.828
Roundedness	-.01	.02	-.50	.615
Elaborateness	-.02	.04	-.50	.617
Repetition	.00	.04	.03	.973
Orientation	.01	.04	.16	.875
Proportion	.07	.13	.57	.568
Naturalness	-.02	.07	-.23	.816
Lightness	.00	.00	1.29	.201
Saturation	.00	.00	-.63	.528
Liking	.15	.05	2.68	.008
Shape dummies		Included		
Hue dummies		Included		
Logo type dummies		Included		

Notes. n = 174. Bolded variables are the variables of interest (H_{2b} and H_{2c}). Given the large number of dummy variables, we report the parameter estimates for these variables in Web Appendix C.

TABLE 2: STUDY 6 — THE EFFECT OF LOGO DESCRIPTIVENESS ON BRANDS' SALES

Model summary	R^2	Adj R^2	F	*p*
	.86	.85	68.90	< .001

Variables	β	SE	t	*p*
Constant	1.04	.36	2.87	.004
Descriptiveness	**.13**	**.06**	**2.12**	**.035**
Advertising intensity	-1.84	.68	-2.72	.007
R&D intensity	-3.92	1.24	-3.17	.002
Financial liquidity	.78	.03	25.47	< .001
Total assets	.07	.03	2.89	.004
Brand age	.04	.04	.83	.409
Product-market profile	.44	.06	7.24	< .001
Symmetry	-.06	.14	-.44	.660
Roundedness	.12	.08	1.63	.103
Complexity	-.08	.07	-1.08	.282
Depth	-.01	.07	-.14	.888
Dynamism	-.09	.09	-.98	.330
Repetition	-.07	.07	-1.07	.287
Naturalness	.01	.09	.16	.874
Proportion	.08	.10	.76	.449
Lightness	.00	.00	.62	.535
Saturation	.00	.00	1.11	.269
Hue dummies		Included		
Orientation dummies		Included		
Shape dummies		Included		
Logo type dummies		Included		

Notes. n = 423. The dependent variable is sales (Compustat item: sale; log transformed). The bolded variable (Descriptiveness) is the variable of interest (H_5). Given the large number of dummy variables, we report the parameter estimates for these variables in Web Appendix E.

FIGURE 1: EXAMPLES OF MORE AND LESS DESCRIPTIVE LOGOS

Notes. From top to bottom, the less descriptive logos are those of Starbucks, the New England Patriots, and Hamleys. The more descriptive logos are those of Costa Coffee, the Pittsburgh Penguins, and Toys "R" Us.

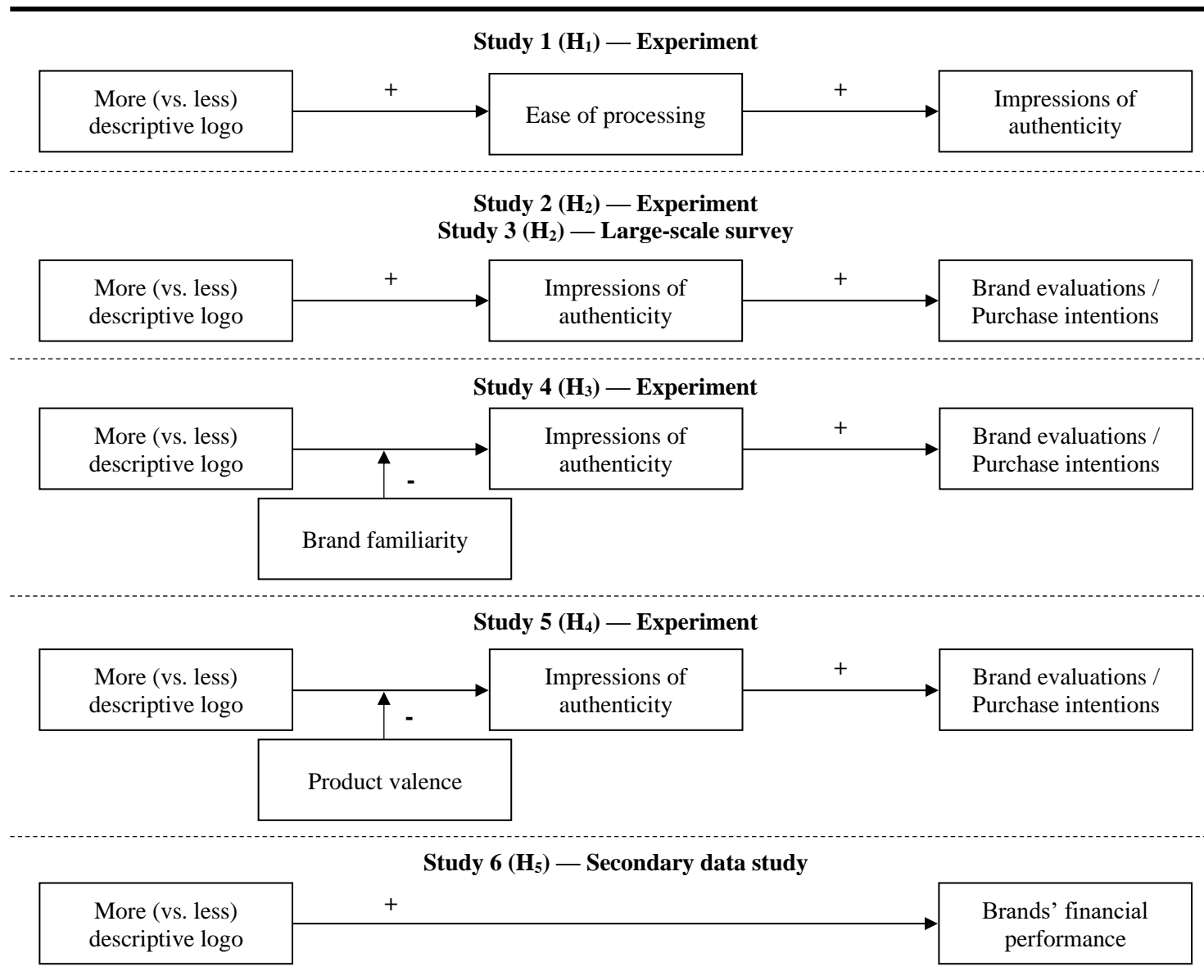*FIGURE 2: OVERVIEW OF OUR HYPOTHESES AND KEY RESULTS OF OUR MAIN STUDIES*

Study 1 (H₁) — Experiment

| More (vs. less) descriptive logo | + → | Ease of processing | + → | Impressions of authenticity |

Study 2 (H₂) — Experiment
Study 3 (H₂) — Large-scale survey

| More (vs. less) descriptive logo | + → | Impressions of authenticity | + → | Brand evaluations / Purchase intentions |

Study 4 (H₃) — Experiment

| More (vs. less) descriptive logo | → | Impressions of authenticity | + → | Brand evaluations / Purchase intentions |

Brand familiarity — -

Study 5 (H₄) — Experiment

| More (vs. less) descriptive logo | → | Impressions of authenticity | + → | Brand evaluations / Purchase intentions |

Product valence — -

Study 6 (H₅) — Secondary data study

| More (vs. less) descriptive logo | + → | Brands' financial performance |

FIGURE 3: RESULTS OF STUDY 1

Figure 3a: The Effect of Logo Descriptiveness on Impressions of Authenticity

Impressions of
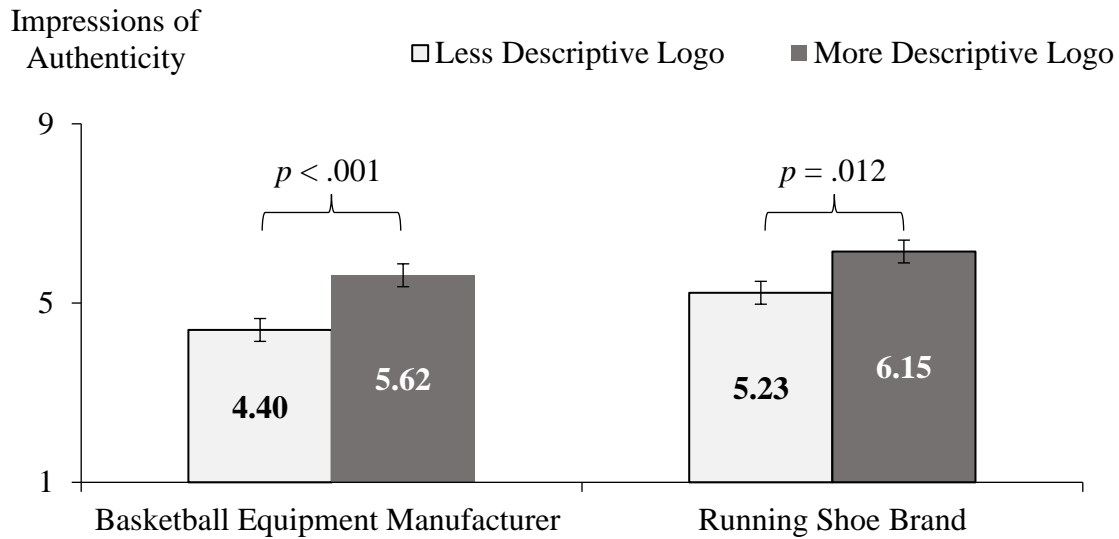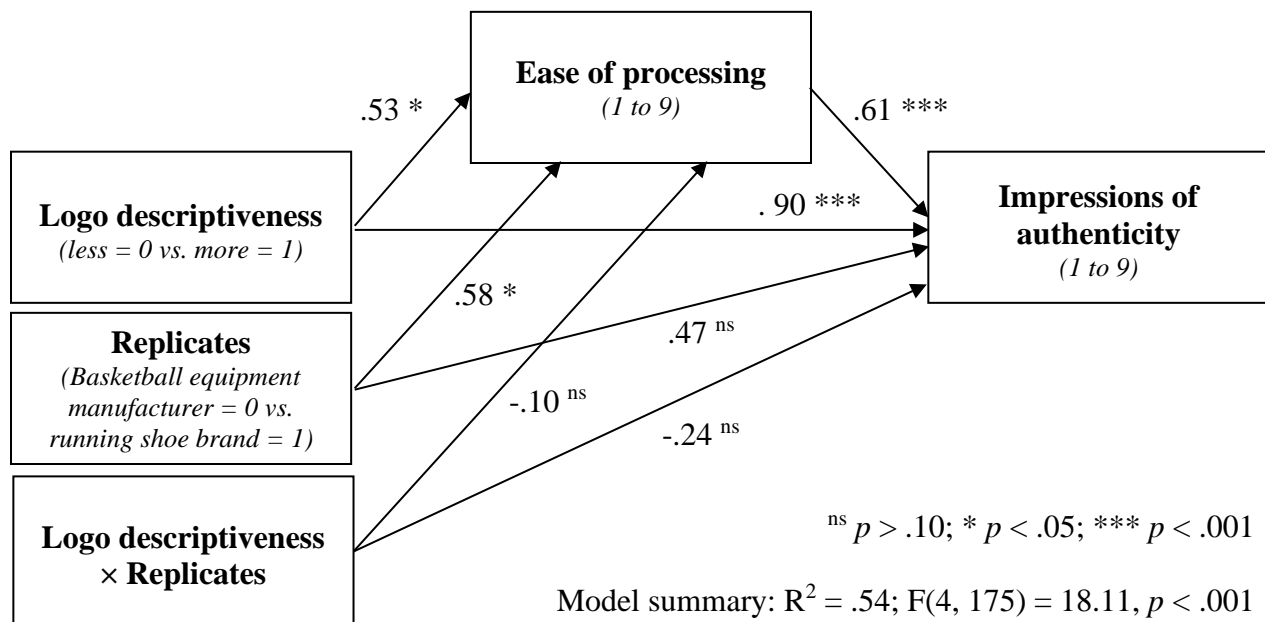Authenticity   □ Less Descriptive Logo   ■ More Descriptive Logo

$p < .001$ $p = .012$

5.62   5.23   6.15

4.40

Basketball Equipment Manufacturer   Running Shoe Brand

Figure 3b: The Mediating Effect of Ease of Processing

Ease of processing
(1 to 9)

.53 *   .61 ***

Logo descriptiveness
(less = 0 vs. more = 1)

. 90 ***

**Impressions of
authenticity**
(1 to 9)

.58 *

Replicates
*(Basketball equipment
manufacturer = 0 vs.
running shoe brand = 1)*

.47 ns

-.10 ns

**Logo descriptiveness
× Replicates**

-.24 ns

ns $p > .10$; * $p < .05$; *** $p < .001$

Model summary: $R^2 = .54$; $F(4, 175) = 18.11$, $p < .001$

Notes. PROCESS Model 8 (Hayes 2017). The more (vs. less) descriptive logo had a more positive indirect effect on impressions of authenticity through ease of processing for both the basketball equipment manufacturer (95% CI: [.16, .71]) and the running shoe brand (95% CI: [.003, .62]).

FIGURE 4: RESULTS OF STUDY 2

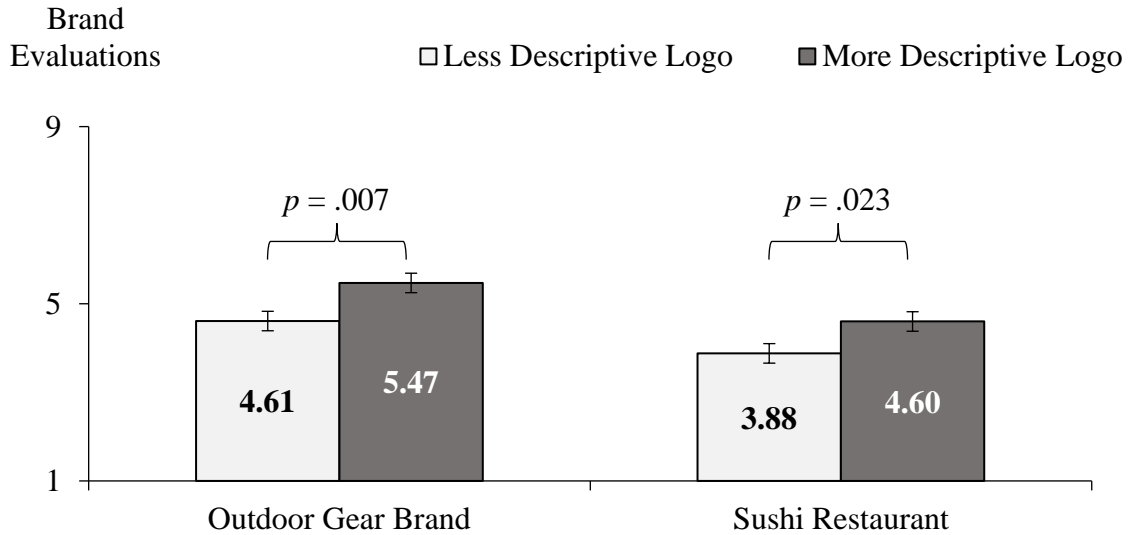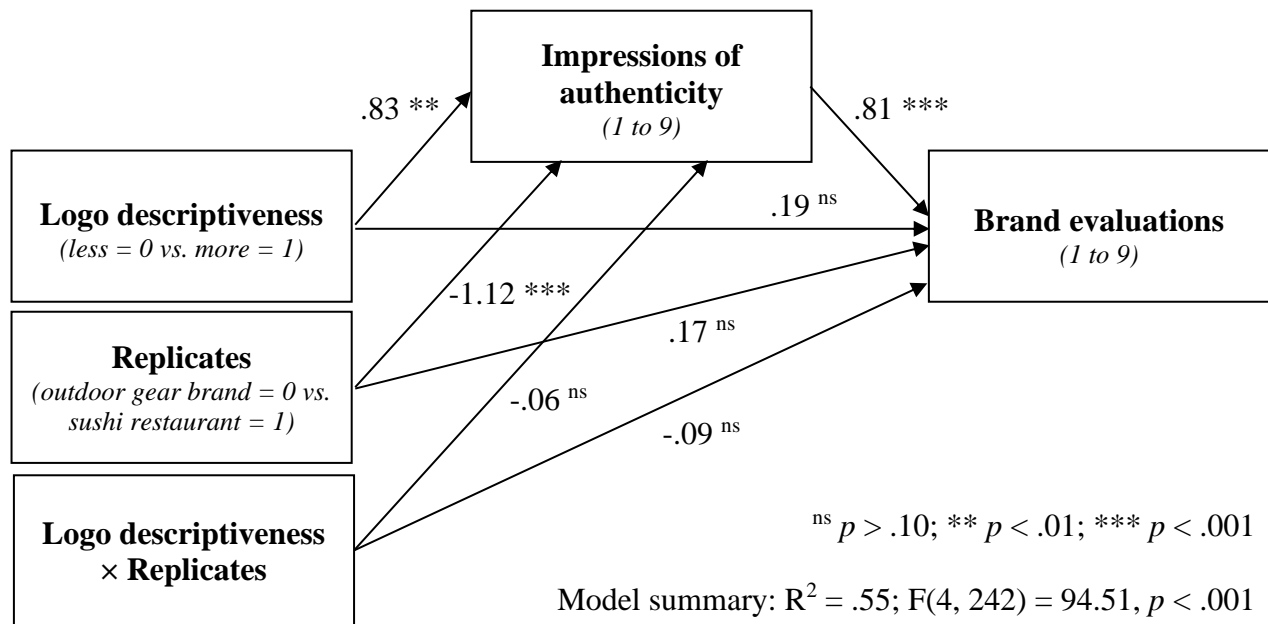*Figure 4a: The Effect of Logo Descriptiveness on Brand Evaluations*

Figure 4b: The Mediating Effect of Impressions of Authenticity

$^{ns} p > .10$; $^{**} p < .01$; $^{***} p < .001$

Model summary: $R^2 = .55$; $F(4, 242) = 94.51$, $p < .001$

Notes. PROCESS Model 8 (Hayes 2017). The more (vs. less) descriptive logo had a more positive indirect effect on brand evaluations through logo-elicited impressions of authenticity for both the outdoor gear brand (95% CI: [.27, 1.19]) and the sushi restaurant (95% CI: [.20, 1.05]).

FIGURE 5: STUDY 4 — PLANNED CONTRASTS

Figure 5a: Planned Contrasts with Brand Evaluations as the Dependent Variable
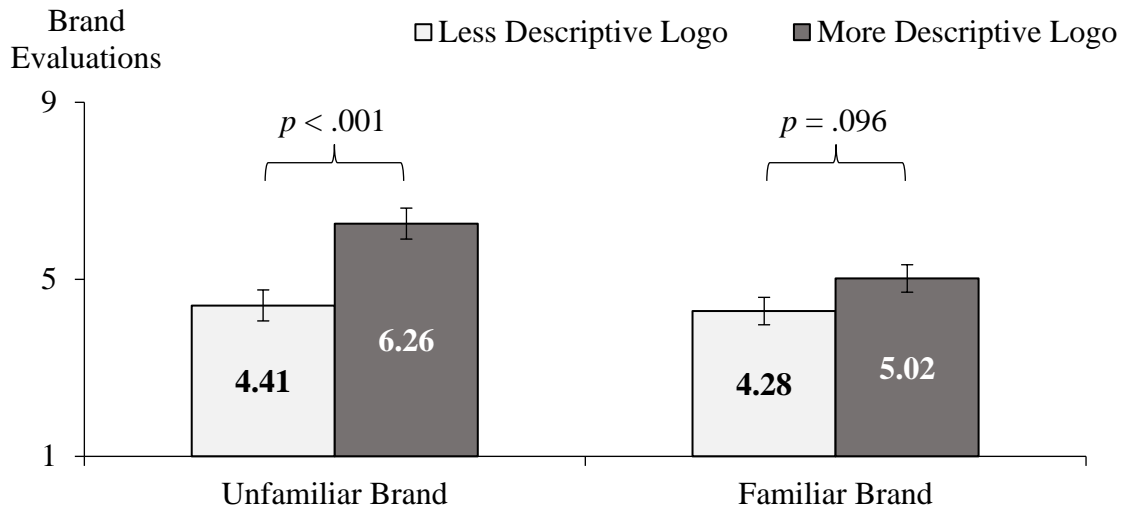
Figure 5b: Planned Contrasts with Purchase Intentions as the Dependent Variable
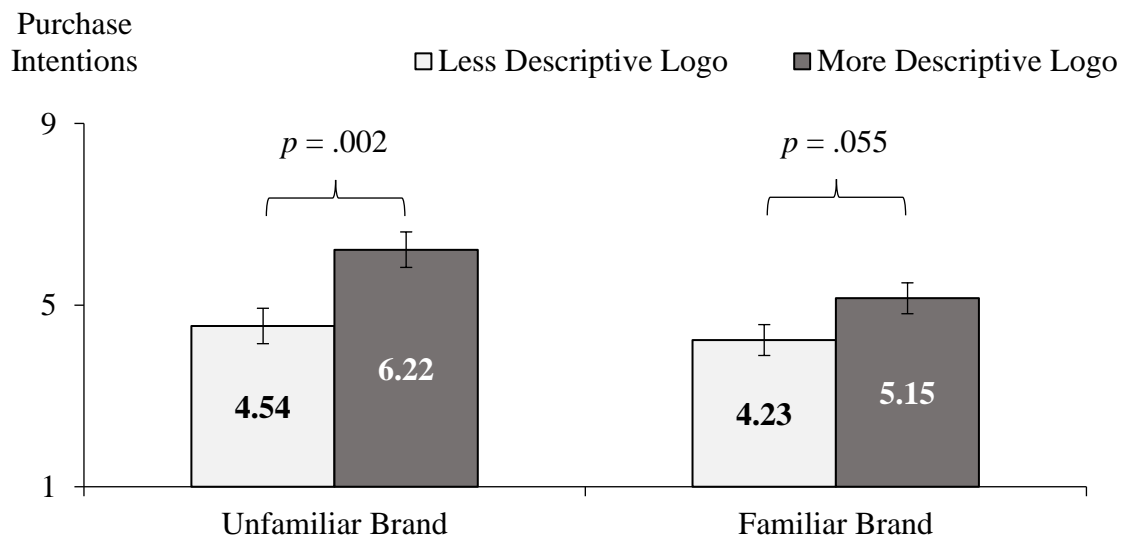
FIGURE 6: STUDY 5 — PLANNED CONTRASTS

Figure 6a: Planned Contrasts with Brand Evaluations as the Dependent Variable
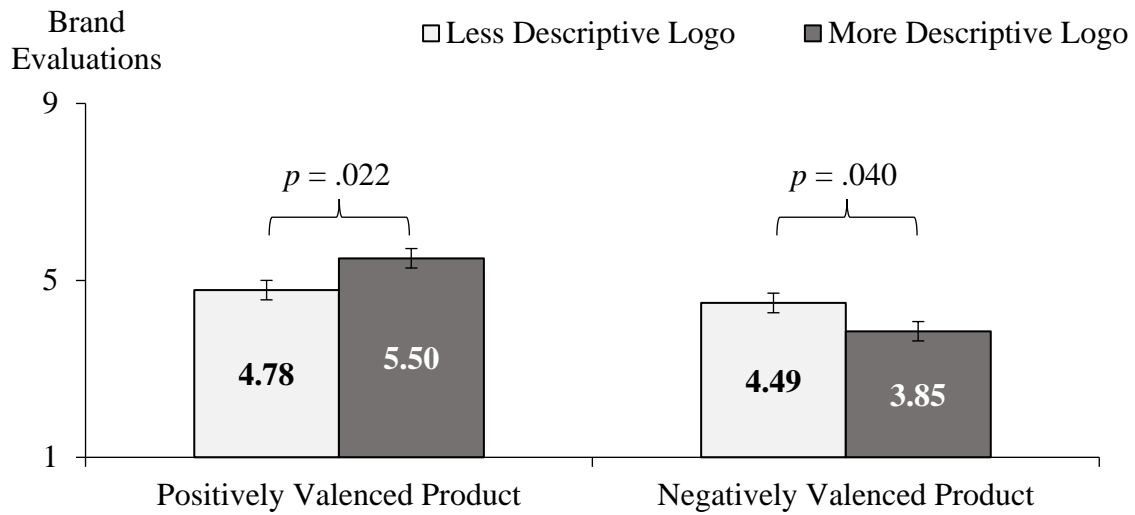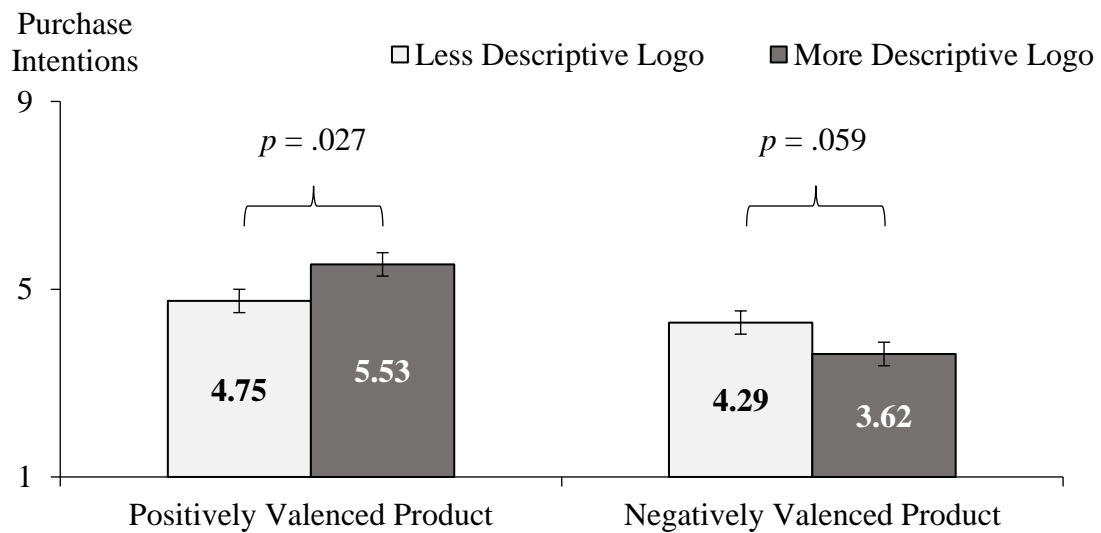

Figure 6b: Planned Contrasts with Purchase Evaluations as the Dependent Variable

APPENDIX: STIMULI USED IN STUDY 1

Notes. The more (less) descriptive logo version is on the right (left). Note that we manipulated logo descriptiveness in several ways (e.g., added design elements, changed the type or the shape of design elements). The stimuli used in other studies are available in the Web Appendices.

Study 1 — Replicate 1. Basketball Equipment Manufacturer
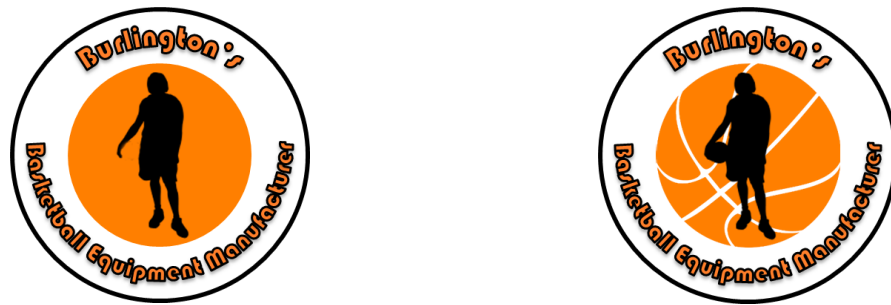
Study 1 — Replicate 2. Running Shoe Brand