# How Well Do Consumer-Brand Relationships Drive Customer Brand Loyalty? Generalizations from a Meta-Analysis of Brand Relationship Elasticities

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**Abstract**

To advance understanding of how well different types of brand relationships drive customer brand loyalty and to help companies improve the effectiveness of their relationship-building investments, this article conducts a meta-analysis of the link between five consumer-brand relationship constructs and customer brand loyalty. The analysis of 588 elasticities from 290 studies reported in 255 publications over 24 years (n = 348,541 across 46 countries) reveals that the aggregate brand relationship elasticity is .439. More importantly, results demonstrate under what conditions various types of brand relationships increase loyalty. For example, while elasticities are generally highest for love-based and attachment-based brand relationships, the positive influence of brand relationships on customer brand loyalty is stronger in more recent (vs. earlier) years, for non-status (vs. status) and publicly (vs. privately) consumed brands as well as for estimates using attitudinal (vs. behavioral) customer brand loyalty. Overall, the results suggest that brand relationship elasticities vary considerably across brand, loyalty, time, and consumer characteristics. Drawing on these findings, the current research advances implications for managers and scholars and provide avenues for future research.

*Keywords***:** consumer-brand relationship, customer brand loyalty, brand relationship elasticity, meta-analysis, empirical generalizations, brand love, brand attachment, self-brand connection, brand identification, brand trust

Customer brand loyalty is one of the foundational concepts of both marketing scholarship and practice. Rooted in the work of psychologist Lester Guest, customer brand loyalty is the "constancy of preference for commercial brands of various products over a period of years in the life of the individual" (Guest 1944, p. 17) and is associated with many benefits to the firm such as increasing market share, cash flows and profits (Chaudhuri and Holbrook 2001; Homburg, Wieseke, and Hoyer 2009; Morgan and Rego 2009; Watson et al. 2015; Wernerfelt 1991).

In the last two decades, research also documents how consumer-brand relationships (CBRs) are a powerful mechanism in building customer brand loyalty. In large part fueled by Fournier (1998), marketing academics advanced five main concepts to reflect the types of ties that develop between consumers and brands: brand attachment (Park et al. 2010), brand love (Batra, Ahuvia, and Bagozzi 2012), self-brand connection (Escalas and Bettman 2003), brand identification (Stokburger-Sauer, Ratneshwar, and Sen 2012), and brand trust (Chaudhuri and Holbrook 2001). A reliable result is that these various CBR aspects are positive predictors of customer brand loyalty (Homburg et al. 2009; Mazodier and Merunka 2012). However, there is little consensus on what types of brand relationships are superior predictors of loyalty and under what conditions different types are relatively better. For example, research focused on a *single* type of brand relationship (e.g., attachment) has revealed relatively small ($\beta = .15$; Goode, Khamitov, and Thomson 2015), medium ($\beta = .30$; Thomson 2006) and large ($\beta = .64$; Hudson et al. 2016; all $p$'s $< .05$) estimates of the path to brand loyalty. At the same time, research *across* types of brand relationships (i.e., love, identification and trust) has documented equally powerful ($\approx .74$) paths to brand loyalty (Bergkvist and Bech-Larsen 2010; He, Li, and Harris 2012; Hudson et al. 2016). Thus there is no general consensus in the literature about what types of brand relationships are more or less effective at generating loyalty.

There is also no consensus among leading experts. At a recent conference, we surveyed 42 branding experts, comprised of mostly academics but also including several senior brand managers, asking how effective each the five CBRs mentioned above are at driving customer brand loyalty. In response, while about a quarter thought two or more types of CBRs are equivalent, the remaining respondents were almost equally split across the other CBRs. Thus we observe neither the literature nor key stakeholders agree on which type of brand relationship is most effective at eliciting customer brand loyalty. This gap must be addressed or companies will

continue to spend billions in marketing dollars to encourage consumer-brand relationships without a good understanding of their activities (Avery, Fournier, and Wittenbraker 2014).

In response, we turn to meta-analysis, a method that has gained popularity among consumer researchers in the face of systematizing variability both across (van Laer et al. 2014) and within papers (Jhang and Lynch 2015; McShane and Böckenholt 2017). Specifically, we conduct a meta-analysis of the link between brand relationships and customer brand loyalty. Our approach permits us to draw precise and credible generalizations both with respect to the links between the various CBRs and brand loyalty, and with respect to seven moderators that we assess to elaborate on the conditions under which various CBRs are more or less predictive. For example, we contemplate the effects of time and brand characteristics such as status and private versus public consumption mode.

In our meta-analysis, we focus on 'brand relationship elasticity', which captures the link between a particular brand relationship and customer brand loyalty and reflects on average how much a 1% change in the strength of a brand relationship is associated with a % change in customer brand loyalty. There are a number of advantageous features associated with using elasticities that support using this effect size metric. Specifically, because elasticities are dimensionless and unit free, they permit easy comparison across studies and contexts; because they are expressed in terms of percentages rather than standard deviations, elasticities are intuitive and easily interpreted; and because a range of extant papers have employed elasticities to gauge the effectiveness of advertising, price, word-of-mouth, personal selling and online product reviews (Albers, Mantrala, and Sridhar 2010; Assmus, Farley, and Lehmann 1984; Bijmolt, van Heerde, and Pieters 2005; Floyd et al. 2014; Tellis 1988; You, Vadakkepatt, and Joshi 2015), reporting elasticities enables readers to compare across marketing tactics too (table 1).

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Insert Table 1 about here

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Relationship to Other Prior Meta-Analyses in the Domain

To date, two major meta-analysis have been completed that are relevant to our current undertaking. First, Palmatier et al. (2006) conduct an ambitious meta-analysis of which customer-focused variables (e.g., dependence on a seller), seller-focused variables (e.g., seller

expertise) and dyadic characteristics (e.g., conflict) impact a range of outcomes (e.g., customer loyalty, cooperation) mediated by four relational variables (e.g., trust, relationship quality). They document, for example, that the estimate between trust and customer loyalty is positive and significant ($r$ =.54, 95% CI = .52, .55). However, their manuscript does not focus on consumer brand relationships but contemplates both B2C and B2B literatures, does not consider most of our focal variables (e.g., love, self-brand connection) and is therefore mostly silent with respect to our research questions. However, their approach strongly suggests the need to include a range of moderators since their results are considerably context-dependent.

Second, Watson et al. (2015) account for how four predictors (e.g., trust, incentives) directly impact loyalty and indirectly impact word-of-mouth and performance. Their results show, for example, that the average path between trust and loyalty is positive and significant ($\gamma$ = .38, $p$ < .01). However, with a sizable portion of their dataset drawn from papers in business-to-business markets and only 15% of their included studies focusing on brands (vs. firms, salespeople), there are considerable differences from our consumer-brand relationship lens. However, their paper importantly underscores the need to empirically account for different types of loyalty (e.g., behavioral vs. attitudinal), an approach that we carry forward to our analysis.

## THEORY AND CONCEPTUAL FRAMEWORK

Over the last two decades, the marketing literature has advanced a wealth of brand relationship constructs, converging on five: brand love, brand attachment, self-brand connection, brand identification, and brand trust. A preliminary keyword search on Google Scholar suggests that over half of all consumer-brand relationship papers reflect some combination of these constructs. We focus on these constructs because each has been identified in extant research as a predictor of loyalty and because each is ‘core’ to the CBR field (Albert and Thomson 2018). We exclude other constructs despite their being tied to loyalty for several reasons. For example, they may be too conceptually proximate (e.g., attitude) to our focal dependent measure (i.e., many measures of loyalty are attitudinal), or they may be not be sufficiently core/focal to the CBR literature or offer enough empirical links to loyalty to include them (e.g. brand liking; Rossiter 2012).

However, it is important to acknowledge that the five constructs we include in the meta-analysis may overlap or interact. For example, some academics have suggested that self-brand connection is an indicator of attachment (Park et al. 2010) while others suggest that 'emotional attachment' is an indicator of brand love (Batra et al. 2012). Indeed, as might be expected in a large literature, there are inconsistencies and disagreements. In some cases, we are able to directly address some of these issues[1], but we are constrained with others. For example, due to an underlying lack of studies that simultaneously examine the interaction of multiple CBR constructs, we are unable to address how they may jointly predict loyalty. While this fact helps with aspects of our methodological design – for example, it greatly reduces concerns about multicollinearity – it means that like other meta-analyses, there are implied limits on what insights can be generated. We are only able to investigate the direct effects of any particular CBR construct and cannot address any indirect effects of one CBR construct through another.

## Consumer-Brand Relationship Constructs

*Brand Attachment*. Brand attachment is an "emotion-laden target-specific bond between a person and a specific brand" (Thomson et al. 2005, p. 78). Several measures of attachment have been advanced. For example, Thomson et al. (2005) proposed a metric reflecting consumers' feelings of affection, passion and connection towards a brand. Similarly, Park and colleagues (2010) proposed that attachment can be captured using brand-self connection and brand prominence. The former reflects the consumer-brand bond that is emotional in nature but cognitive in its representation, while the latter represents the salience of the affective and cognitive connection between the consumer and the brand.

*Brand Love.* Earlier work (e.g., Ahuvia 1993; Shimp and Madden 1988) introduced love into the branding domain by examining how consumers interact with particular objects but as a construct, brand love was first advanced by Carroll and Ahuvia (2006). They defined it as the "degree of passionate emotional attachment a satisfied consumer has for a particular trade name" (p. 81). There are three main measures of brand love. First, Carroll and Ahuvia (2006) developed a measure whose core features are passion for and attachment to the brand, favorable evaluations

[1] For example in the meta-analysis, we use effect coding or dummy coding to capture the use of the Park et al. (2010) measure vs. other attachment measures and Batra et al. (2012) measure vs. other brand love measures. They are not significant.

of and emotions toward the brand, and other manifestations of love for the brand. This metric has been largely surpassed by a new one (conceptualized in Batra et al. 2012, scale in Bagozzi, Batra, and Ahuvia 2017) that construes brand love as a mental prototype that goes beyond self-brand connection and brand attachment to also include additional features such as anticipated separation distress. The third metric (Albert, Merunka, and Valette-Florence 2009) suggests brand love is comprised of two factors. The first reflects the duration of a brand relationship and the proximity between the brand and the consumer, while the second represents the delight consumers experience in using or possessing the brand.

*Self-Brand Connection*. Building on research on the extended self (e.g., Belk 1988), self-brand connection is "the extent to which individuals have incorporated brands into their self-concepts" (Escalas and Bettman 2003, p. 340), with consumers using brands to express who they are or who they aspire to be (Escalas 2004). Their scale is comprised of seven items, with sample items including "this brand reflects who I am" and "I (can) use this brand to communicate who I am to other people". In fact, there appears to be a growing interest in this construct. For example, we conducted a Web of Science citation analysis for the two papers containing the most influential measure of self-brand connection (Escalas and Bettman 2005, p. 382; Escalas and Bettman 2003, p. 343). Together, these two papers have been cited on average three times more often in the last five years than in all remaining years since publication. In addition, other researchers suggest that the self-brand connection construct has greater "importance" to the CBR domain than attachment, love or any of the other constructs included in our meta-analysis (Albert and Thomson 2018, Figure 2).

*Brand Identification.* The early development of the brand identification concept is largely attributed to work by Bhattacharya, Rao, and Glynn (1995) who, drawing from organizational and social psychological literatures, advanced a measure of customer-organizational identification by building on earlier conceptualizations from Mael and Ashforth (1992) and Belk (1988). Bhattacharya and Sen (2003) followed with an articulation of the nomological network around consumer-company identification. More recent work explicitly grounded in the branding context defines brand identification as "a consumer's perceived state of oneness with a brand" (Stokburger-Sauer et al. 2012, p. 407) and argues that such brands are typically used by consumers for identity building purposes. Their measure reflects consumers' sense of belonging to and identification with the brand as well as the brand's perceived capacity to embody a

consumer's beliefs. Another measure is the Inclusion of Other in Self (IOS) scale that assesses the extent to which the brand is incorporated into the consumer's self (e.g., Reimann et al. 2012).

*Brand Trust.* The notion of brand trust was introduced by Chaudhuri and Holbrook (2001, 2002) who built on earlier marketing work in inter- and intra-organizational contexts (Moorman, Zaltman, and Desphande 1992; Morgan and Hunt 1994) and empirically validated the first measure of brand trust, which they define as "the willingness of the average consumer to rely on the ability of the brand to perform its stated function" (Chaudhuri and Holbrook 2001, p. 82). Core features include consumers' belief that the brand is honest and safe as well as subjective feelings of reliance on the brand. Brand trust has been examined in other ways too. For example, Delgado-Ballester and Munuera-Alemán (2001) suggest brand trust is "a feeling of security held by the consumer that the brand will meet his/her consumption expectations" (p. 1242). While both views contemplate consumers' belief in brand characteristics and brand-related subjective feelings, the latter view focuses somewhat more on the ideas of certainty and confidence in the brand.

This review documents that consumers form brand relationships that can be based on attachment, love, self-brand connection, identification, or trust. An enormous body of evidence documents that each in turn is effective at creating or reinforcing customer brand loyalty (Batra et al. 2012; Carroll and Ahuvia 2006; Chaudhuri and Holbrook 2001, 2002; Delgado-Ballester and Munuera-Alemán 2001; Magnoni and Roux 2012; Sen et al. 2015; Stokburger-Sauer et al. 2012; Thomson et al. 2005) where loyalty generally reflects the degree to which a person consistently demonstrates a preference for the same brand within a product or service category. For example, attachment predicts brand commitment (Thomson et al. 2005), identification predicts customer brand loyalty (Haumann et al. 2014) and repurchase intentions (Lam et al. 2012), and trust predicts repeat purchase (Ashworth et al. 2009). Because of their positive impact on customer brand loyalty, all five types of brand relationships can thus be construed as brand loyalty drivers, but the literature lacks a consensus about which is superior. Our meta-analysis provides an answer.

## Moderators of Brand Relationship Elasticity

A major objective of our meta-analysis is to quantify the overall relationship between key variables, which in our case is the linkage between CBRs and customer brand loyalty. As

explained earlier, considerable variation exists in the associated brand relationship elasticities, which implies the presence of moderator variables (Hunter and Schmidt 1990), which we identified through a careful reading of prior studies. We then coded these studies based on characteristics that were either explicit or implicit in them. Thus, our meta-analysis moves beyond a summary of extant empirical work and examines how different moderators influence how well CBR constructs predict customer brand loyalty (Figure 1). We focus on these specific moderators because they are both theoretically and practically important, such that their examination has the potential to contribute to the consumer-brand relationship literature and marketing practice. Because work in the domain claims that the efficacy of branding strategies and tactics may depend on the type of brand being marketed (e.g., Park and MacInnis 2018), we examined the moderating role of non-status versus status, privately versus publicly consumed, utilitarian versus hedonic, material versus experiential, and foreign versus domestic brands. We sought to asses the moderating influence of differences in characteristics of customer brand loyalty because extant relationship marketing work (Watson et al. 2015) indicates that the effectiveness of relationship building strategies (e.g., trust) seems to vary as a function of the type of loyalty under question (e.g., behavioral vs. attitudinal). We also focused on time since work in the domain underscores the dynamic nature of brand relationships (Fournier 2009). The section that follows provides a more detailed rationale behind investigating these particular moderators.

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Insert Figure 1 about here

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*Time.* Scholars underscore that CBRs are dynamic and fluid (Fournier 2009), evolving over time (Aaker, Fournier, and Brasel 2004; Fournier 2009; Park and MacInnis 2018). For instance, Aaker et al. (2004) in a longitudinal field experiment show that brand relationships with sincere brands deepen over time in line with friendship templates, while brand relationships with exciting brands exhibited a different developmental pattern resembling that of short-lived flings. Further, Lam et al. (2013) demonstrate that consumer-brand identification can exhibit different trajectories such that consumer innovativeness generates a transient identification with the brand that dissipates over time, whereas self-brand congruity can result in deep-structure brand identification that grows stronger over time. Despite these efforts to incorporate a dynamic view

into the CBR literature, there remains much opportunity to examine "when, why, and how brand relationships change over time" (Park and MacInnis 2018, p. 125).

Here, we acknowledge that CBRs are likely to change over time and that the role of different brand relationship strength metrics in driving loyalty are themselves unlikely to be static (Haumann et al. 2014). For example, the drivers of loyalty intentions evolve through the introduction and growth phases of a life cycle (Johnson, Herrmann, and Huber 2006) but standard cross-sectional survey or experimental approaches do not account for these temporal effects and hence fail to reveal trends of stability and change over time. Thus, it is important not just to look at the overall contribution of brand relationship metrics in predicting loyalty but also to consider these effects over time using multiple studies across years.

We think that the link between CBRs and customer brand loyalty will become more pronounced with time in part because the link between CBRs and loyalty is likely to be made even more acute by the concurrent emergence of the 'attention economy'. That is, the experience of being a consumer in contemporary markets is exhausting (Doran 2017) and involves being universally targeted by myriad organizations, brands and other stakeholders in their competition for eyeballs and click-throughs (Crogan and Kinsley 2012). One way that people might successfully navigate this chaos is to retreat, essentially placing greater distance between themselves and the source of their stress (Yi and Baumgartner 2004; Kasser 2006) and relying more on familiar, easily justifiable structures (Chernev, Böckenholt, and Goodman 2015; Sela, Berger, and Liu 2009) such as existing CBRs. If our intuition is correct, then we should see that over time, the link between CBRs and loyalty has become stronger.

> $H_1$: The positive influence of brand relationships on customer brand loyalty is stronger in more recent years than in earlier years.

*Non-Status vs. Status Brands*. Consumers acquire certain goods in order to display both economic and social status (Veblen 1899). Conspicuous consumption is one way consumers can articulate a personal identity (Hebdige 1994) and is manifest in a person's persistently adorning or surrounding themselves with their status brand purchases, thereby facilitating their symbolic self-expression (Wallström, Steyn, and Pitt 2010).

In fact, it is possible to make competing predictions about brand status as a moderator of the CBR-loyalty link. On one hand, it is thought that status brands are especially effective at driving stronger consumer-brand relationships (Park, Eisingerich, and Park 2013; Park, MacInnis, and Eisingerich 2016), in part because consumers derive self-esteem from using such brands (Rindfleisch, Burroughs, and Wong 2009). Indeed, it has been shown that the imagery associated with a high status brand is a good predictor of loyalty (Liu et al. 2012) and when a consumer views a service brand as prestigious, he is more likely to exhibit trust and loyalty (Choi, Ok, and Hyun 2017). These findings suggest that brand status may be a positive moderator of the CBR-loyalty link.

However, there are at least two roles played by status brands. The first is value expressive, where a person uses a status brand in appreciation of its superlative qualities such as exceptional reliability or quality (Wilcox, Kim, and Sen 2009). In the examples above, the function served by the status brands seem more in line with this intrinsic, expressive function. Second, status brands are linked to a social adjustive function, whereby consumers use brands to project a particular image in social situations (Wilcox et al. 2009). If the brands are pursued for the latter reason, one might expect that status may negatively moderate the CBR-loyalty link because status brands represent interchangeable tools to signal wealth and "success symbolism" (Shukla 2010, p. 112). In other words, it wouldn't matter if the label said Mercedes or BMW, as long as it is conspicuous and seems expensive (Nunes, Dreze, and Han 2011). Elsewhere, research documents how consumers motivated by a social adjustive function can demonstrate frequent brand switches and a rather "ambivalent attitude towards commitment" (Lambert and Desmond 2013, p. 692). Some consumers are even happy knowingly using counterfeit brands so long as they signal a desired social status (Han, Nunes, and Dreze 2010). For these consumers, it is not inherent qualities of the brand itself that are behind its status perception but the brand's ability to provoke an upscale signal. For such consumers, loyalty is unlikely.

$H_{2a}$: The positive influence of brand relationships on customer brand loyalty is stronger for status than non-status brands.

$H_{2b}$: The positive influence of brand relationships on customer brand loyalty is weaker for status than non-status brands.

*Privately vs. Publicly Consumed Brands*. A moderator appearing widely in consumer research is whether consumption occurs in public versus private. For instance, it has been shown that lonely individuals opt for minority-endorsed goods when choices are kept private but switch to majority-endorsed products in public (Wang, Zhu, and Shiv 2012). In the consumer-brand relationship domain, we expect this distinction to be important because brands are commonly used as a tool for impression management (Escalas and Bettman 2005; Graeff 1996).

From the point of view of a consumer who uses a brand publicly, it has been said "you put yourself out there and make a statement about yourself with these brand choices" (Blackston 2018, p. 69). In fact, the power of brands to affect one's public identity is even more pronounced in the current age of social media, which has further transformed brand use into an opportunity to self-express, make a statement, or connect with other 'brand tribe' members (Bardhi and Eckhardt 2017; Schau and Gilly 2003), thereby providing "affiliation value" (Kleine and Baker 2004, p. 8). On the other hand, brands that are used more privately tend to lack a signaling role, are likely to be more autobiographical and laced with idiosyncratic meanings, and may have lower potential for the development of consumer-brand relationships (Bearden and Etzel 1982; Richins 1994; Swaminathan, Stilley, and Ahluwalia 2009a, 2009b). Privately-held consumer brand relationships can still be strong and meaningful, but on average we expect them to be less powerful predictors of brand loyalty.

> $H_3$: The positive influence of brand relationships on customer brand loyalty is stronger for publicly consumed than privately consumed brands.

*Utilitarian vs. Hedonic Brands*. One common way of distinguishing brands is whether they are primarily utilitarian or hedonic (Chen, Lee, and Yap 2017; Kronrod and Danziger 2013). A utilitarian brand is typically purchased for practical reasons, usually in reference to fulfilling a functional consumer need or necessity (Chen et al. 2017; Mehta, Zhu, and Meyers-Levy 2014; Strahilevitz and Myers 1998). A hedonic brand tends to be purchased in pursuit of the consumer seeking pleasure, fun, enjoyment or some other attractive emotional state (Babin, Darden, and Griffin 1994; Hirschman and Holbrook 1982; Nenkov and Scott 2014).

Research suggests that functional brand use is often driven by inertia; because of their more mundane nature, these brands are less likely to result in enduring consumer-brand

connections and are especially prone to consumer switching (Fournier 1998; Hess and Story 2005; Keller 2001; Keller and Lehmann 2006; Verhoef and Langerak 2002). On the other hand, brands that are able to make consumers experience positive emotions – to undertake what has been termed "FEEL marketing" (Schmitt 1999, p. 61) – are more likely to lead to long term and positive consumer-brand relationships (Carroll and Ahuvia 2006; Hollebeek 2013; Park et al. 2010). In other words, more than serving some functional benefit, a positive hedonic experience with a brand is a more promising foundation for the emergence of bonds that keep the consumer together with the brand over time.

> *$H_4$*: The positive influence of brand relationships on customer brand loyalty is stronger for hedonic than utilitarian brands.

*Material vs. Experiential Brands*. People routinely acquire material items such as clothing or dish soap and life experiences such as a trip to Paris. Research generally shows experiences are better at generating positive affect and well-being, and are more meaningful, identity-affirming, and capable of strengthening interpersonal relationships (Bastos and Brucks 2017; Carter and Gilovich 2012; Chan and Mogilner 2017; Gilovich and Kumar 2015; Tully, Hershfield, and Meyvis 2015; Van Boven 2005; Van Boven and Gilovich 2003). All of these seem consistent with the notion that more experiential brands may be particularly effective at strengthening brand relationships and promoting loyalty. In support, Brakus, Schmitt, and Zarantonello (2009) show a positive link between a measure of brand experience and loyalty, while others show in an online environment that positive brand experiences correlate with satisfaction and intentions to interact with that brand in the future (Morgan-Thomas and Veloutsou 2013).

However, most studies on material vs. experiences use either a purchasing or gifting context (Bastos and Brucks 2017; Chan and Mogilner 2017; Gilovich, Kumar, and Jampol 2015; Goodman and Lim 2018), meaning its applicability to brands is not immediately clear. For example, consumers routinely form relationships with brands (e.g., aspirational, human, or place brands) that they are unlikely to acquire or give as gifts (e.g., Ferrari, Howard Stern, San Francisco). More, all brands are intangible because they represent a concept that may (e.g., Dentyne or Porsche) or may not (e.g., YouTube or ING) also be linked to a physical object.

Having an association with physical qualities, however, does not imply that such a brand is equivalent to a material item. That is because many brands that are clearly associated with a tangible object can also be described as highly experiential (e.g., BMW, Clinique, Nike, Harley-Davidson, Apple; see Brakus et al. 2009; Schmitt 1999). This is consistent with recent research on so-called 'experiential products' that are enjoyed over time, that are effective "vehicles for life experiences" (p. 30) and generate as much well-being as the purchase of experiences (Guevarra and Howell 2015). That is, the research on material vs. experiential purchases does not have a neat parallel in a branding context since many brands are linked to both a physical manifestation and decidedly experiential qualities. Taken together, this suggests some ambiguity in terms of whether brands that have a physical or tangible manifestation behave differently with respect to the CBR-Loyalty link than brands that have no such manifestation. Formally, we state the following to parallel the general advantages associated with experiences compared to material goods while acknowledging that it fundamentally remains an open empirical and theoretical question.

> $H_5$: The positive influence of brand relationships on customer brand loyalty is stronger for experiential than material brands.

*Foreign vs. Domestic Brands*. Whether a brand is foreign or domestic is an important distinction in consumer research (Izberk-Bilgin 2012; Swaminathan, Page, and Gürhan-Canli 2007; Tan and Farley 1987). Domestic brands tend to be tied to a sense of identity, particularly patriotism, as well as a view that in buying such brands, a consumer is supporting his community or country (Shimp and Sharma 1987). This ethnocentric rationale rests behind the popular "Buy American" catchphrase prevalent in the United States, for example (Granzin and Olsen 1995). Especially in developed economies, domestic brands are also generally seen as higher quality (Wang and Chen 2004) and have the advantage of existing locally for a longer time (Gao et al. 2006), providing them with an implicit potential advantage with respect to the development of brand loyalty and the "psychological mind share of consumers" (Kinra 2006, p. 16).

Foreign brands do enjoy some benefits – for example, in some categories (e.g., electronics) in some environments (e.g., emerging markets), foreign brands are sometimes viewed as of superior quality, but they are still prone to backlashes based on the same reduced

patriotic appeal outlined above (Chan, Cui, and Zhou 2009; Okechuku and Onyemah 1999) or based on somewhat idiosyncratic facts such as a brand emanating from a country that was formerly a wartime foe (Klein, Ettenson, and Morris 1998). On the whole, we expect that consumers will be more likely to enter into stronger consumer-brand relationships with domestic brands and exhibit greater loyalty with them.

> $H_6$: The positive influence of brand relationships on customer brand loyalty is stronger for domestic than foreign brands.

*Attitudinal vs. Behavioral Customer Brand Loyalty*. In line with Guest's original conceptualization (1944) and echoed by subsequent work (Day 1969; Jacoby 1971; Jacoby and Kyner 1973; Oliver 1999), we treat brand loyalty as constancy of a consumer's brand preference over time. The concept has been operationalized in two key ways. First, it has been contemplated as an attitude. For instance, Chiou and Droge (2006, p. 620) directed consumers to rate their agreement with a series of statements such as "I consider myself to be a loyal patron of this brand". Second, brand loyalty has been envisioned as a behavior. For example, Park et al. (2010, p. 12) asked respondents their extent of actually using certain financial services brands while Nyffenegger et al. (2015, p. 96) measured consumers' brand-specific share of wallet in the context of airline brands.

This attitudinal vs. behavioral distinction represents an important potential moderator. Specifically, we expect that brand relationships will impact customer brand loyalty more when operationalized attitudinally compared to behaviorally. While attitudes typically precede behavior (Lavidge and Steiner 1961; Palda 1966; Ray 1973), consistent with the hierarchy of effects (e.g. Beatty and Kahle 1988) and a range of other factors such as common methods, halo effects or response bias effects (e.g., Bagozzi 1996; Bagozzi and Yi 1991; Podsakoff et al. 2003), it has also been widely documented that attitude is an imperfect predictor of behavior (Ajzen and Fishbein 1977; Chaudhuri and Holbrook 2001; Dick and Basu 1994; Kim and Hunter 1993). Within the CBR domain, research is consistent with this idea. For example, only some consumers with positive attitudes towards and feelings about brands actually demonstrate high purchasing loyalty in that category (Sung and Choi 2010), meaning more objective or behavioral measures of marketing performance (e.g., market share, sales) are imperfectly predicted by

attitudinal measures (Keiningham et al. 2014; Rego, Morgan, and Fornell 2013). Therefore, we hypothesize that:

> $H_7$: The positive influence of brand relationships on customer brand loyalty is stronger for estimates using attitudinal than behavioral customer brand loyalty.

## DATA AND METHOD

### Data Sample, Criteria for Inclusion, and Coding

To generate our database, we made an effort to locate all relevant work that explored the link between consumer brand relationships and customer brand loyalty. Our first step was to dig into several databases, including ProQuest, Google Scholar, PsycINFO, ABI/Inform, Business Source Complete, Web of Science, JSTOR, and Science Direct, employing keywords (e.g., brand relationship, brand loyalty, brand attachment, brand love, self-brand connection, brand identification, brand trust, etc… and variations of these concepts) pertaining to customer brand loyalty and its focal predictors. We also manually reviewed all issues of *Journal of Consumer Research, Journal of Consumer Psychology, Journal of Marketing, Journal of Marketing Research, Journal of the Academy of Marketing Science,* and *Journal of Brand Management* since papers on brand relationships and customer brand loyalty appear frequently in these journals (these six journals represent only a portion of all the journals included; for a complete list of journals and studies see Web Appendix Theme 1).

For inclusion in our meta-analysis, we started with articles published in 1995 (following what can be construed as the establishment of the brand relationship field by Susan Fournier in 1994) and appearing in a journal on the *Financial Times*[2] (i.e., FT 50) list or evaluated in the *Academic Journal Guide* (Chartered Association of Business Schools 2015) as a 2 or higher (out of 4*). We employed these 2+ criteria to ensure a broad range of outlets while maintaining quality control. We also included several book chapters and papers from a recent *JACR* special issue on brand relationships (Park and MacInnis 2018) by established scholars in the domain. When we identified an article or chapter, we examined the reference lists to find further studies. We also relied on Web of Science, Scopus, and Google Scholar to locate the citations of the

[2] With one exception (i.e. *Journal on Computing*), the UT Dallas ranking is a subset of the FT50 list.

included papers. This approach is in line with recommendations of several meta-analysis methodological pieces (Hunter and Schmidt 1990; Rosenthal 1979) as well as published meta-analyses (e.g., Carlson et al. 2009; van Laer et al. 2014). When necessary, we emailed researchers asking for additional details or clarifications about their published works.

Finally, other criteria for inclusion required that (1) a study assessed one or more brand relationships utilizing a multi-item scale, (2) the study included a measure identified as customer brand loyalty (e.g., attitudinal loyalty, behavioral loyalty etc…), and (3) the study entailed empirical consumer-level reactions (most commonly based on surveys and/or experiments). The results had to enable the unambiguous estimation of brand relationship elasticities linking one or more pairs of variables of interest or report other statistical information from which we could calculate elasticities with help of transformations from You et al. (2015) and Gemmill, Costa-Font, and McGuire (2007) (Table 2). Finally, we excluded studies that examined customer brand loyalty in a purely business-to-business domain (such as brand loyalty of manufacturing companies) or those generating theoretical estimates only (e.g., based on econometrics models).

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Insert Table 2 about here

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Using studies found from October 1995 to November 2017, including articles in press at that time, our final database contains 588 brand relationship elasticities from 290 studies reported in 255 publications based on 348,541 consumers (Web Appendix Theme 1). The data were obtained from 46 countries. This sample is larger than in other meta-analyses in the branding and customer loyalty contexts (e.g., 126 studies from Watson et al. 2015). The minimum and maximum number of brand relationship elasticities reported in the same study is 1 and 20, respectively. Since the maximum number of elasticities in a single study (20) accounts for approximately 3.4% (20 out of 588) of the total effects, this indicates that a single study does not provide an excessive number of elasticities. We did not succeed in calculating effect sizes for 25 studies because of incomplete reporting either in the paper itself or in follow-up exchanges.

We prepared a protocol specifying the information to be harvested from each study to reduce error (Rubera and Kirca 2012; Stock 1994). We manually derived the effects and moderators using agreed-on definitions, criteria and information presented in each study. There were few judgment calls, and in those limited instances we discussed and resolved them as

necessary (Zablah et al. 2012). We then corrected every effect size estimate for measurement error through dividing it by the square root of the product of the reliabilities pertaining to the two focal constructs (Hunter and Schmidt 2004). Where authors used observed loyalty metrics (e.g., actual repurchase), we assumed a constant reliability of .8 (Dalton et al. 2003). In cases where researchers omitted reliability estimates within a study, or used a single-item survey-type dependent scale of customer brand loyalty, we utilized the mean for that construct's reliability across all other studies to factor in measurement reliability (Hunter and Schmidt 2004).

Control Variables

We identified a series of control variables corresponding to brand, sample, consumer, journal and methodological characteristics. Because work in the domain moved from a narrow focus on product and service brands into other types such as human brands (e.g., Thomson 2006), place brands (e.g., Debenedetti, Oppewal, and Arsel 2014) and team brands (Ross, James, and Vargas 2006), we controlled for brand type. We assessed whether the focal brand in each study was self-selected by consumers or provided by researchers, as well as whether the focal brand was a 'favorite' (vs neutral or occasionally used brand, etc.). We controlled for gender (Inman, Winer, and Ferraro 2009; Monga 2002), age (Jahn, Gaus, and Kiessling 2012) and whether respondents were students. At the sample level, we accounted for geographic setting (i.e., region of origin of the primary study; Hudson et al. 2016; Lam, Ahearne, and Schillewaert 2012; Pentina, Zhang, and Basmanova 2013) and source of the sample (i.e., lab vs. field vs. other; Aaker et al. 2004; Thomson 2006). We also controlled for study method (survey vs. otherwise; Eisend and Stokburger-Sauer 2013) and journal type (marketing vs. non-marketing; Kumar, Sharma, and Gupta 2017; Rubera and Kirca 2012) using Harzing's (2015) classification. Finally, we included several measurement controls by accounting for absolute (i.e., without any reference to other brands; e.g., Tsai 2011) versus relative (i.e., at least partially in reference to other brands; e.g., Lam et al. 2012) and retrospective (i.e., reporting past/backward-looking loyalty; e.g., Sen et al. 2015) versus prospective (i.e., indicating future/forward-looking loyalty; e.g., Algesheimer, Dholakia, and Herrmann 2005) operationalizations of customer brand loyalty (as well as its measurement order in the study). Table 3 provides additional details about the variables and coding protocol.

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Insert Table 3 about here

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Meta-Analytic Estimation Model Specification and Procedure

Within the framework of meta-analysis, data are characterized by a nested or hierarchical composition (i.e., subjects nested within studies; Denson and Seltzer 2011), deeming traditional regression approaches such as ordinary least squares improper as nested data structures may result in heteroskedasticity in the errors (Krasnikov and Jayachandran 2008). Therefore, to model for within-study error correlations among brand relationship elasticities, we conduct the meta-analysis with hierarchical linear modeling (HLM) in accordance with Bijmolt et al. (2005) and You and colleagues (2015).

We estimate the intraclass correlation coefficient (ρ) for our model, which quantifies the proportion of within-study variance to that of total variance (Raudenbush and Bryk 2001; Snijders and Bosker 1994). In our model, the within-study variance component is significant and equal to .034, and the between-studies variance component is significant and equal to .016. Hence, the intraclass correlation coefficient ρ is .325 (.016/[.016 + .034]), indicating that approximately 32.5% of the variance in effect sizes is accounted for by studies in our data, with the remaining 67.5% of the variance accounted for by individual subjects.

In line with prior meta-analyses in marketing (e.g., Rubera and Kirca 2012; You et al. 2015), we specify our model utilizing the maximum likelihood estimation as it generates robust, consistent, and efficient estimates (Hox 2002; Singer and Willet 2003). We estimate the specific model as follows:

$$\text{Level 1: } Y_{ij} = \beta_{0j} + \beta_j \times X_{ij} + e_{ij,} \text{ and}$$

$$\text{Level 2: } \beta_j = g_0 + m_{j,}$$

where $Y_{ij}$ is the ith brand relationship elasticity from study j, $\beta_0$ is the intercept for the jth study, $\beta_j$ is the parameter estimate of the influencing factors for the jth study, $e_{ij}$ is random error attributable to ith elasticity in study j, $g_0$ is overall intercept, and $m_j$ is the study-level residual error term. The Level 1 equation describes the influence of the brand relationship type, loyalty, journal, brand, sample, consumer, and methodological characteristics previously outlined as possibly impacting brand relationship elasticity, which differ at a study level. The Level 2 equation describes the impact of study characteristics on the intercept and slopes in the Level 1

equation. Put differently, we capture an individual elasticity at Level 1 (unit of analysis) while a study from which an elasticity originates at Level 2 (clusters of units).

Robustness Checks

We performed several checks to ensure the robustness of the results. First, we checked for multicollinearity by inspecting the variance inflation factors (VIF), condition indices and bivariate correlations. All variance inflation factors are lower than 4.4 (average VIF = 1.72, median VIF = 1.56) and all condition indices are less than 12, suggesting only moderate levels of multicollinearity. However, because several combinations of variables in the model exist with a bivariate correlation greater than |.50|, we conducted sensitivity analyses by omitting each of the affected variables one at a time (Bijmolt et al. 2005). This does not alter the substantive results regarding other variables, indicating that the degree of multicollinearity is unlikely to affect the findings (details of these results are available on request). Therefore, we retain all variables in the model (Bijmolt et al. 2005). Second, we considered various plausible interaction effects among key variables to assess how the effectiveness of brand relationship elasticities varies across brand, loyalty, sample, and consumer characteristics. We identified and kept only significant effects. Because extreme multicollinearity would prevent executing the hierarchical linear model with 38 main effects and all possible interactions concurrently, we examined the effect of each of the new interaction terms in the meta-analysis model one at a time (similar to Albers et al. 2010; Bijmolt et al. 2005).

With respect to missing values, we approached the issue as follows. The missing values in our data only occur within three control variables (loyalty order [measured before vs. otherwise], age, gender). For these missing values (214, 344, and 120 observations, respectively, from a total of 588), we used the sample mean as a form of missing value imputation. To confirm the stability of the results, we re-estimated the model excluding these 214, 344, and 120 cases. We also contemplated both the mean and median values. All these approaches generate the same substantive results.

Furthermore, we opted to verify the robustness of our findings to possible outlier bias. The scree plot based on sample-adjusted meta-analytic deviancy statistic (Huffcutt and Arthur 1995) indicates two obvious outliers and one potential outlier in our data. Hence, in line with Geyskens et al. (2009) and Chang and Taylor (2016), we benchmark the findings of the complete

data set with the findings of the abridged data set that exclude the two apparent outliers and the two apparent outliers plus one potential outlier. The results for the abridged dataset fully support the same generalizations as those for the complete data set. We provide a series of extra robustness checks[3], as well as our approaches to accounting for publication bias, in Web Appendix Theme 4. Taken together, the checks support the stability of our model and results.

## RESULTS

### Univariate Analysis of Brand Relationship Elasticity

In Figure 2, we present the frequency distributions of brand relationship elasticity estimates in the database. There are 588 brand relationship elasticities with magnitudes ranging from -.23 to .98; only 14 elasticities reported were negative. The overall sample weighted mean brand relationship elasticity in our meta-analysis is .439 (Mdn = .440, SD = .212). The 95% bootstrapped confidence interval around the mean brand relationship elasticity ranges from .43 to .44, which provides further evidence that brand relationship and customer brand loyalty are significantly and positively related[4]. This finding is not dependent on any single elasticity; that is, the summary effect did not change when any one elasticity estimate was removed from model estimation. Furthermore, as shown in Figure 2, the distribution of brand relationship elasticities approximates normal. Utilizing the HLM model, we analyze the effect of various factors that may drive brand relationship elasticity.

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Insert Figure 2 about here

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### Hierarchical Linear Model Estimation Results

*Which Brand Relationship Elasticity is Greater?* Tables 4 and 5 present the findings of the HLM meta-analytic regression. We used three statistics to confirm model fit: (1) Akaike

[3] As an additional robustness check to ensure stability of the findings, we ran the analyses using dummy coding instead of effect coding reported in the manuscript. The findings replicated/held which further speaks to robustness of the results (Web Appendix Theme 5).

[4] The aggregated weighted individual correlations in the meta-analytic database between loyalty and each of the CBR constructs are as follows: $r_{attachment} = .497$, $p < .001$; $r_{love} = .525$, $p < .001$; $r_{selfbrandconnection} = .409$, $p < .001$; $r_{identification} = .394$, $p < .001$; $r_{trust} = .426$, $p < .001$.

information criterion (AIC) statistic, (2) Bayesian information criterion (BIC) statistic, and (2) deviance (–2 log-likelihood ratio). The final brand relationship elasticity model (model with factors: AIC = -124; BIC = -118; deviance = -164) possesses a better fit than the null brand relationship elasticity model (intercept-only model: AIC = -59; BIC = -46; deviance = -125). Overall, we find that love-based brand relationships are a stronger driver of customer brand loyalty than each of identification-based ($B$ = .062, SE = .019, $p$ < .05), self-brand connection-based ($B$ = .055, SE = .017, $p$ < .05) or trust-based ($B$ = .047, SE = .016, $p$ < .05) relationships. Similarly, compared to each of identification-based ($B$ = .049, SE = .017, $p$ < .05), self-brand connection-based ($B$ = .041, SE = .015, $p$ < .05) or trust-based ($B$ = .033, SE = .013, $p$ < .05) relationships, attachment-based brand relationships emerge a more effective predictor of loyalty. The magnitude of difference between love-based and attachment-based brand relationship elasticities is not statistically significant ($B$ = -.014, SE = .019, $p$ = .463). This implies that while all five types of brand relationships lead to customer brand loyalty, love- and attachment-based brand relationships are relatively more effective. The magnitudes of difference between each of identification-based, self-brand connection-based, and trust-based brand relationship elasticities are not statistically significant ($p$'s > .28 to .61), suggesting that identification-, self-brand connection-, and trust-based brand relationships are equally effective at increasing customer brand loyalty.

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Insert Table 4 about here

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Furthermore, the significant Cochran's Q-test of homogeneity ($Q$ (587) = 15,639.73, $p$ < .001) and the high scale-free index of homogeneity $I^2$ confirm a substantial amount of heterogeneity, implying that the variability of the elasticities is greater than would be anticipated from subject-level sampling error alone (Borenstein et al. 2009). Overall, the results of the HLM model confirm that brand relationships significantly affect customer brand loyalty and thus provide preliminary support for our conceptual framework, but the direction, size, and statistical significance of the average effects differ between the influencing factors, confirming the need for a moderator analysis.

*Which Moderators Influence Brand Relationship Elasticity?* We find support for the moderating role of four hypothesized variables (Table 4). In line $H_1$, we document that the

positive effect of brand relationships on customer brand loyalty is stronger in more recent years ($B$ = .006, SE = .003, $p$ < .05; see also Figure 3) than in earlier years. In support of $H_{2b}$, we observe that the positive influence of brand relationships on customer brand loyalty is weaker for status ($B$ = -.056, SE = .024, $p$ < .05) than non-status brands. Third, in support of $H_3$, we find that the positive impact of brand relationships on loyalty is stronger for publicly consumed ($B$ = .026, SE = .013, $p$ < .05) than privately consumed brands. Finally, in support of $H_7$, the positive effect of brand relationships on customer brand loyalty is weaker for estimates using behavioral ($B$ = -.061, SE = .013, $p$ < .001) than attitudinal customer brand loyalty. None of the other hypothesized moderators exerted a statistically significant impact.

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Insert Figure 3 about here

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*Which Additional Characteristics Influence Brand Relationship Elasticity?* To recap, we set out to investigate whether and how the effectiveness of brand relationship types in driving customer brand loyalty varies as a function of important moderator and control variables identified in the extant consumer-brand relationship and related literatures (see Figure 1) related to brand type (Park and MacInnis 2018), consumer (e.g., age; Jahn et al. 2012) and loyalty characteristics (Watson et al. 2015). We find that brand relationship types interact with several moderator and control variables (table 5). Although love-based and attachment-based brand relationship elasticities are highest in the overall sample, we find that other elasticities are greater under certain conditions. Compared to the love-based brand relationship elasticity, both identification- ($B$ = .008, SE = .003, $p$ < .05) and self-brand connection-based ($B$ = .007, SE = .003, $p$ < .05) brand relationship elasticity is higher for older consumers. For estimates using behavioral loyalty, identification-based brand relationship elasticity ($B$ = .047, SE = .024, $p$ < .05) is greater than the trust-based brand relationship elasticity. With the self-brand connection-based brand relationship elasticity, we find that it is higher than trust-based brand relationship elasticity for publicly consumed brands ($B$ = .028, SE = .013, $p$ < .05) and marginally higher for status brands ($B$ = .052, SE = .028, $p$ = .060). Overall, these findings suggest that love-, attachment-, identification-, self-brand connection-, and trust-based brand relationship elasticities vary considerably across brand, loyalty, and consumer characteristics.

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Insert Table 5 about here

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## GENERAL DISCUSSION

> *If the first three waves were brand as object, idea, and experience, the next wave will be brand as relationships"* (Bonchek and France 2016, p. 1).

### Contributions and Implications

Since 1994, many studies have advanced our understanding of brand relationships. While research has demonstrated that brand relationships lead to customer brand loyalty, most studies rely on a single sample and/or context and thus have not investigated characteristics and factors that moderate the effectiveness of those relationships as a marketing instrument. In addition, there has been no consensus on which brand relationship constructs are most effective in driving customer brand loyalty both overall and in specific contexts. The current study is the first to systematically examine the generalized impact of brand relationships on customer brand loyalty across a large body of literature (588 elasticities from 290 studies) and to detail the differential effects of five different brand relationships while also accounting for a large number of explicit or implicit factors. In doing so, we advance the literatures on consumer-brand relationships and empirical generalizations in marketing in several ways.

First, we move beyond the simple quantification of an aggregate brand relationship elasticity to analyze five key brand relationship constructs, which leads to the insight that love-based and attachment-based brand relationships are most strongly linked to customer brand loyalty. We also find that compared to trust-based brand relationship elasticity, identification-based elasticity is higher when it comes to behavioral loyalty, self-brand connection-based elasticity is greater for publicly consumed brands, and both are higher among older consumers compared to love-based elasticity. In so doing, we also respond to recent calls for integrating brand relationship research and moving beyond the experimental paradigm (Alvarez and Fournier 2016) by synthesizing extant research on the brand relationship-customer brand loyalty link with an eye to reducing some of the "complexity of [the] brand-relationship space" (Fournier 2009, p. 5). Our investigation allows us to supplement the understanding of brand-level

factors such as brand personality (Eisend and Stokburger-Sauer 2013) with a more sophisticated understanding of brand relationship-level factors.

Second, the findings of our meta-analysis also have implications for scholars in the domain of empirical generalizations in marketing (Bass 1995; Bass and Wind 1995; Bijmolt et al. 2005; Hanssens 2009; 2018). In revisiting Table 1, we demonstrate the importance of brand relationship elasticity to this body of work. Though there are some important differences across these papers in terms of how variables are operationalized that in some cases prevents direct comparison, it nevertheless appears that with the exception of price, brand relationships exhibit among the highest elasticities. Thus in brand relationships, scholars focused on empirical generalizations in marketing have a powerful tool to employ when examining its influence on marketing value and consumer behavior. This builds on earlier work of Edeling and Fischer (2016), reinforcing their findings that brand-related assets are critical drivers of firm value. In fact, given that we also document a significant effect of time, suggesting an increasing relative importance of CBRs as a strategic asset, this implies something of a managerial imperative: CBRs are already an important influence on downstream loyalty and we project this influence will likely continue to grow.

*Other Moderators*. With around four-fifths of the 290 studies in our sample published in the last decade culminating in a recent *JACR* special issue on brand relationships (Aggarwal and Shi 2018; Ahuvia et al. 2018; Albert and Thomson 2018; Kristofferson, Lamberton, and Dahl 2018; Malär et al. 2018; Park and John 2018; Park and MacInnis 2018; Reimann et al. 2018; Williams et al. 2018; Zhang and Patrick 2018), there has been a rapid rise in academic interest in examining brand relationship elasticities. That brand relationship elasticities are higher if customer brand loyalty is measured attitudinally suggests that it is vital to explicitly specify which definition of customer brand loyalty is used, reinforcing the findings of Watson et al. (2015). That is, customer brand loyalty should be decomposed into its attitudinal and behavioral components.

Reflected in part by our examination of other moderators, our results may be instructive to managers who want to better understand their own local efforts to optimize their marketing tactics. In fact, marketing departments are routinely under pressure to show the value of their marketing spending (Verhoef and Leeflang 2009). Our meta-analysis confirms that brand relationships are a practical tool to boost customer brand loyalty and in theory suggests that on

average, a 1% increase in brand relationship strength is associated with a .44% improvement in customer brand loyalty. Under certain conditions, the strength of this link may be even stronger. For example, we found that two variables – non-status vs. status brands and privately vs. publicly consumed brands – played a significant role as moderators. Specifically, marketers should expect greater correspondence between brand relationships and customer brand loyalty in the context of low-status brands and publicly consumed brands. That brand relationships drive customer brand loyalty differently depending on the type of the focal brand importantly echoes a recent conclusion reached by Park and MacInnis (2018), who argue conceptually that the efficacy of branding strategies may be a function of the type of brand being marketed. Failing to account for such differences could generate misleading results in future research by, for example, exaggerating or masking the efficacy of brand relationship-building efforts. Our results suggest, for example, marketers of luxury brands may have to invest more to promote loyalty through CBRs or even that it might be more efficient for them to invest in alternative marketing instruments to achieve similar returns on loyalty. Meanwhile, makers of brands that are consumed in public seem to be in a more enviable position.

Finally, it is worth noting that some of the null effects pertaining to our moderators may to some extent be reassuring for researchers because several sample and methodological characteristics (i.e., geographic setting, source of the sample, and study method) did not have a significant effect on brand relationship elasticity estimates, thereby giving researchers flexibility in this space. We also found no evidence to support moderation by either material vs. experiential brands nor utilitarian vs. hedonic brands. We hope the former result will motivate research along the lines of Guevarra and Howell (2015) but with a focus on brands to understand which of their qualities validate the application of insight generated from the material vs. experience literature (e.g. Van Boven 2005; Van Boven and Gilovich 2003) and which qualify brands as unique entities (e.g. Schmitt, Brakus, and Zarantonello 2015). It is true that research suggests more hedonic and experiential brands are positively linked to loyalty (e.g., Brakus et al. 2009), but our findings also suggest that there is considerable corresponding loyalty on display in the context of consumers' relationships with functional brands. However, caution should be exercised interpreting null results: it could be there is no true effect, but it could also be factors like measurement error or our approach may have prevented us from detecting a significant result.

*Comparing to Prior Work.* Several results are also directly comparable to what is reported in two prior meta-analysis. To facilitate comparisons, we calculated the sample-weighted reliability-adjusted correlation coefficients for the links between trust and loyalty. In our paper, this correlation is moderate ($r$ = .43). Both Palmatier et al. 2006 (trust-loyalty $r$ = .54) and Watson et al. 2015 (trust-attitudinal loyalty $r$ = .63; trust-behavioral loyalty $r$ = .55) report qualitatively stronger relationships. While the differences between these correlation coefficients are not significant (i.e. $z$'s = -.59 to -1.07, $p$'s >.28), this is likely attributable to different sample sizes. In fact, given that a large portion of their data features business-to-business observations where trust is central to interactions over time and relationship management is necessary by virtue of a number of factors (e.g. greater product complexity, more focus on risk-reduction and more formalized relational mechanisms – see Coviello and Brodie 2001; Mudambi 2002), it makes sense that they appear to report stronger relationship between trust and loyalty.

## Limitations and Future Research Opportunities

This study has limitations that reflect possible avenues for further research. First, the factors we examine are restricted to variables for which sufficient primary data is available and while we made efforts to be exhaustive in our literature search, we may have overlooked data. Therefore, our framework should be treated as a summary of the most commonly studied factors related to the brand relationship elasticity, not an exhaustive list. In fact, while we think we are focusing on the five most prevalent consumer-brand relationship constructs, we acknowledge that we have omitted several, mostly due to ambiguity about where such constructs fall in a branding nomological network. For example, we set aside brand commitment and attitude because we viewed them as possibly confounded with brand loyalty. Finally, we do not consider satisfaction, which represents an enormous literature that is also more typically focused on consumer-firm interaction in the context of expectations/disconfirmation than on the quality of the consumer's relationship with a specific brand.

Second, substantial parts our data come from United States and relate to consumer electronics, packaged goods, clothing retailing, and the automotive industry. In essence, these factors represent conditions that substantially bind our understanding of the CBR phenomenon, since we lack adequate understanding on a number of issues such as how they operate in developing markets or how they are subject to varying cultural influences. So, it is our hope that

researchers enlarge the scope of brand relationship elasticity research in terms of examining more diverse settings. For the purposes of generating a maximum impact (e.g., Farley, Lehmann, and Mann 1998), we hope that future studies (1) are from African, South American, or Asian settings; (2) use a longitudinal design; (3) include different brand relationships in the same study and (4) examine additional traditional outcomes such as word-of-mouth and market share as well as less traditional outcomes such as consumer well-being and social welfare. In addition, our view is that brand relationship studies tend to use a narrow set of metrics to capture customer brand loyalty. As a result, we hope that going forward researchers will consider different customer brand loyalty operationalizations that capture formats other than self-reported attitudes and evaluations (e.g., scanner data with actual repurchase history, physiological response measures).

Third, like other meta-analysis, our study relies on partially subjective data coding – indeed, meta-analysts are always constrained in their ability to derive variables because of the often-limited description of research in primary articles. Thus, we provide the meta-analytic coding scheme to make our decisions transparent. A related issue is that the brand relationship elasticities found in the original studies may be somewhat positively biased due to oversampling of successful brands; brands that fail to establish relationships with consumers may have exited the market and would thus not be reflected in our database. We also know that we were unable to include elasticities from all available brand relationship studies because some of them failed to provide enough information. We follow Albers (2012) and Edeling and Fischer (2016) in recommending that authors report dimensionless elasticities in addition to unstandardized regression coefficients. Including these statistics will enable synthesis across studies and consolidation of empirical findings and, in turn, generate cumulative knowledge development within the brand relationship field.

Fourth, in line with recommendations by Palmatier et al. (2006), we encourage scholars to use multiple brand relationship metrics to map the different aspects of brand relationships, since single metrics are unlikely to fully capture the essence or depth of brand relationships. This is particularly important since we identified that in most studies, the emphasis is on only one or few causal linkages with different definitions for constructs and variables. It also underscores a need to consolidate definitions and measures of the various brand relationship concepts being investigated in future studies.

*Going Forward – A Need for Discriminant Validity and Modeling of Possible Inter-Relationship/Hierarchy*. We show that the predictive power of both brand attachment and brand love appear to be equivalent. Along with the many apparent similarities between the two constructs, this opens the door to future work investigating their conceptual and empirical uniqueness. Conceptually, for example, Carroll and Ahuvia define brand love in terms of "passionate emotional attachment" (Carroll and Ahuvia 2006, p. 81) while elsewhere, feelings of attachment are construed as a critical component of brand love (e.g. Batra et al. 2012; new scale in Bagozzi et al. 2017). In fact, both brand attachment and brand love are primarily affective constructs reflecting intense emotional bonds (Albert et al. 2009; Carroll and Ahuvia 2006; Thomson et al. 2005), which deems them conceptually similar (Moussa 2015). The two constructs are measured in similar fashions too. For example, affection and passion are explicitly assessed with respect to both brand attachment (e.g. Thomson et al. 2005) and brand love (e.g. Albert et al. 2009).

In the same vein, self-brand connection and brand identification that provide substantively similar results in the current manuscript also seem to be similar conceptually. For instance, definitions of both concepts focus on the ideas of 'oneness' and brand-self overlap (Belk 1988; Escalas and Bettman 2003; Stokburger-Sauer et al. 2012). This conceptual overlap has been acknowledged by several researchers, most notably Stokburger-Sauer et al. (2012) who explicitly note that brand identification is conceptually related to the construct of self-brand connection (p. 407) in that both capture a brand's role in allowing consumers to articulate their identities. Measurement similarities between the two constructs exist too. For instance, some studies (e.g. Albert, Merunka, and Valette-Florence 2013; Sen et al. 2015) have treated brand identification and self-brand connection interchangeably by, for example, conceptualizing about brand identification but measuring it using self-brand connection items. As such, future theoretical and empirical work addressing the discriminant validity of both pairs of constructs would advance the field.

Related, most papers contemplate only one type of brand relationship and propose it directly impacts brand loyalty. However, research also suggests that some of these brand relationships (e.g., self-brand connection) work at least in part through other constructs such as love (e.g., Loureiro et al. 2012). Hence, the possible inter-relationships among (and potential hierarchical arrangement across) these five CBR constructs also merit systematic exploration in

future research, in particular by elaborating on their shared nomological network to provide deeper insights. For example, some researchers suggest that identity and the self are relevant components of both brand attachment ("to what extent is the brand part of you and who you are"; Park et al. 2010, p. 6) and brand love ("[brand] is an important part of how you see yourself?"; Bagozzi et al. 2017, p. 3). Others document that measures of identity and attachment are only moderately correlated and load onto separate factors (Sen et al. 2015; Carlson and Donavan 2013). It remains an open question, thus, whether brand identification and self-brand connection are components of or predictors of brand attachment and love. Our intuition is that generally consumers will follow a similar pattern: consumers are likely to first establish a foundation of brand trust, with its focus on reliability and certainty (Jones et al. 2018). This more "calculative" realm of cognitions (Chaudhuri and Holbrook 2001) will then, over time and through its focus on making the consumer feel confident about the brand, give way to consumers' self-expressing through that brand – that is, brand identification and self-brand connection. Depending on one's view of whether identity is part of attachment and love or merely a predictor of each, identity-relevant connections may then grow into or follow with more affectively-laden brand bonds. Taken together, while such inter-relationship/hierarchy may be theoretically supported, we are constrained in dealing with the issue here because of insufficient empirical work to reflect this theorizing. Until such data is published, there is simply no way statistically to deal with this concern in meta-analysis, which opens up another interesting and important avenue for future research.

Broadly, then, our view is that there needs to be a consolidation and systematic, theoretical articulation of what constructs are unique versus which are merely repackaging of old ideas. Another way of stating this is that based on our review of the large body of research on this topic (Brown, Homer, and Inman 1998) and the current findings (either directly or indirectly), the field would benefit from understanding the jingle and jangle fallacies present in the consumer-brand relationship domain: jingle represents a situation where two 'constructs' with identical names actually measure different underlying ideas while jangle represents a situation where allegedly different constructs actually measure the same idea (see Larsen and Bong 2016). Recent efforts to clarify the relationships among CBR constructs are helpful (e.g., Jones et al. 2018) but need to be taken farther to address the many apparent contradictions and unacknowledged similarities in the literature. For example as alluded to above, it is important

both practically and theoretically to understand the discriminant validity of, and interactions between, brand attachment/love and brand identification/self-brand connection.

In fact, resolving these jingle and jangle fallacies would also help to address constructs that we deliberately did not address in our meta-analyses such as brand commitment. We avoided this construct because the associated conceptualizing and measurement spanned both our independent and outcome variables, depending on which paper one contemplated. For example, while brand commitment is often conceptualized as a psychological variable (Beatty and Kahle 1988; Lastovicka and Gardner 1978), it is measured in such a way that has direct relevance to both the psychological bond (e.g. "How closely connected to you feel to this brand?" Fritz, Lorenz, and Kempe 2014) and concepts that are relevant to brand loyalty such as purchase intention (Germann et al. 2014), repeat purchase (e.g., Fritz et al. 2014), brand switching (e.g., Herm 2013), continuance commitment (Lee, Huang, and Hsu 2007) and attitudinal loyalty (e.g., Ha and Janda 2014). There thus appears to be moderate disagreement among brand commitment scholars on what the construct is and how it should be measured. Broadly speaking, until a theoretical and statistical resolution to these issues of construct overlap is advanced, there will continue to be in the literature a possibly uncomfortable degree of theoretical muddling, over-stated claims of both novelty and causality, and managerial confusion regarding brand relationships as a strategic marketing asset.

## Conclusion

Farley, Lehmann, and Sawyer (1995, p. 37) wrote that "the prime benefit of meta-analysis in marketing has been that, with judicious use, it has delivered generalized quantitative estimates of such important measures as price and advertising elasticities." However, in spite of its prominence in many firm' marketing budgets, the literature has not provided substantive empirical generalizations regarding brand relationship elasticities. Our paper fills this gap, helping managers to improve returns on their brand relationship investments and researchers with guidelines to build more robust models of the impact of brand relationship on customer brand loyalty.

**TABLE 1: Comparison with Other Marketing Instrument Elasticities**

| Marketing Instrument | Source | Mean Elasticity |
|---|---|---|
| Advertising | Assmus, Farley, Lehmann (1984) | .22 (short-term)<br>.41 (long-term) |
| | Sethuraman, Tellis, Briesch (2011) | .12 (short-term)<br>.24 (long-term) |
| Price | Tellis (1988) | -1.76 |
| | Bijmolt, Van Heerde, Pieters (2005) | -2.62 |
| Pharmaceutical promotional | Kremer et al. (2008) | .33 (detailing)<br>.12 (direct-to-physician advertising)<br>.06 (other direct-to-physician instruments)<br>.07 (direct-to-consumer advertising) |
| Personal selling | Albers, Mantrala, Sridhar (2010) | .31 (short-term)<br>.75 (long-term) |
| Online product review | Floyd et al. (2014) | .69 (volume)<br>.35 (valence) |
| Electronic word-of-mouth | You, Vadakkepatt, Joshi (2015) | .236 (volume)<br>.417 (valence) |
| Brand relationships | Present research | .439 |

**TABLE 2: Elasticity Transformation Equations**

| Regression specification | Statistical model | Elasticity equation |
|---|---|---|
| Log-log | $\ln(y) = \alpha+\beta\ln(x)+\varepsilon$ | $\beta$ |
| Log-level | $\ln(y) = \alpha+\beta x+\varepsilon$ | $\beta\bar{x}$ |
| Level-log | $y = \alpha+\beta\ln(x)+\varepsilon$ | $\beta\ (1/\bar{y})$ |

*Note: These are types of regression specifications used in brand relationship research. Here, x refers to brand relationship, and y refers to customer brand loyalty.*

## TABLE 3: Factors Included in the Meta-Analysis, Explanations, and Coding Scheme

| Category Variable | Explanation | Coding Scheme |
|---|---|---|
| **Brand Relationship Characteristics** | | |
| Identitfication-based | Relationship based on perceived state of oneness with a brand, typically captured by brand identification construct | Base: Not identification-based (-1)<br>Identification-based: (1) |
| Self-brand connection-based | Relationship based on incorporation of a brand into self-concept, typically captured by self-brand connection construct | Base: Not self-brand connection-based (-1)<br>Self-brand connection-based: (1) |
| Trust-based | Relationship based on reliance on the ability of a brand to perform its stated function, typically captured by brand trust construct | Base: Not trust-based (-1)<br>Trust-based: (1) |
| Attachment-based | Relationship based on emotion-laden target-specific bond with a brand, typically captured by brand attachment construct | Base: Not attachment-based (-1)<br>Attachment-based: (1) |
| Love-based | Relationship based on passion and affection for a brand, typically captured by brand love construct | Base: Not love-based (-1)<br>Love-based: (1) |
| **Moderator Variables** | | |
| Time | Year of data collection for the original study | Continuous (fixed effect) |
| Non-status and mixed vs. Status | Focal brand at least partially does not enable a consumer to articulate her economic and/or social status and is more mundane<br>Focal brand enables a consumer to articulate her economic and/or social status (e.g., luxury items) | Base: Non-status and mixed (-1)<br>Status: (1) |
| Privately and mixed vs. Publicly consumed | Focal brand's consumption tends to occur at least partially in private (i.e., in the absence of others)<br>Focal brand's consumption tends to occur primarily in public (i.e., in the presence of others) | Base: Privately and mixed (-1)<br>Publicly consumed: (1) |
| Utilitarian and mixed vs. Hedonic | Focal brand is at least partially purchased for practical reasons to fulfill a functional need or necessity<br>Focal brand is purchased primarily to pursue pleasure, fun, enjoyment, or another attractive emotional state | Base: Utilitarian and mixed (-1)<br>Hedonic: (1) |
| Material and mixed vs. Experiential | Focal brand is at least partially a material good/possession that has a tangible, physical form<br>Focal brand is a life experience/event or a series of experiences/events that one lives through | Base: Material and mixed (-1)<br>Experiential: (1) |
| Foreign and mixed vs. Domestic | Focal brand's country of origin at least in part differs from consumers' country of origin in the original study<br>Focal brand's country of origin is identical to consumers' country of origin in the original study | Base: Foreign and mixed (-1)<br>Domestic: (1) |
| Attitudinal and mixed vs. Behavioral loyalty | Reported loyalty taps into loyal attitudes and evaluations of a brand or its combination with behavioral loyalty<br>Reported loyalty taps solely into actual brand loyal behaviors (i.e., repeat purchase) | Base: Attitudinal and mixed (-1)<br>Behavioral: (1) |

| | | |
|---|---|---|
| **Journal Characteristics** | | |
| Marketing<br>vs. Non-marketing | Outlet of the original study has a mainly marketing focus<br>Outlet of the original study does not have a mainly marketing focus | Base: Marketing (-1)<br>Non-marketing: (1) |
| **Brand Characteristics** | | |
| Self-selected<br>vs. Provided | Focal brand's nomination is self-selected by consumers<br>Focal brand's nomination is provided by researchers | Base: Self-selected (-1)<br>Provided: (1) |
| Favorite<br>vs. Otherwise | Elicited focal brand is a favorite brand for consumers<br>Elicited focal brand is not a favorite brand for consumers (neutral brand, occasionally used brand, etc.) | Base: Favorite (-1)<br>Otherwise: (1) |
| Product brand | Focal brand is a physical entity (a good) for which the exchange/use primarily concerns the tangible form | Base: Not product brand (-1)<br>Product brand: (1) |
| Service brand | Focal brand is an intangible entity (a marketplace activity) for which the exchange/use primarily concerns the intangible form | Base: Not service brand (-1)<br>Service brand: (1) |
| Store brand | Focal brand is a specific retailer (outlet) | Base: Not store brand (-1)<br>Store brand: (1) |
| Team brand | Focal brand is an entity comprised of persons with different skills to work toward a goal as defined by the team manager | Base: Not team brand (-1)<br>Team brand: (1) |
| Human brand | Focal brand is a well-known persona who is the subject of marketing communications efforts | Base: Not human brand (-1)<br>Human brand: (1) |
| Mixed brand | Focal brand (s) has/have multiple categories (product and service, etc.) | Base: Not mixed brand (-1)<br>Mixed brand: (1) |
| Place brand | Focal brand is a commercial or non-commercial environment (location) consisting of physical venue properties and the social and psychological processes that occur within its boundaries | Base: Not place brand (-1)<br>Place brand: (1) |
| **Sample Characteristics** | | |
| Lab | Sample of the original study collected in the lab context | Base: Not lab (-1)<br>Lab: (1) |
| Field | Sample of the original study collected in the field context | Base: Not field (-1)<br>Field: (1) |
| Other | Sample of the original study collected in the other context (online, mail, etc.) | Base: Not other (-1)<br>Other: (1) |
| Asia | Sample of the original study originates from Asia | Base: Not Asia (-1)<br>Asia: (1) |
| Australia/Oceania | Sample of the original study originates from Australia/Oceania | Base: Not Australia/Oceania (-1)<br>Australia/Oceania: (1) |
| Europe | Sample of the original study originates from Europe | Base: Not Europe (-1)<br>Europe: (1) |
| Mixed | Sample of the original study originates from multiple geographic settings (Europe and America, etc.) | Base: Not mixed (-1)<br>Mixed: (1) |
| America | Sample of the original study originates from America | Base: Not America (-1)<br>America: (1) |

| | | |
|---|---|---|
| **Consumer Characteristics** | | |
| Students vs. Non-students | Sample of the original study primarily consists of students<br>Sample of the original study primarily consists of non-students | Base: Students (-1)<br>Non-students: (1) |
| Age | Average age of the original sample in years | Continuous |
| Gender | Percentage of female respondents in the original sample | Continuous |
| **Methodological and Data Characteristics** | | |
| Survey vs. Otherwise | Method of the original study is survey<br>Method of the original study is non-survey (experiment, etc.) | Base: Survey (-1)<br>Otherwise: (1) |
| Measured absolute vs. Relative and mixed | Loyalty is reported without any reference to other brand (in isolation)<br>Loyalty is reported at least partially in reference to other brands | Base: Absolute (-1)<br>Relative and mixed: (1) |
| Measured prospective and mixed vs. Retrospective | Future (forward looking) or mixed loyalty is reported<br>Past (backward looking) loyalty is reported | Base: Prospective and mixed (-1)<br>Retrospective: (1) |
| Measured order before vs. Otherwise | Loyalty in the original study measured before brand relationship scales<br>Loyalty in the original study measured either after brand relationship scales or randomized | Base: Measured before (-1)<br>Otherwise: (1) |

## TABLE 4: Estimation of HLM Results

| Variable | Estimate | SE | DF | *t*-value | *p*-value |
|---|---|---|---|---|---|
| Constant | .430 | .167 | 224 | 2.57 | .011 |
| **Brand Relationship Elasticities** | | | | | |
| Identfication-based | -.062 | .019 | 564 | -3.21 | .001 |
| Self-brand connection-based | -.055 | .017 | 510 | -3.18 | .002 |
| Trust-based | -.047 | .016 | 537 | -2.86 | .004 |
| Attachment-based | -.014 | .019 | 553 | -.73 | .463 |
| Love-based | 0 | | | | |
| **Moderator Variables** | | | | | |
| time | .006 | .003 | 290 | 2.00 | .046 |
| non-status and mixed vs. status | -.056 | .024 | 338 | -2.29 | .023 |
| privately and mixed consumed vs. publicly consumed | .026 | .013 | 309 | 1.99 | .048 |
| utilitarian and mixed vs. hedonic | .007 | .017 | 424 | .41 | .683 |
| material and mixed vs. experiential | .005 | .018 | 370 | .31 | .759 |
| foreign and mixed vs. domestic | .019 | .014 | 333 | 1.36 | .175 |
| attitudinal and mixed vs. behavioral loyalty | -.061 | .013 | 528 | -4.66 | <.001 |
| **Control Variables** | | | | | |
| *Journal characteristics* | | | | | |
| marketing vs. non-marketing | -.007 | .013 | 319 | -.55 | .585 |
| *Brand characteristics* | | | | | |
| self-selected vs. provided | -.001 | .014 | 258 | -.01 | .998 |
| favorite vs. otherwise | .025 | .014 | 312 | 1.78 | .076 |
| product brand | .020 | .021 | 318 | .93 | .351 |
| human brand | .052 | .048 | 295 | 1.08 | .281 |
| store brand | .028 | .022 | 314 | 1.25 | .214 |
| place brand | -.001 | .024 | 387 | -.03 | .979 |
| mixed brand | .017 | .022 | 283 | .78 | .437 |
| team brand | -.029 | .050 | 114 | -.58 | .563 |
| service brand | 0 | | | | |
| *Sample characteristics* | | | | | |
| lab | .025 | .034 | 321 | .75 | .456 |
| other | .028 | .017 | 294 | 1.70 | .091 |
| field | 0 | | | | |
| Asia | .026 | .031 | 105 | .86 | .392 |
| Australia and Oceania | .033 | .036 | 169 | .92 | .359 |
| Europe | .008 | .030 | 90.5 | .28 | .778 |
| America | .023 | .030 | 92.8 | .77 | .442 |
| Africa | .108 | .077 | 257 | 1.40 | .163 |
| mixed | 0 | | | | |
| *Consumer characteristics* | | | | | |
| students vs. non-students | .019 | .029 | 358 | .67 | .505 |
| age | -.001 | .002 | 328 | -.48 | .630 |
| gender | -.0002 | .001 | 272 | -.24 | .807 |

| | | | | | |
|---|---|---|---|---|---|
| *Methodological and data characteristics* | | | | | |
| survey vs. otherwise | .020 | .021 | 344 | .92 | .357 |
| measured absolute vs. relative and mixed | -.059 | .012 | 581 | -4.77 | <.001 |
| measured prospective and mixed vs. retrospective | .017 | .009 | 584 | 1.88 | .061 |
| measured order before vs. otherwise | -.016 | .014 | 580 | -1.15 | .251 |

[a] *Variables where estimates are zero serve as base/reference for their respective categories (e.g., identification-based, self-brand connection-based, trust-based, and attachment-based estimates are all compared to love-based ones).*

## TABLE 5: Estimation Results of HLM Interaction Effects

| Variable | Estimate | SE | DF | t-value | p-value |
|---|---|---|---|---|---|
| **Brand Relationship Elasticities x Loyalty Characteristics** | | | | | |
| (trust-based x behavioral) vs. (identification-based x behavioral) | .047 | .024 | 471 | 1.97 | .049 |
| (trust-based x behavioral) vs. (self-brand connection-based x behavioral) | .031 | .018 | 552 | 1.68 | .093 |
| **Brand Relationship Elasticities x Brand Characteristics** | | | | | |
| (trust-based x status) vs. (identification-based x status) | .073 | .041 | 280 | 1.79 | .075 |
| (trust-based x status) vs. (self-brand connection-based x status) | .052 | .028 | 299 | 1.89 | .060 |
| (trust-based x publicly consumed) vs. (self-brand connection-based x publicly consumed) | .028 | .013 | 586 | 2.18 | .030 |
| (love-based x publicly consumed) vs. (self-brand connection-based x publicly consumed) | .030 | .017 | 530 | 1.72 | .087 |
| **Brand Relationship Elasticities x Age** | | | | | |
| (love-based x age) vs. (identification-based x age) | .008 | .003 | 579 | 2.66 | .008 |
| (love-based x age) vs. (self-brand connection-based x age) | .007 | .003 | 527 | 2.53 | .012 |
| (love-based x age) vs. (attachment-based x age) | .005 | .003 | 571 | 1.69 | .091 |

[a] *Interaction terms that appear first serve as base/reference terms for successive comparisons (e.g., identification-based x behavioral loyalty interaction term estimate is compared to trust-based x behavioral loyalty one).*

**FIGURE 1: Conceptual Framework of Current Meta-Analysis**

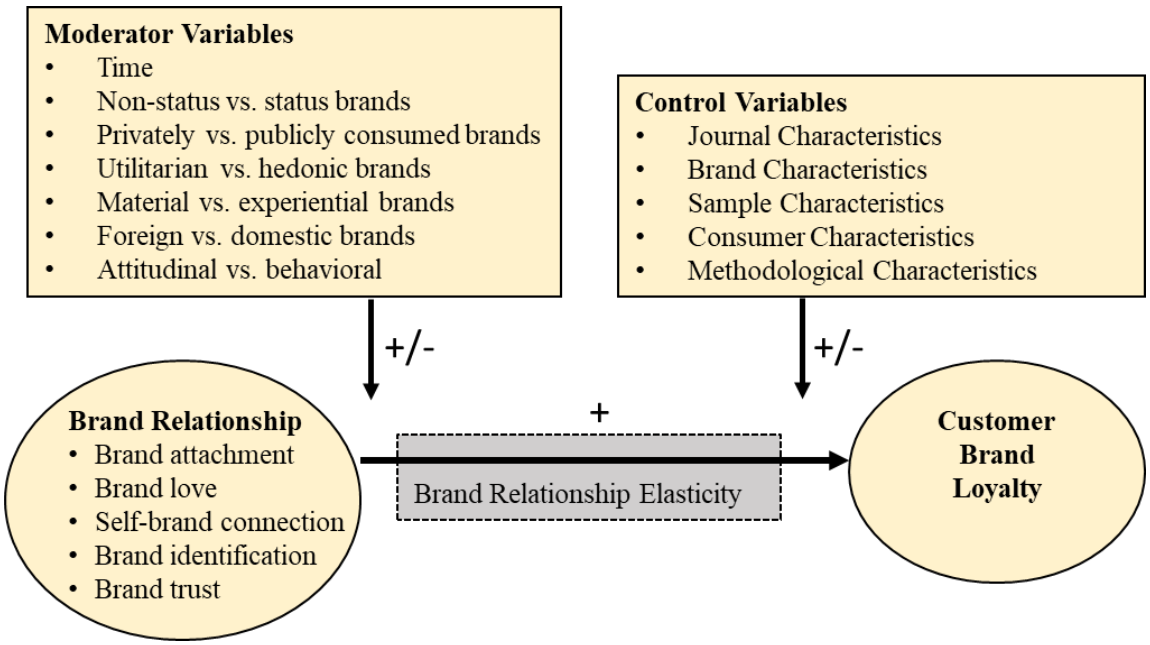
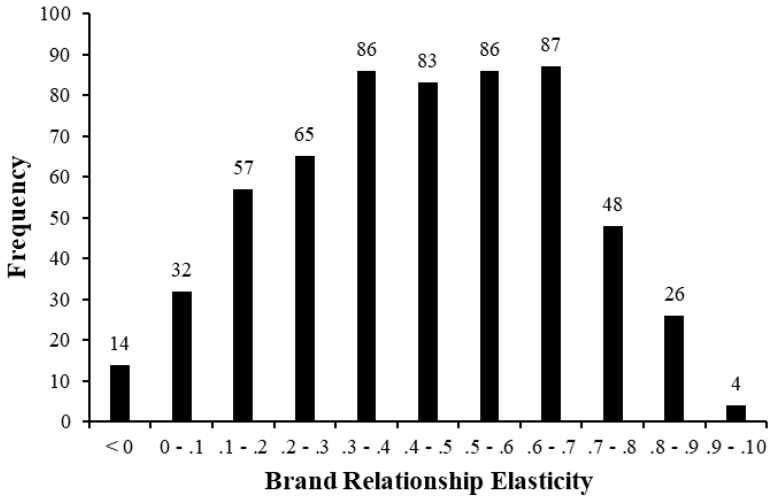
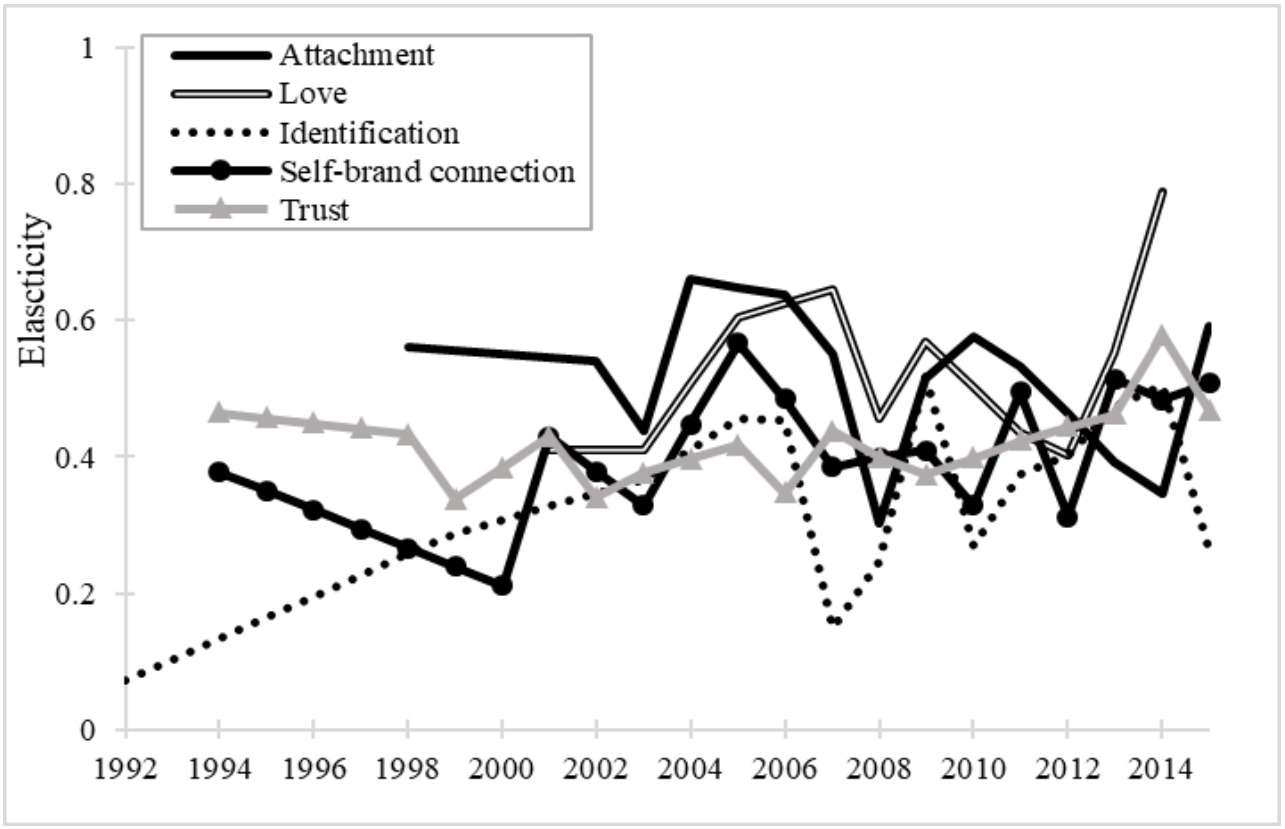


**FIGURE 2: Frequency Distribution of Brand Relationship Elasticities**




*Note: Web Appendix Theme 2 reports how these Brand Relationship Elasticities are distributed over time.*

**FIGURE 3: Elasticities over Time**



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