Consumer Perception of Brand and Product Gender:
An Empirical Investigation of the Effects on Consumer Response and Behavior

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The University of St. Gallen, School of Management, Economics, Law, Social Sciences and International Affairs hereby consents to the printing of the present dissertation, without hereby expressing any opinion on the views herein expressed.

St. Gallen, October 21, 2013

The President:

Prof. Dr. Thomas Bieger

To my dear parents

Maria Johanna Theresia & Bernd Frank van Tilburg

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Just as the perceived attractiveness of highly feminine or highly masculine brands is guided by evolutionary principles, so this dissertation is the result of an evolutionary development. I would like to seize the opportunity to thank some people without whom I would not have "survived" this evolutionary process of the past three years.

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Summary

Gender represents an omnipresent social category and a core element of human identity. Languages, for example, typically specify female and male terms, society assigns certain roles to sexes, and the gender of a newborn is of primary interest. Social psychology states that gender is the first aspect people notice and mentally process in social interactions, possessing the potential to influence the perception of all subsequent personality traits. Although parallels between human personality and that of brands and products have been discovered and discussed in marketing literature, there is a lack of empirical investigations concerning gender as a salient trait of brands and products. The thesis at hand contributes to marketing literature by empirically analyzing the source of brand and product gender perception as well as its effects on consumer response and behavior. From a practical perspective, the results provide implications for brand managers and product designers on how to create strong brand and product gender in order to evoke favorable consumer behavior. The findings are summarized in five articles.

As a first objective the source of brand gender perception and its effect on consumer response were analyzed. Article I presents brand design elements, like logo, name, font, and color, as source of brand gender perception and demonstrates how the markers of gender discussed in the literature of evolutionary psychology and sound symbolism can be applied to brand design in order to create brand gender and evoke favorable consumer response. Article II extends this finding and shows that strong brand gender relates beyond other brand personality traits positively to brand equity, and that this relation is valid for both consumer sexes. An ease-of-categorization mechanism is identified as the underlying cause. Article III determines gender similarity between two brands as a success criterion for a high brand alliance fit and an increase in purchase intention. As a second objective the source of product gender perception and its effects on consumer behavior were analyzed. Based on findings of evolutionary psychology, Article IV identifies that the product's aesthetics, like form, color, and material, influence gender perception and reveals that strong gendered products result in favorable consumer responses. Article V represents a qualitative summary of the above-mentioned empirical research results for brand managers and product designers.

Zusammenfassung

Das Geschlecht repräsentiert eine allgegenwärtige, soziale Kategorie und ein Kernelement der menschlichen Identität. Sprachen zum Beispiel, spezifizieren typischerweise weibliche und männliche Begriffe, Gesellschaften ordnen Geschlechtern Rollen zu und das Geschlecht eines Neugeborenen ist von primärem Interesse. Die Sozialpsychologie erklärt das Geschlecht als erstes wahrgenommenes und mental verarbeitetes Merkmal in sozialen Interaktionen, mit der Fähigkeit alle darauffolgend wahrgenommenen Persönlichkeitseigenschaften zu beeinflussen. Obwohl Parallelen zwischen der menschlichen Persönlichkeit und der von Marken und Produkten entdeckt und in der Marketingliteratur diskutiert wurden, besteht ein Mangel an empirischen Untersuchungen bzgl. des Geschlechts als hervorstechendes Merkmal von Marken und Produkten. Die vorliegende Dissertation bereichert die Marketingliteratur, indem sie die Wahrnehmungsquelle des Marken- und Produktgeschlechts sowie deren Einfluss auf die Konsumentenreaktion und das -verhalten empirisch untersucht. Die Erkenntnisse bieten Implikationen für Markenmanager und Produktdesigner zur Gestaltung eines starken Marken- und Produktgeschlechts, mit dem Ziel ein vorteilhaftes Konsumentenverhalten hervorzurufen. Die Erkenntnisse sind in fünf Artikeln zusammengefasst.

Ein erstes Ziel war es die Wahrnehmungsquelle des Markengeschlechts und deren Einfluss auf die Konsumentenreaktion zu analysieren. Artikel I präsentiert Markendesignelemente, wie Logo, Name, Schrift und Farbe, als Wahrnehmungsquelle des Markengeschlechts und demonstriert wie Geschlechtermerkmale der Evolutionspsychologie und Lautsymbolik im Markendesign angewendet werden können, um ein Geschlecht zu kreieren und eine vorteilhafte Konsumentenreaktion zu fördern. Artikel II erweitert diese Erkenntnis und zeigt, dass ein starkes Markengeschlecht, über andere Persönlichkeitsmerkmale hinaus, zu einem hohen Markenwert beiträgt, und dass diese Beziehung für beide Konsumentengeschlechter gilt. Eine leichte Kategorisierung wird als zugrundeliegende Ursache identifiziert. Artikel III bestimmt die Geschlechterähnlichkeit zweier Marken als Erfolgskriterium eines hohen Allianzfits und einer erhöhten Kaufabsicht. Ein zweites Ziel war es die Wahrnehmungsquelle des Produktgeschlechts und deren Einfluss auf das Konsumentenverhalten zu analysieren. Zurückgreifend auf evolutionspsychologische Erkenntnisse identifiziert Artikel IV, dass die Ästhetik eines Produktes, wie Form, Farbe und Material, die geschlechtliche Wahrnehmung beeinflusst und zeigt, dass stark geschlechtliche Produkte zu einer vorteilhaften Konsumentenreaktion führen. Artikel V stellt eine qualitative Zusammenfassung der gewonnenen empirischen Forschungsergebnisse für Markenmanager und Produktdesigner dar.

Article I

Lieven, T., Grohmann, B., Herrmann, A., Landwehr, J. R. & van Tilburg, M. (third round). The Effect of Brand Design on Brand Gender Perceptions and Brand Preference.

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The Effect of Brand Design on Brand Gender Perceptions and Brand Preference

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Abstract

Purpose. This research examines the impact of brand design elements (logo, brand name, type font, and color) on brand masculinity and femininity perceptions, consumer preferences, and brand equity.

Design/Methodology/Approach. This empirically tests the relation between brand design elements, brand masculinity and femininity, and brand preferences/equity in four studies involving fictitious and real brands.

Findings. Brand design elements consistently influenced brand masculinity and femininity perceptions. These, in turn, significantly related to consumer preferences and brand equity. Brand masculinity and femininity perceptions successfully predicted brand equity above and beyond other brand personality dimensions.

Research Limitations/Implications. Although this research used a wide range of brand design elements, the interactive effects of various design elements warrant further research.

Practical Implications. This research demonstrates how markers of masculinity and femininity that are discussed in the evolutionary psychology literature can be applied to the brand design of new and existing brands.

Originality/Value. This research is one of the few to consider the impact of evolutionary psychology on marketing practice. It also considers the impact of multiple brand design elements (logo shape, brand name, type font, color) and involves a wide range of brands and product categories.

Keywords: Brand design; Brand personality; Brand gender; Brand equity.

1. Introduction

Brand design elements are names, signs, and symbols that identify and differentiate the brand (Walsh *et al.*, 2010, 2011), and include brand name, logo shape, color, and type font. The marketing literature suggests that brand design elements influence consumers' perceptions of brand personality (Batra *et al.*, 1993)—the human personality traits consumers associate with a brand (Aaker, 1997). Brand personality consists of multiple dimensions ("sincerity", "excitement", "sophistication", "ruggedness", "competence"; Aaker, 1997; "masculinity", "femininity"; Grohmann, 2009). Although research on the influence of brand design elements on brand personality dimensions is growing (e.g., Grohmann *et al.*, 2012; Labrecque and Milne; 2012, Orth and Malkewitz, 2008), the impact of brand design on brand masculinity and femininity remains unexplored. The first objective of this article is thus to examine how brand design elements (logos, type font, brand name, and color) influence brand masculinity and femininity perceptions. The second objective of this article is to investigate whether brand-design induced brand masculinity and femininity perceptions ultimately relate to consumer preferences and brand equity. The marketing literature suggests that brand personality contributes to brand equity (Keller, 1993), because it allows consumers to more easily relate to the brand (Fournier, 1998) or express themselves through brand use (Aaker, 1997). Emerging evidence indeed indicates that the masculinity and femininity dimensions of brand personality relate positively to consumer responses to the brand (e.g., attitude, word-of-mouth behaviors; Grohmann, 2009) and brand equity (Lieven *et al.*, 2011). In providing further evidence for an impact of brand masculinity and femininity perceptions on consumer preferences and brand equity, we highlight the importance of brand design considerations in driving these managerially relevant outcome variables (Aaker and Keller, 1990; Leuthesser *et al.*, 1995; Salzer-Mörling and Strannegard, 2001).

As a theoretical foundation, this research adopts an evolutionary psychology perspective in explaining the influence of physical brand design characteristics on consumers' perceptions of brand masculinity and femininity. Evolutionary psychology (EP) posits that psychological processes that influence preferences and behavior are the result of evolution by selection (Buss, 1995). The EP literature in marketing indeed demonstrates that EP based theories are useful in explaining behaviors in the consumption domain (Griskevicius *et al.*, 2012). In examining the influence of brand design elements on brand masculinity and femininity perceptions, consumer preferences, and brand equity, this research contributes to the literature in several

ways: First, although research has begun to examine the influence of brand design elements on brand personality perceptions (Labrecque and Milne, 2012; Grohmann *et al.*, 2012), these investigations focus on a limited number of design elements. Labrecque and Milne (2012), for example, focus on the impact of logo color (i.e., hue and saturation), whereas Grohmann, Giese, and Parkman (2012) examine type font characteristics ("elaborate", "harmony", "natural", "flourish", "weight") and type font hue. The current article extends the consideration of brand design elements to logo and brand name, and reinvestigates the influence of type font and color. From a theoretical standpoint, this article highlights the parsimony of an EP-based explanation for the effects of multiple and seemingly disparate, design elements. From a managerial standpoint, this investigation of multiple brand design elements demonstrates the effectiveness of these elements in the creation of desired brand masculinity or femininity perceptions. Secondly, this research focuses on the influence of brand design on brand femininity and masculinity—two dimensions of brand personality that have not been investigated despite their importance in brand positioning strategies in many product categories (e.g., personal care products, fragrances). Prior research on brand design (Labrecque and Milne, 2012; Grohmann, *et al.*, 2012) considered only Aaker's (1997) five dimensions: "sincerity", "sophistication", "excitement", "competence", and "ruggedness".

Finally, this research is one of the few to examine whether design-evoked brand personality perceptions eventually affect consumers' responses to the brand. Although the literature suggests that brand masculinity and femininity results in positive consumer responses to the brand (Grohmann, 2009; Lieven *et al.*, 2011), empirical evidence regarding this relation is limited. This research specifically addresses to what extent brand masculinity/femininity drives consumer preferences and consumer-based brand equity.

2. Theoretical Background

Brand design elements include brand name and symbols associated with the brand (e.g., logo shape, color, and type font; Henderson and Cote, 1998) and play an important role in brand perception (Batra *et al.*, 1993), identification and differentiation (Walsh *et al.*, 2010, 2011). The examination of the influence of brand design elements on perceived brand masculinity/femininity presented herein builds on EP. EP holds that the human mind evolved through both natural and sexual selection and represents an adaptation to challenges in the domains of survival, mating, kin

selection, and reciprocal altruism (Saad, 2013). Domain-specific "fundamental" motives (i.e., self-protection from physical harm and disease, romantic partner attraction and retention, affiliation, status, and caring for offspring; Kenrick *et al.*, 2010) give rise to qualitatively different psychological processes that are triggered by situational (e.g., advertising imagery; Saad, 2004) or physiological cues (e.g., menstrual cycle; Saad and Stenstrom, 2013), relate to perception, personality, emotions, cognition, memory (Saad, 2013), and shape preferences and behavior (Griskevicius and Kendrick, 2013). There are thus two levels of explanation of preferences and behavior: attention, perception, personality, emotions, cognition and memory are proximate explanations (i.e., "how and what?"; Saad, 2013), whereas the ultimate explanation resides in the fundamental motives involved (i.e., "why?"; Saad, 2013). Importantly, EP acknowledges the interplay of innate adaptive psychological mechanisms, environmental, and situational factors (Confer *et al.*, 2010) in guiding preference and behavior. In other words, preferences and behavior that are ultimately driven by fundamental motives nonetheless show a certain extent of cultural variation (Gangestad *et al.*, 2006) and are influenced by learning as an adaptation to immediate environmental or social cues (Confer *et al.*, 2010). This integration of factors underlying human behavior makes EP a useful framework for research domains such as economics, marketing, and brand positioning (Colarelli and Dettmann, 2003; Foxall, 1993; Foxall and James, 2003; Griskevicius *et al.*, 2012; Griskevicius and Kenrick, 2013; Kenrick *et al.*, 2009; Saad, 2004, 2006, 2013; Saad and Gill, 2000).

Central to the current research are the psychological mechanisms pertaining to the fundamental motives of mate selection and caring for offspring. The adaptation to the different reproductive roles of and levels of parental investment historically required by men (i.e., maximizing the number of offspring in the context of lower levels of parental investment) and women (i.e., securing resources to raise offspring in the context of higher levels of parental investment), has led to the development of differences in physical characteristics between the sexes (i.e., sexual dimorphism; Darwin, 1874). To the extent that an individual's level of masculine or feminine characteristics allows him or her to successfully compete against other individuals of the same sex (i.e., intrasexual competition; Buss and Barnes, 1986) and to increase the likelihood of being selected in mate choice (i.e., intersexual competition; Buss and Barnes, 1986), these characteristics increase the competitive advantage in terms of sexual selection, and are passed on to future generations (Andersson, 1994). In the mate selection process, physical characteristics serve as indicators of quality and reproductive value of the potential mate (Rhodes, 2006; Symons, 1979; Gangestad and

Scheyd, 2005). The more prominent the occurrence of physical characteristics that signal masculinity (or femininity) in an individual, the greater is their perceived genetic fitness (and thus contribution to the offspring's genetic fitness) and attractiveness as a potential mate (Kaplan and Gangestad, 2005; Grammer *et al.*, 2003). The fundamental motive, to seek a genetically fit and therefore attractive mate, increases people's level of attention to physical features that relate to attractiveness (Jokela, 2009).

This suggests that humans are highly responsive to physical characteristics that signal masculinity and femininity. Importantly, masculine and feminine features enhance perceived attractiveness—regardless of the perceiver's sex (Grammer and Thornhill, 1994; Johnston *et al.*, 2001; Penton-Voak *et al.*, 2001; Perrett *et al.*, 1998; Rhodes *et al.*, 2003). This is due to intrasexual competition, which requires competence in interpreting masculine and feminine features in order to judge same-sex competitors and to gauge what characteristics increase attractiveness to the opposite sex (Buss and Schmitt, 1993). Similarly, mate choice selection theory (Buss and Schmitt, 1993) posits that individuals tend to select mates that match their own level of attractiveness, which requires that individuals are able to judge their own level of attractiveness (i.e. masculinity/femininity) as well as that of a potential mate (Buss and Schmitt, 1993). In sum, the current research draws on the theory of sexual selection and differential parental investment (Trivers, 1972; Buss, 1995), which is concerned with the motives and criteria guiding mate choice. Physical features drive perceptions of femininity and masculinity (Furnham and Radley, 1989), and the degree to which an individual displays feminine or masculine features affects others' judgments of their attractiveness (Kaplan and Gangestad, 2005). Because these psychological mechanisms relate to fundamental motives (Buss, 1989, 1994), it is plausible that consumers recognize and respond positively to physical features conveying masculinity and femininity in brand design. We now turn to the discussion of specific brand design elements (logo shape, type font, brand name, color) and their effect on brand femininity/masculinity, brand preferences, and brand equity.

2.1 Logo Shape

Logos consist of logo shape (i.e., the logo's graphic design), type font, and color (Henderson and Cote, 1998). Logo shape is important in communicating brand meaning (Henderson and Cote, 1998) and lends itself to the communication of masculinity and femininity, based on findings in the EP literature that suggest that

physical characteristics influence perceptions of masculinity and femininity (Rhodes, 2006; Symons, 1979; Gangestad and Scheyd, 2005). Among humans, perceptions of masculinity/femininity are based on shoulders, upper-body musculature and biceps, waist-to-hip ratio (WHR), body mass index, and waist-to-chest ratio (WCR) (Horvath, 1981; Singh, 1993). A V-shaped torso—which is consistent with physical strength and muscle development in the upper body—increases attractiveness in men (Furnham and Radley, 1989). A muscular physique is fundamental to male attractiveness and ideal male body image (Fisher *et al.*, 2002). Female attractiveness is highest for a WHR of about .7 and normal body weight range (Singh, 1993). In sum, a curved ("hourglass") body shape is associated with femininity, while the prototypical masculine body shape is characterized by an angular V-shape induced by a low WCR (Horvath, 1981). Similarly, with regard to facial form, Scheib, Gangestad and Thornhill (1999) reported a positive relationship between markers of facial masculinity—cheekbone prominence and jaw size—and attractiveness. Masculine features, such as large, angular jaws, are reliably associated with ratings of dominance (Mazur *et al.*, 1984). A strong positive correlation exists between exaggerated femininity in female faces—characterized by high, salient cheekbones and a small nose—and attractiveness (Johnston *et al.*, 2001). Overall, the literature indicates that delicate, round facial shapes are perceived as feminine and attractive in women, while angular, sharp facial shapes are more masculine and attractive in men. The characteristics bold/solid and airy/delicate, and angular/sharp and round/smooth (which describe a typically masculine and feminine body shape, respectively) form the end points of a continuum (Björntorp, 1987). Because a brand logo is a physical manifestation of the brand, we expect—in line with EP principles—that logo shape influences perceived brand masculinity/femininity. This expectation is echoed in the marketing aesthetics literature, which links angular forms to dynamism and masculinity, and round forms to softness and femininity (Schmitt and Simonson, 1997).

H1: Logo shape influences perceived brand masculinity/femininity, such that **(a)** a bolder and more angular logo enhances brand masculinity (MBP), and **(b)** a delicate and rounder logo enhances brand femininity (FBP).

2.2 Type Font

The effects of angular/round and bold/delicate features on masculinity/femininity perceptions likely generalize beyond logo shape to other brand design elements, such as type font. Peacock (2005) reports that fine, sleek, elegant, and serif type fonts are

perceived as feminine, while solid, bold type fonts are perceived as masculine. Similarly, Shaikh, Chaparro and Fox (2006) find that script fonts (e.g., Monotype Corsiva, Kristen) communicate femininity, while modern display fonts (e.g., Impact, Agency FB) signal masculinity. We therefore expect that delicate, round fonts used in logos signal brand femininity, whereas bold, angular fonts signal brand masculinity.

H2: Type font influences perceived brand masculinity/femininity, such that **(a)** a bolder and more angular type font enhances perceived brand masculinity (MBP), and **(b)** a delicate and rounder type font enhances brand femininity (FBP).

2.3 Brand Name

Evolutionary phonology describes the evolution of language as an adaptive process, and has been linked to evolutionary psychology (Blevins, 2004; Croft, 2008). Language involves the interpretation of sound. In this context, sound symbolism posits that word meaning derives from the sound of phonemes (i.e., the smallest units of sound: vowels or consonants) it contains. Research supports a relation between vowel sounds and brand perception (Klink, 2000, 2003; Yorkston and Menon, 2004, 2005). For example, products with brand names containing front vowels (e.g., i or e)—as opposed to back vowels (e.g., o or u)—were perceived as more feminine, lighter in color and weight, milder, thinner, weaker, softer, faster, colder, prettier, bitter, and friendlier (Klink, 2000). A second category of phonemes consists of consonants (i.e., stops such as p, t, b, and k, and fricatives such as f, s, v, and z). Brand names are perceived to be more masculine, larger, slower, or heavier if they contain stops as opposed to fricatives (Klink, 2000). This research focuses on the influence of vowels on brand masculinity and femininity perceptions. We expect that femininity perceptions are strongly influenced by the use of front vowels, whereas masculinity perceptions are influenced by the use of back vowels.

H3: Brand names influences perceived brand masculinity/femininity, such that **(a)** back vowels enhance perceived brand masculinity (MBP), and **(b)** front vowels enhance perceived brand femininity (FBP).

2.4 Color

Color conveys brand meaning and creates product and brand identity in the context of advertising, packaging, distribution, and brand logo design (Klink, 2003). The relation

between color and masculinity/femininity perceptions is often examined in the context of sex-related stereotyping of colors in socialization processes (Picariello *et al.*, 1990; Pomerleau *et al.*, 1990) and the cultural perpetuation of gender-stereotypes related to color associations (Cunningham and Mcrae, 2011). EP provides a fundamental motives-based and parsimonious explanation for the link between color and masculinity/femininity, in that face color serves as marker of masculinity and femininity in humans: Women tend to be more light-skinned than men (Jablonski and Chaplin, 2000), due to higher estrogen levels (Perrett *et al.*, 1998). Within ethnic groups, the literature documents preference in mate choice that favors women with skin tones lighter than the local average, and men with darker complexions than the local average (van den Berghe and Frost, 1986). This preference for women with lighter skin tone is based on an association of lighter skin with health (and thus reproductive fitness; Stephen *et al.*, 2009) as well as increased facial contrast between lighter skin and lips or eyes, which serves as an indicator of femininity (Russell, 2009). This suggests that lighter colors are more strongly associated with femininity, while darker colors are more strongly associated with masculinity. Use of light colors to represent the brand is therefore expected to increase perceptions of brand femininity, while the use of dark colors is expected to increase perceptions of brand masculinity. EP furthermore suggests a mate attraction based link between the color red, perceived femininity, and attractiveness (Elliot and Niesta, 2008; Pazda *et al.*, 2012) that is related to estrogen/progesterone balance-induced blood flow during the ovulation phase of the menstrual cycle (Elliot and Niesta, 2008; Fortney *et al.*, 1988). The effect of color on masculinity and femininity perceptions is thus likely to involve both hue (e.g., blue versus red or pink; Alexander, 2003; Elliot and Niesta, 2008) and brightness (dark versus light; e.g., Jablonski and Chaplin, 2000).

H4: Color influences perceived brand masculinity/femininity, such that **(a)** darker (blue) color enhance perceived brand masculinity (MBP), and **(b)** lighter (red/pink) color enhance perceived brand femininity (FBP).

2.5 The Impact of Brand Design Based Masculinity and Femininity Perceptions on Brand Preferences and Equity

EP suggests that differences in physical characteristics drive perceived attractiveness of others (Barrett *et al.*, 2002; Buss, 2005). Research on sexual selection demonstrates that women tend to rate status, strength, and the ability to protect others as desirable male traits, whereas men tend to perceive fertility as a desirable attribute in females

(Buss, 1989, 1994; Buss and Schmitt, 1993). Markers of femininity and masculinity play an important role in determining attractiveness and mate selection preferences (Gangestad and Simpson, 2000; Symons, 1979). Women perceive a highly masculine appearance (i.e., indicating strength and status) as particularly attractive, whereas men perceive a highly feminine appearance (i.e., indicating fertility) as highly attractive (Etcoff, 2000). The observed relation between masculinity or femininity and attractiveness can inform our understanding of the link between highly masculine and feminine brands and consumers' responses to such brands. The fact that consumers perceive brands in terms of masculinity and femininity (Grohmann, 2009) and apply social judgment to non-human entities (Aaker *et al.*, 2010) suggests that they recognize and interpret physical markers of masculinity and femininity in a brand context. Hence, masculinity and femininity perceptions should influence brand preferences and—consequently—brand equity because of the positively valenced (i.e. highly masculine or feminine) features. Based on prior literature, we expect that brand preference and brand equity are strongly and positively related. Keller (1993) defined brand equity as a differential effect on consumer responses which are defined by—among others—consumer preferences. Similarly, Cobb-Walgren, Ruble, and Donthu (1995) found that high equity brands generate significantly higher brand preference.

H5: Highly masculine (feminine) brands evoke greater brand preference and equity compared to moderately masculine (feminine) brands.

2.6 The Relation between Brand and Product Category Masculinity and Femininity

Similar to brands, products and product categories are associated with masculinity and femininity (Fugate and Phillips, 2010; Milner and Fodness, 1996). Because product level associations influence how consumers perceive brands (Keller, 1993), we propose that a greater level of congruence between brand and product category masculinity/femininity reinforces brand masculinity/femininity through additional, product category-based masculinity/femininity associations. As a result, congruence in masculinity/femininity between brand and product category is likely to strengthen the hypothesized positive relation between brand masculinity/femininity and consumer preferences and brand equity. Additional support for a positive congruence effect arises from categorization theory and the finding that facilitated categorization increases liking (Lamberts and Brockdorf, 1997; Solomon *et al.*, 1999).

A consideration of the effects of congruence in masculinity/femininity between brand and product category is particularly interesting in categories that are used to a similar extent by men and women (e.g., cars, smartphones, deodorants). In such categories, brands can position themselves anywhere along the masculinity/femininity continuum in order to appeal to a desired target segment (e.g., men only, women only, or consumers from both groups). The brand association and the categorization literature suggest, however, that a brand position that is more congruent with product category femininity/masculinity reinforces brand masculinity/femininity and benefits the brand.

H6: Higher levels of congruence between brand masculinity/femininity (MBP, FBP) and product masculinity/femininity (MPG, FPG) positively relate to brand preferences.

We now turn to the empirical tests of the hypotheses.

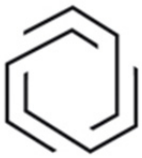
3. Empirical Studies

We test the hypotheses in a series of experiments. Study 1 examines the effect of brand logo shape on masculinity and femininity perceptions (H1). Study 2 investigates the effect of type fonts and brand names on perceived brand gender (H2 and H3) and brand preferences (H5). Furthermore, Study 2 considers product category gender (H6). Study 3 focuses on the influence of color and type fonts on brand gender perceptions (H4) and preference (H5)—dependent on product category gender (H6) and participants' sex. Study 4 then examined the effects of a modification of existing brand designs on perceived brand gender and brand equity.

3.1 Study 1: Logo Shape and Brand Masculinity/Feminity

Design, Stimuli, and Procedure. Study 1 used a 2 (bold/solid vs. airy/delicate) × 2 (angular/sharp vs. round/smooth) between-participants experimental design. To rule out brand familiarity effects, we relied on a fictitious brand logo selected from Henderson and Cote (1998). As illustrated in Table 1, the logo was modified such that it differed along the bold/solid and angular/sharp dimensions. Participants (n = 548, 40.0% female, M_{Age} = 45.3, SD_{Age} = 12.1) rated a randomly assigned logo on two semantic differential scales (1 = "bold/solid", 11 = "airy/delicate"; 1 = "angular/sharp", 11 = "round/smooth"; Björntorp, 1987). Table 1 presents the results of this manipulation check. Participants then rated brand gender associated with the logos on two 7- point femininity and masculinity scales.

Table 1: Study 1: Logos and Ratings

	Logo 1	Logo 2	Logo 3	Logo 4
				
1 = "bold/solid" vs. 11 = "airy/delicate"	3.78	6.06	4.72	6.04
1 = "angular/sharp" vs. 11 = "round/smooth"	4.40	4.24	8.58	8.82
Masculine Brand Personality (MBP)	5.18	4.49	3.86	3.34
Feminine Brand Personality (FBP)	2.63	3.09	3.91	4.44
Masculinity – Femininity (Gender)	2.55	1.40	-0.05	-1.09

Results. An ANOVA with brand masculinity serving as dependent variable and the two logo shape dimensions as independent variables shows that bold logos were rated as more masculine (M = 4.50) compared to airy logos (M = 3.92; $F(1, 544) = 25.30$, $p < .001$) and angular logos (M = 4.82) were rated as more masculine compared to round logos (M = 3.60; $F(1, 544) = 105.67$, $p < .001$). In an ANOVA with brand femininity serving as dependent variable and the logo shape dimensions serving as independent variables, bold logos (M = 3.29) were perceived as less feminine compared to airy logos (M = 3.76; $F(1, 544) = 16.31$, $p < .001$) and angular logos (M = 2.87) were rated as less feminine compared to round logos (M = 4.18; $F(1, 544) = 115.71$, $p < .001$). No significant interaction effects emerged (brand masculinity $p > .49$; brand femininity $p > .82$).

Discussion. In support of H1, logo shape influenced brand masculinity and femininity perceptions, such that bold and angular logos increased brand masculinity, whereas delicate and round logos enhanced brand femininity.

3.2 Study 2: Type Font, Brand Name, Brand Masculinity/Femininity, and Brand Preferences

Study 2 considers the effect of type font and brand name in a within-participants design that more closely approximates brand evaluation contexts consumers usually face. It also examines the relation between type font (H2) and brand name (H3), brand masculinity/femininity, and resulting consumer preferences for brands within a product category (H5) taking into account masculinity/femininity associations, consumers hold with regard to different product categories (H6).

Design, Stimuli, and Procedure. A 2 (brand name) × 4 (type font) within-participant experiment examined the effect of brand name and type font on brand masculinity and

femininity, and brand preferences. Brand name manipulations consisted of two fictitious brand names with front (Edely) or back vowels (Bloyt). Type font manipulations consisted of two delicate/round fonts (Monotype Corsiva, Kristen) and two bold/angular fonts (Impact, Agency FB; based on Shaikh *et al.*, 2006). As a manipulation check, participants (n = 657, 44.2% female, M_{Age} = 41.2, SD_{Age} = 12.2) first rated the two brand names (printed in Arial font) in terms of brand name masculinity (1 = "not at all masculine", 7 = "very masculine") and brand name femininity (1 = "not at all feminine", 7 = "very feminine"), and the four type fonts (based on a string of letters) on two semantic differential scales (1 = "bold/solid", 11 = "airy/delicate"; 1 = "angular/sharp", 11 = "round/smooth"). They also rated type font femininity and masculinity (1 = "not at all masculine [feminine]", 7 = "very masculine [feminine]") based on a type sample (string of letters). Afterwards they rated brand femininity (FBP) and masculinity (MBP) arising from each of the eight brand name/type font combinations (i.e., two brand names written in the four type fonts). Participants were then randomly assigned to three of twelve product categories (fragrance/cosmetics, sweets/snacks, food, soft drinks, apparel, alcohol/tobacco, household products, financial services, electronics, cars, information technology, and transportation) and rated product category masculinity/femininity perceptions (MPG, FPG) on the MBP/FBP items (MPG: α = .88; FPG: α = .92; $r_{FPG–MPG}$ = .67). They then distributed 100 points across the eight brand name/type font combinations to express brand preference in that product category.

Results. Table 2 (Panel A) summarizes brand name and type font perceptions, as well as MBP, FBP, and MBP-FBP difference ratings.

Table 2: Study 2: Effect of Type Font and Brand Name on Brand Masculinity, Femininity, and Preference

Panel A

Name	Name Masculi-nity	Name Femini-nity	Type Font	bold/ solid vs. airy/ delicate	angular/ sharp vs. round/ smooth	Font Masculi-nity	Font Femini-nity	Name	Brand MBP	Brand FBP
Bloyt	4.53	1.98	Impact	2.40	4.14	5.08	2.14	Bloyt	5.33	2.10
			Agency	5.62	3.87	4.31	2.89	Bloyt	4.45	2.57
			Kristen	6.89	7.74	2.70	4.29	Bloyt	3.41	3.40
			Monotype	7.71	8.95	2.48	5.11	*Bloyt*	2.96	4.09
Edely	2.40	4.28	Impact	2.40	4.14	5.08	2.14	Edely	4.33	2.87
			Agency	5.62	3.87	4.31	2.89	Edely	3.65	3.41
			Kristen	6.89	7.74	2.70	4.29	Edely	2.70	4.26
			Monotype	7.71	8.95	2.48	5.11	*Edely*	2.25	5.22

Panel B

Product Category	Masculine Product Gender	Feminine Product Gender	Name	Type Font	Brand MBP	Brand FBP	Brand Equity
Fragrance, Cosmetics	3.47	4.76	Bloyt	Impact	5.36	2.14	6.03
				Agency	4.37	2.57	6.49
				Kristen	3.49	3.44	8.72
				Monotype	3.10	4.13	19.54
			Edely	Impact	4.42	2.89	6.66
				Agency	3.85	3.43	9.75
				Kristen	2.86	4.33	12.31
				Monotype	2.41	5.12	28.74
Sweets, Snacks	3.05	4.45	Bloyt	Impact	5.31	2.09	7.74
				Agency	4.45	2.55	7.40
				Kristen	3.27	3.40	15.88
				Monotype	2.79	4.12	16.86
			Edely	Impact	4.31	2.79	7.47
				Agency	3.50	3.26	7.58
				Kristen	2.52	4.15	14.02
				Monotype	2.19	5.17	22.40
Food	3.15	3.78	Bloyt	Impact	5.21	2.16	10.93
				Agency	4.32	2.62	8.25
				Kristen	3.39	3.48	10.52
				Monotype	2.85	4.25	15.89
			Edely	Impact	4.48	2.84	11.81
				Agency	3.70	3.34	12.77
				Kristen	2.75	4.11	10.54
				Monotype	2.17	5.23	18.68
Softdrinks	3.31	3.75	Bloyt	Impact	5.42	2.00	11.45
				Agency	4.65	2.53	9.62
				Kristen	3.49	3.26	14.76
				Monotype	3.09	3.87	15.82
			Edely	Impact	4.14	2.96	8.40
				Agency	3.51	3.61	9.15
				Kristen	2.65	4.46	12.99
				Monotype	2.23	5.36	15.37
Fashion, Apparel	3.79	4.23	Bloyt	Impact	5.21	2.16	8.48
				Agency	4.32	2.62	8.90
				Kristen	3.39	3.48	10.44
				Monotype	2.85	4.25	17.72
			Edely	Impact	4.48	2.84	5.60
				Agency	3.70	3.34	10.48
				Kristen	2.75	4.11	12.77
				Monotype	2.17	5.23	25.60
Cigarettes, Alcoholic Beverages	3.91	2.88	Bloyt	Impact	5.36	2.14	14.58
				Agency	4.37	2.57	10.42
				Kristen	3.49	3.44	10.55
				Monotype	3.10	4.13	16.60
			Edely	Impact	4.42	2.89	10.54
				Agency	3.85	3.43	10.36
				Kristen	2.86	4.33	8.67
				Monotype	2.41	5.12	16.51

Panel B

Product Category	Masculine Product Gender	Feminine Product Gender	Name	Type Font	Brand MBP	Brand FBP	Brand Equity
Home-related Products	4.02	2.79	Bloyt	Impact	5.31	2.09	15.44
				Agency	4.45	2.55	16.11
				Kristen	3.27	3.40	8.37
				Monotype	2.79	4.12	10.66
			Edely	Impact	4.31	2.79	13.99
				Agency	3.50	3.26	14.67
				Kristen	2.52	4.15	8.94
				Monotype	2.19	5.17	11.19
Financial Services	4.23	2.45	Bloyt	Impact	5.42	2.00	17.48
				Agency	4.65	2.53	23.79
				Kristen	3.49	3.26	4.81
				Monotype	3.09	3.87	6.87
			Edely	Impact	4.14	2.96	13.31
				Agency	3.51	3.61	16.35
				Kristen	2.65	4.46	5.13
				Monotype	2.23	5.36	9.20
Electronics	3.88	2.84	Bloyt	Impact	5.36	2.14	16.68
				Agency	4.37	2.57	14.78
				Kristen	3.49	3.44	9.75
				Monotype	3.10	4.13	11.26
			Edely	Impact	4.42	2.89	12.13
				Agency	3.85	3.43	11.90
				Kristen	2.86	4.33	8.58
				Monotype	2.41	5.12	13.75
Cars	4.63	3.19	Bloyt	Impact	5.31	2.09	16.55
				Agency	4.45	2.55	18.38
				Kristen	3.27	3.40	9.07
				Monotype	2.79	4.12	13.84
			Edely	Impact	4.31	2.79	12.69
				Agency	3.50	3.26	9.77
				Kristen	2.52	4.15	6.50
				Monotype	2.19	5.17	9.99
Information Technology	4.03	2.93	Bloyt	Impact	5.42	2.00	12.41
				Agency	4.65	2.53	19.74
				Kristen	3.49	3.26	12.73
				Monotype	3.09	3.87	8.38
			Edely	Impact	4.14	2.96	9.78
				Agency	3.51	3.61	14.91
				Kristen	2.65	4.46	10.04
				Monotype	2.23	5.36	8.95
Transpor-tation	4.07	2.84	Bloyt	Impact	5.21	2.16	18.93
				Agency	4.32	2.62	12.72
				Kristen	3.39	3.48	9.47
				Monotype	2.85	4.25	12.80
			Edely	Impact	4.48	2.84	13.84
				Agency	3.70	3.34	12.16
				Kristen	2.75	4.11	7.25
				Monotype	2.17	5.23	11.62

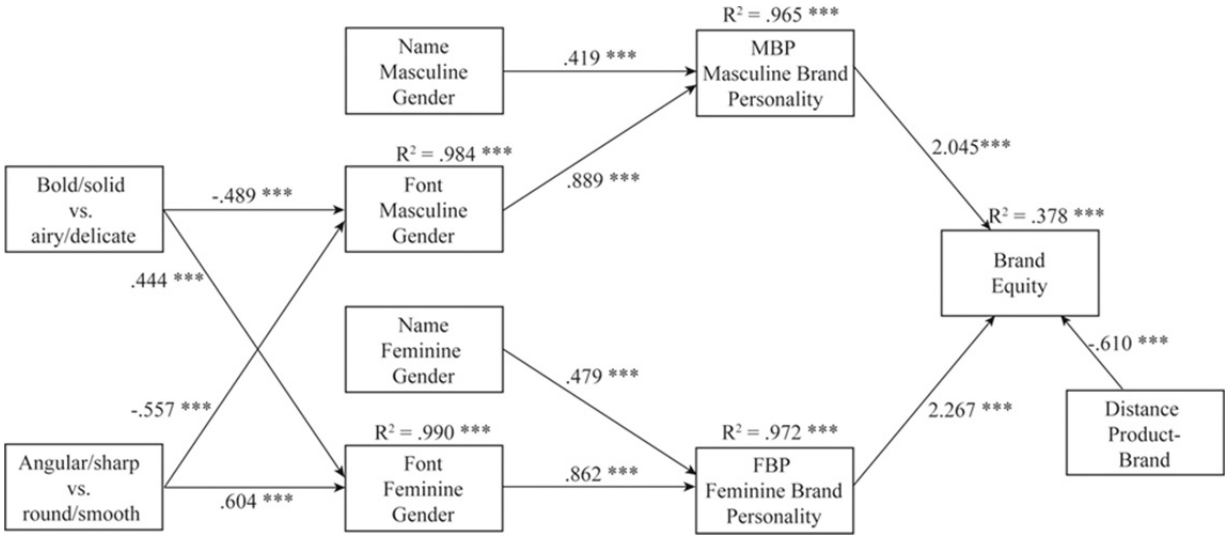
First, we checked the success of our experimental manipulations and the effect of the manipulations on perceived brand gender in paired-samples *t*-test. Analyses are based on cases with complete responses for the relevant comparison (pairwise completes). Compared to the brand name including front vowels, the brand name including a back vowel was perceived as more masculine (M_{back} = 4.53; M_{front} = 2.38, $t(647) = 24.95$, $p < .001$) and less feminine (M_{back} = 1.97; M_{front} = 4.27, $t(642) = -29.28$, $p < .001$). We averaged the data over the two delicate/round fonts (Monotype, Kristen) and the two bold/angular fonts (Impact, Agency) and found that compared to the delicate/round fonts the bold/angular fonts were perceived as less airy ($M_{bold/angular}$ = 4.02; $M_{delicate/round}$ = 7.29, $t(653) = -35.54$, $p < .001$), less round ($M_{bold/angular}$ = 4.01; $M_{delicate/round}$ = 8.34, $t(652) = -39.41$, $p < .001$), more masculine ($M_{bold/angular}$ = 4.71; $M_{delicate/round}$ = 2.59, $t(653) = 0.73$, $p < .001$), and less feminine ($M_{bold/angular}$ = 2.52; $M_{delicate/round}$ = 4.70, $t(652) = -33.89$, $p < .001$).

To analyze the relationships between brand design elements, perceived brand gender, fit between brand and product category gender, and brand preference, we aggregated the data across participants such that the eight versions of the brand name for each of the twelve product categories constitute the cases for the subsequent analyses (96 cases in total). Table 2 (Panel B) depicts perceived product category masculinity/femininity and average preference rankings for the eight brand designs in each product category. To account for product category effects on brand perceptions, the Euclidian distance served as measure of dissimilarity between brand and product category gender:

$$\text{Distance} = \sqrt{(MBP - MPG)^2 + (FBP - FPG)^2}$$

Figure 1 outlines the relationship between brand design elements, brand masculinity/femininity, and preferences that were tested in this study in linear regression analyses.

Figure 1: Study 2: Path and Determination Coefficients



Note: Summary of the separate regressions from study 2. Results are the same when calculated simultaneously in a Partial Least Square (PLS) model.

Regression of type font masculinity on the type font design characteristics provided evidence that airy/delicate (b = -.49, p < .001) and round/smooth (b = -.56, p < .001; R^2 = .98; F(2, 93) = 2814.07, p < .001) fonts reduced perceived masculinity. Regression of font femininity on the type font characteristics showed that more airy/delicate (b = .44, p < .001) and round/smooth type fonts (b = .60, p < .001; R^2 = .99; F(2, 93) = 4453.02, p < .001) were perceived as more feminine. Regression analyses also supported an influence of brand design perceptions on brand masculinity (R^2 = .97; F(2, 93) = 1291.66, p < .001; masculine brand name gender perceptions b = .42, p < .001; masculine type font gender perceptions b =.89, p < .001) and brand femininity (R^2 = .97; F(2, 93) = 1629.84, p < .001; feminine name gender perceptions b = .48, p < .001; feminine font gender perceptions b = .86, p < .001). A regression of the brand equity on MBP, FBP, and the distance vector (F(3, 92) = 18.66, p < .001; R^2 = .38) showed a positive and significant effect of MBP (b = 2.05, p < .001) and FBP (b = 2.27, p < .001), and a negative effect of the distance between product category and brand masculinity/femininity (b = -.61, p < .001) on brand preferences. In support of H5, brand masculinity and femininity positively related to brand preferences. In support of H6, this relation was stronger when brand and product category masculinity and femininity matched to a greater extent. These findings were replicated in a simultaneous least square regression model (PLS; Ringle *et al.*, 2005).

Discussion. Results supported H2, H3, H5, and H6. Brand logos including bold, angular type fonts (H2a) and brand names containing back vowels (H3a) signal brand masculinity, whereas brand logos with delicate, round type fonts (H2b) and brand

names including front vowels (H3b) increase brand femininity perceptions. Use of consistent cues result in more pronounced masculinity and femininity perceptions, which—in turn—increased brand preference (H5). A consideration of the distance between product category and brand masculinity/femininity demonstrates that a higher level of congruence between brand and product category masculinity/femininity increases preferences (H6).

3.3 Study 3: Type Font, Color, Brand Gender Perception, and Brand Preference

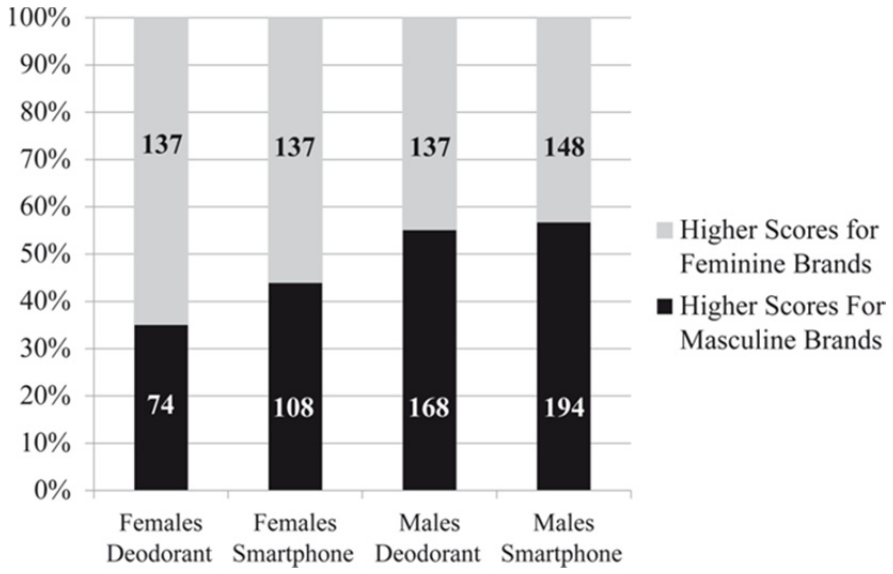
Study 3 examines the influence of type font (H2) and color (H4) on brand masculinity and femininity perceptions. It also replicates the findings regarding the relation between brand masculinity/femininity and brand preferences (H5), and provides additional evidence for a relation between brand and product masculinity/femininity (H6).

Design, Stimuli, and Procedure. This study used a 2 (type font) × 2 (color) between-participants design, with a between-participants replication involving two products with different masculinity/femininity associations (i.e., deodorants, smartphones). Deodorants and smartphones are products with similar usage rates among men and women, yet Study 2 suggests that the product categories cosmetics (i.e., the category deodorant belongs to) and IT products (i.e., the category smartphones belong to) are associated with femininity and masculinity, respectively. Experimental stimuli consisted of four brand designs that combined a bold/angular type font (Impact) or a delicate/round type font (Monotype) with a dark hue/brightness combination (navy blue [RGB 0, 0, 128]) or a light hue/brightness combination (bright pink [RGB 255, 0, 127]). Color selection was based on prior research on color-related masculinity and femininity perceptions (Picariello *et al.*, 1990), and did not involve an independent manipulation of hue and brightness. These designs were applied to a deodorant dispenser (fictitious brand "Young"), and to a smartphone (fictitious brand "Connect"). Figure 2 illustrates the stimuli. Participants (n = 1103, 41.3% female, M_{Age} = 44.7, SD_{Age} = 12.1) were randomly assigned to one of the brand designs in the deodorant or smartphone category, and rated the brand in terms of MBP and FBP (Grohmann, 2009). Participants then saw all four brand designs in the product category and rated them according to their preference on a 100-point constant sum scale.

Figure 2: Study 3: Stimuli and Preference Ratings

A. Stimuli

B. Distributions of Preferences Based on Odds Ratios



Note: Numbers in bars are extrapolated from the odds ratios for the respective sample sizes.

Results. The effect of type fonts and color on brand masculinity, femininity and the MBP-FBP difference score was analyzed in a series of ANOVAs. H2a received partial support in that bold/angular type font significantly enhanced brand masculinity in one product category (deodorant: $F(1, 496) = 7.92$, $p < .01$, smartphone: $p > .58$). The MBP-FBP difference score was positively influenced by use of a bold/angular type font (deodorant: $F(1, 496) = 27.44$, $p < .001$, smartphone: $F(1, 557) = 9.75$, $p < .01$).

H2b was supported in that use of a delicate/round type font significantly enhanced brand femininity (deodorant: $F(1, 496) = 6.09$, $p < .05$, smartphone: $F(1, 557) = 7.24$, $p < .01$). H4a was only partially supported: A dark color did not enhance brand masculinity (deodorant: $p > .92$, smartphone: $p > .55$). However, the effect of color on the MBP-FBP difference score was significant (deodorant: $F(1, 496) = 12.28$, $p < .01$, smartphone: $F(1, 557) = 7.83$, $p < .01$), such that a darker color enhanced brand masculinity. Partial support emerged for H4b, such that brand femininity was enhanced by a light color in only one of the product categories (deodorant: $F(1, 496) = 12.02$, $p < .05$, smartphone: $p > .15$). The type font × color interactions did not reach significance (ps >.16).

We conducted ordinal regressions of standardized MBP-FBP scores on preference ratings for four groups that expressed the match between participants' sex and product category (female participants/deodorants, female participants/smartphones, male participants/deodorants, and male participants/smartphones). In all regressions, coefficients differed significantly from 0 ($\chi^2(1) > 16$, ps $< .001$). For female participants/deodorant, the coefficient was -.62 (i. e., the more masculine the deodorant brand, the less preferred it was). For female participants/smartphones, the coefficient was -.24, for male participants/deodorants, the coefficient was .21, and for male participants/smartphones, the coefficient was .27. These results suggest that female (male) consumers prefer feminine (masculine) brands, but even more so in feminine (masculine) product categories. Figure 2 illustrates the odds ratios for the distribution of preference ratings (female participants/deodorant = .54, female participants/smartphone = .79, male participants/deodorant = 1.23, male participants/smartphone = 1.32; odds ratio = 1 indicates an equal distribution of preference ratings, an odds ratio = 1.32 indicates a 31.5% higher probability for the brand to receive a higher preference score when it is more masculine/its MBP-FBP difference score increases by 1 unit). The distribution of preference ratings significantly differed from equal distribution ($\chi^2(3) = 31.38$, $p < .001$). These results support H6.

Discussion. This study generally supports an impact of type fonts on brand masculinity/femininity (H2). Support for an effect of color on brand masculinity/femininity (H4) was weak, however. An important contribution of this study was a further investigation of consumer preferences for masculine/feminine brands in masculine/feminine product categories. Results suggest that brand preferences are driven by a match between brand masculinity/femininity and

consumers' sex. This preference shifts based on the masculinity/femininity of the product category. When the product category is feminine (masculine), feminine (masculine) brands are more preferred, regardless of consumers' sex.

3.4 Study 4: Modifications of Brand Communication for Existing Brands and Brand Equity

Studies 1 through 3 established that brand design elements shape brand masculinity/femininity perceptions of single icons or unfamiliar brands. Study 4 examines (1) whether modifications of brand design elements embedded in brand communications are effective in changing brand masculinity/femininity perceptions for existing brands, and (2) whether such modifications negatively affect existing brands' equity. These issues are important considerations for brand repositioning. Because brand masculinity and brand femininity are often conceptualized as dimensions of brand personality (Grohmann, 2009), this study (3) seeks to establish that brand masculinity and femininity significantly contribute to brand equity above and beyond the impact of other brand personality dimensions (i.e., "sincerity", "sophistication", "excitement", "competence", and "ruggedness"; Aaker, 1997). Study 4 therefore provides a more rigorous test of H5.

Design, Stimuli, and Procedure. This study included existing print ads for Mercedes (masculine brand; M_{MBP} = 5.26, M_{FBP} = 4.08) and Dove (feminine brand; M_{MBP} = 4.02, M_{FBP} = 4.82), based on a pretest. The original Mercedes ad included dark blue color (RGB 50, 50, 55) and bold type font (Centaur; hereafter referred to as dark/bold design). The modified ad included light red color (RGB 145, 100, 125) and delicate type font (Monotype; hereafter referred to as light/delicate design). The original Dove print advertisement featured light gold-brown color (RGB 150, 130, 80), as well a delicate type font (MyriadPro; light/delicate design). The modified ad included color blue (RGB 50, 80, 100) and a bold type font (Arial Rounded MT Bold; dark/bold design).

In a 2 (brand: Mercedes, Dove) × 2 (brand design: dark/bold, light/delicate) between-participants online study with random assignment to an ad, 413 participants (44% female, M_{Age} = 42.8, SD_{Age} = 11.8) rated the advertised brand on the 42 brand personality items (Aaker, 1997), twelve MBP/FBP items (Grohmann, 2009), and six brand equity items (based on Yoo *et al.*, 2000).

Results. Brand design elements embedded in advertisements successfully changed brand masculinity and femininity perceptions for established brands: For Mercedes, the dark/bold design increased brand masculinity ($MBP_{dark/bold}$ = 4.83, $MBP_{light/delicate}$ = 4.18; $t(272) = 4.77$, $p < .001$), and decreased brand femininity ($FBP_{dark/bold}$ = 3.42, $FBP_{light/delicate}$ = 3.88; $t(272) = 2.99$, $p < .01$) perceptions. These results generally held for Dove ($MBP_{dark/bold}$ = 4.06, $MBP_{light/delicate}$ = 3.71, $t(137) = 1.86$, $p < .07$; $FBP_{dark/bold}$ = 3.47, $FBP_{light/delicate}$ = 4.87, $t(137) = 6.57$, $p < .001$). The MBP–FBP difference (Uzzel and Horne, 2006) also indicated that dark/bold designs evoked higher degrees of brand masculinity (Mercedes: $M_{dark/bold} = 1.41$, $M_{light/delicate}$ = .30, $t(272) = 6.19$, $p < .001$; Dove: $M_{dark/bold}$ = .59, $M_{light/delicate}$ = -1.17, $t(137) = 7.47$, $p < .001$). Brand equity differed in response to the ads for Mercedes ($BE_{dark/bold}$ = 4.34, $BE_{light/delicate}$ = 3.73, $t(272) = 3.28$, $p < .001$), but not Dove ($p > .55$). The relative impact of brand personality dimensions on brand equity was examined in a linear regression with brand equity as the criterion and the 15 brand personality facets (Aaker, 1997) as predictors (R^2 = .65; $F(15, 397) = 48.71$, $p < .001$). Adding MBP and FBP significantly improved model fit ($\Delta F(2, 405) = 3.15$, $p < .05$). The model regressing equity on MBP and FBP only was significant (R^2 = .43; $F(2, 410) = 151.23$, $p < .001$; b_{MBP} =.48, b_{FBP} = .38, ps < .001).

Discussion. Study 4 shows that brand masculinity and femininity of existing brands can be modified through use of design elements embedded in brand communication. Using existing brands, this study replicated previous results with regard to the influence of brand design on brand masculinity/femininity, and—for one of the brands—with regard to the relation between brand masculinity/femininity and brand equity (H5). Brand masculinity and femininity contributed to brand equity above and beyond the five personality dimensions (Aaker, 1997), and explained a significant amount of variance in brand equity when considered as sole predictors.

4. General Discussion and Implications

Guided by EP based predictions, this research examines how brand design elements influence brand masculinity and femininity perceptions, and ultimately brand preferences and equity. Study 1 shows that angular, bold logo shapes increase brand masculinity perceptions, whereas round, delicate logo shapes enhance brand femininity perceptions. Study 2 demonstrates that type fonts and brand names affect brand masculinity/femininity perceptions. Brand masculinity/femininity in turn increase brand preferences, particularly when brand masculinity/femininity more

closely match the masculinity/femininity associated with the product category. Study 3 finds only limited support for an effect of color on brand masculinity/femininity, but supports that greater congruence between brand and product category masculinity/femininity increases preference ratings. Study 4 shows that design elements embedded in brand communications change brand masculinity/femininity perceptions even for existing brands and demonstrates that brand masculinity/femininity predicts brand equity, even if other brand personality dimensions are considered.

This research developed predictions based on the EP literature, and shows that EP has implications for branding: Brand designs based on EP principles successfully shaped brand masculinity and femininity perceptions. This research thus contributes to the emerging literature that demonstrates the usefulness of EP in understanding and explaining consumer behavior and marketing outcomes (e.g., Griskevicius *et al.*, 2009, 2010; Saad and Gill, 2000), and will hopefully encourage more research using EP-based theories (Griskevicius *et al.*, 2012). This research also contributes to the investigation of antecedents of brand personality perceptions (Grohmann, Giese, and Parkman, 2012; Labrecque and Milne, 2012; Orth and Malkewitz, 2008; Wentzel, 2009) by addressing how brand masculinity and femininity perceptions arise. Whereas previous research has begun to examine how the "big five" brand personality dimensions (i.e., "sincerity", "sophistication", "competence", "excitement", "ruggedness"; Aaker, 1997) arise, this research is among the first to consider design-related sources of brand masculinity and femininity perceptions. This research is also relevant to the emerging literature on package design effects on brand impressions. Orth and Malkewitz (2008), for example, find that contrasting (i.e., low harmony, natural, flourish and compressed) package designs are low in femininity, while natural (i.e., highly natural, harmony, elaborate, symmetry and flourish) packaging designs are highly feminine (Orth and Malkewitz 2008). Although the current research generally supports Orth and Malkewitz's (2008) findings regarding the impact of design elements on femininity (e.g., Study 1 findings regarding an effect of round, delicate and therefore more natural logos on femininity perceptions), the current research relies on an experimental manipulation of design elements (logo, font, colors, brand names) and pinpoints the levels of these design factors that are most effective in creating femininity perceptions. In addition, the current research adds to insights regarding design effects in that it considers their impact on masculinity and femininity—operationalized as two discrete dimensions of brand impressions.

4.1 Managerial Implications

This research provides useful guidelines regarding the choice of design elements to signal brand masculinity and femininity. The use of bold, angular logo shapes and type fonts, and back vowels in brand names enhances brand masculinity. The use of delicate, round logo shapes and type fonts, and front vowels enhances brand femininity. The findings of this research indicate that high levels of either brand masculinity or brand femininity are associated with more positive consumer responses to the brand (i.e., brand preference and brand equity ratings). Furthermore, this research suggests that a fit between brand and product category masculinity and femininity relates positively to consumer preference ratings. This implies that brand positioning with regard to masculinity or femininity should be considered in light of consumers' product category perceptions.

This research documents an influence of brand design elements on brand masculinity and brand femininity perceptions on both unfamiliar as well as established brands. The use of the brand design elements facilitates initial brand positioning in terms of masculinity and femininity, but also repositioning of existing brands (e.g., to attract new consumer segments). Although modifications of brand design elements successfully changed brand masculinity and femininity perceptions, brand equity ratings may be negatively affected by a modified design, such as in the case of the Mercedes ad including delicate type fonts and light colors. This suggests that although a consistent use of brand designs over time is desirable in terms of strengthening brand associations and recognition, it may also lead to consumer expectations regarding the nature of the design elements representing the brand. Modified designs that deviate from consumers' expectations can trigger negative consumer responses to the brand (see also Walsh *et al.*, 2010).

4.2 Limitations and Directions for Future Research

This research contributes to the emerging literature on the relation between brand masculinity and femininity and brand equity (Lieven *et al.*, 2011) in that it examined both brand preferences and consumer-based brand equity. Brand preferences reflect brand equity (Cobb-Walgren *et al.*, 1995) and served as a proxy for brand equity in two of the studies reported here. Preferences were measured in terms of points (on a constant sum scale) allocated to each brand (Study 2, 3). In Study 4, brand equity was measured on Yoo and colleagues' (2000) overall brand equity (OBE) scale. Both operationalizations of brand equity were based on a unidimensional view of the

construct. The marketing literature nonetheless suggests that brand equity is multi-dimensional (e.g., Christodoulides and de Chernatony, 2010; Keller, 1993). The use of brand preferences as a proxy measure and the application of a unidimensional measure of brand equity in this research therefore need to be acknowledged as limitations. We recommend that future research examining the brand masculinity/femininity-brand equity relation use a multi-dimensional operationalization of brand equity.

We recognize that the operationalization of color in this research confounded hue and brightness. EP suggests that both hue and brightness influence masculinity/femininity perceptions. In operationalizing color in Study 3, we relied on prior research (Picariello *et al.*, 1990) and tested the effect of color on brand masculinity/femininity perceptions using a lighter pink and a darker navy blue. A more rigorous test of color effects on brand masculinity/femininity perceptions would entail an experimental design that crosses the hue and brightness dimensions.

We also acknowledge theoretical limitations regarding EP. One pertains to the consideration of sound symbolism effects in association with an EP framework. Although the literature suggests that evolutionary phonology is related to other evolutionary models (Blevins, 2004; Croft, 2008), the literature is equivocal on whether evolutionary adaptations and language developed in lockstep (Croft, 2008). Further research is needed to clarify whether the evolution of sound perception followed adaptive processes captured by other evolutionary models (Croft, 2008) as this has implications for the use of EP in the explanation of linguistic effects. The second concern pertains to the fact that we did not test directly whether evolutionary associations underlie the relation between design elements and brand masculinity/femininity perceptions observed in this research. Nonetheless, we observed patterns in masculinity and femininity perceptions in response to multiple design elements (and across multiple studies) that are consistent with EP based predictions. This increases our confidence that EP based theories are appropriate for an investigation of consumer perceptions and behaviors (see also Griskevicius *et al.*, 2012). We acknowledge, however, that strong support for an EP based explanation of the effect of brand design hinges on cumulative evidence provided by future research in this domain.

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Article II

Lieven, T., Grohmann, B., Herrmann, A., Landwehr, J. R., & van Tilburg, M. (in press). The Effect of Brand Gender on Brand Equity.

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The Effect of Brand Gender on Brand Equity

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Abstract

Brand personality has been suggested as an important source of consumer-based brand equity, yet empirical research on the relation between brand personality perceptions and brand equity is scarce. This article examines the link between masculine and feminine brand personality and brand equity as well as the underlying process of this relationship. Study 1 reported herein involves 140 existing brands and demonstrates that high levels of brand masculinity and femininity relate positively to brand equity, and that this relation is not moderated by participants' sex. Study 2 demonstrates that brand gender accounts for brand equity ratings above and beyond other brand personality dimensions. Study 3 identifies ease of categorization as the underlying mechanism for the relationship between brand gender and brand equity.

Keywords: Brand equity; Brand gender; Brand personality; Categorization.

1. Introduction

Brand equity is a central construct in the marketing literature and has important implications for brand management (Aaker & Keller, 1990; Barwise, 1993; Farquhar, 1989; Keller, 1993). Brand equity has been defined as the incremental utility of a branded product compared to its non-branded counterpart (Aaker, 1991; Keller, 1993, 2003; Leuthesser, 1988). High brand equity contributes to consumer satisfaction, brand loyalty, and ability of the brand to command a price premium (Aaker, 1991, 1996; Park & Srinivasan, 1994). It also facilitates brand diversification in other markets and the positioning of successful variants (Broniarczyk & Alba, 1994; Mela, Gupta, & Lehmann, 1997; Loken & Roedder-John, 1993; Park, Milberg, & Lawson, 1991), ultimately contributing to increases in sales, profits, and stock-market value (Ailawadi, Lehmann, & Neslin, 2003; Gupta, Lehmann, & Stuart, 2004).

Keller (1993) suggested that brand personality is one of the drivers of consumer-based brand equity. Brand personality is "the set of human characteristics associated with a brand" (Aaker, 1997, p. 347). Consumers associate human personality characteristics with brands because they perceive brands as extensions of themselves (Belk, 1988), because they express their own personality through brand use (Aaker, 1997), or because marketers suggest that brands have certain human characteristics (Fournier, 1998). As in the "big five" model of human personality (Goldberg, 1990), five personality dimensions ("sincerity", "excitement", "competence", "sophistication", and "ruggedness") apply to consumers' characterization of brands (Aaker, 1997). Although some researchers have questioned the use of brand personality models (Azoulay & Kapferer, 2003; Caprara, Barbaranelli, & Guido, 2001), others have demonstrated that brand personality traits influence brand-related outcomes such as brand loyalty (Kim, Han, & Park, 2001), brand strength (van Rekom, Jacobs, & Verlegh, 2006), or brand appeal (Freling, Crosno, & Henard, 2011; Sweeney & Brandon, 2006). Research on the direct link between brand personality and brand equity is scarce, however, despite its potential contribution to marketing theory and practice.

The first objective of this article is to examine the relationship between brand personality and brand equity. The present research focuses on brand masculinity and brand femininity because theory-based predictions about the impact of masculinity and femininity can be developed on the basis of the social perception and evolutionary psychology literatures. Brand masculinity and femininity consist of masculine and feminine brand personality traits and constitute the two dimensions of brand gender

(Grohmann, 2009). Although research shows that correspondence between brand gender and consumers' sex identity positively affects consumer responses to brands—such as brand trust, brand attitude, attitudinal and purchase loyalty, likelihood to recommend, and word-of-mouth communication (Grohmann, 2009)—a direct effect of brand gender on brand equity (i.e., a higher-level construct that influences consumer responses to the brand; Aaker, 1991, 1996; Keller 1993) has not been established. The second objective of this article is to examine the psychological mechanisms underlying the relationship between brand gender and brand equity. Based on the finding that consumers' preference for strongly gendered (i.e., highly masculine or highly feminine) brands is independent of consumers' sex, the present research explores a general ease of categorization as the psychological mechanism underlying brand gender effects on brand equity.

This article is structured as follows: Based on a sample of 140 existing brands, Study 1 demonstrates that brand femininity and masculinity (but not androgyny) relate positively to brand equity, and that this relation is not moderated by consumers' sex. Study 2 takes into account that brand masculinity and femininity are only a subset of available brand personality traits, and examines if brand gender explains variance in brand equity over and above other personality traits. Study 3 then investigates the ease of categorization as the psychological mechanism for brand gender effects on brand equity. This research contributes to the literature on brand personality and brand equity by demonstrating the unique impact of brand gender on brand equity, and by identifying ease of categorization as the psychological process driving the relationship between brand gender and brand equity.

2. Brand Gender and Brand Equity

2.1 Theoretical Background

A favorable brand personality enhances brand attitudes, purchase intentions, consumer trust, and loyalty (Freling, Crosno, & Henard, 2011; Plummer, 1985), which in turn translate to higher levels of brand equity (Keller, 1993). This occurs because a brand with an appealing personality serves as an attractive relationship partner (Fournier, 1998) that instills trust and loyalty and ultimately benefits from increased choice likelihood or purchase intentions. To be appealing, a brand's personality has to be salient to consumers (Freling, Crosno, & Henard, 2011). In the social perception

literature, Dion, Berscheid, and Walster (1972) argue that sexual identity is the most salient and accessible personality trait to others[1]. This suggests that people easily recognize and consider gender-related characteristics and traits in their judgment of others. The evolutionary psychology literature furthermore links masculinity and femininity to attractiveness (i.e., appeal): The degree of masculinity or femininity an individual displays influences how attractive other people judge him or her to be (Kaplan & Gangestad, 2005; Santayana, 2004/1896). This process is rooted in sexual selection and mate choice: highly masculine and feminine characteristics signal high levels of reproductive fitness and are therefore desirable. As a result, a documented relationship exists between apparent masculinity and perceived attractiveness of men (or alternatively, between apparent femininity and perceived attractiveness of women; Etcoff, 2000). Based on the salience of gender-related characteristics and their relation to attractiveness ratings reported in the literature on social perception and evolutionary psychology, and based on the fact that consumers apply principles of social perception to brands (Aaker, 1997; Fournier, 1998), it is likely that consumers draw on brand gender in their evaluation of brands. Because brand gender dimensions are salient (see also Grohmann, 2009), they should increase brand appeal (Freling et al., 2011). As a result, clear brand gender positioning (i.e., high levels of brand masculinity or brand femininity) is expected to positively relate to brand equity.

H_{1a}: The more masculine a non-feminine brand, the higher its brand equity.

H_{1b}: The more feminine a non-masculine brand, the higher its brand equity.

It is important to note that brands that are neither masculine nor feminine (i.e., undifferentiated brands that are low in masculinity and femininity, or androgynous brands that are high in masculinity and femininity) present mixed gender traits that are more difficult to categorize. As a result, undifferentiated and androgynous brands are expected to be less appealing and associated with lower brand equity ratings.

[1] In the 1950s and 1960s, British and American psychiatrists and medical personnel developed the English-language distinction between the words sex and gender (Moi, 2005). Sex is the dichotomous distinction based on biological differences, whereas gender is defined by other social, economic, political and cultural forces. Although this distinction is controversial in the literature, a significant correlation exists between sex and gender (Lippa & Connely, 1990; Uzzell & Horne, 2006). In this article, the use of the terms gender and sex reflects the probability that a personality trait would be attributed to a male or a female. For example, Lippa and Connelly (1990) show that the trait *aggressive* is more strongly attributed to males than to females.

2.2 Study 1: Brand Gender and Brand Equity

Design, Stimuli, and Procedure. Study 1 examines the relationship between brand masculinity, brand femininity, and brand equity. An online study measured masculine and feminine brand personality and brand equity for 140 well-known brands. Participants were randomly selected from a panel of 130,000 German consumers who regularly purchase commodities, furniture, and electronics online. The panel reflects the population's average net household income (nationwide: € 2,080, *SD* = 967; panel: € 2,092, *SD* = 983). The sample of 3,284 consumers (44.5% female) who participated in this study (M_{Age} = 44.3, SD_{Age} = 14.0) has a profile similar to that of the broader German population (M_{Age} = 43.4, *SD* = 22.4; Destatis, 2009).

Participants rated a random set of 30 (of 140) brands in terms of brand masculinity (MBP: "adventurous", "aggressive", "brave", "daring", "dominant", and "sturdy"; Grohmann, 2009) and brand femininity (FBP: "expresses tender feelings", "fragile", "graceful", "sensitive", "sweet", and "tender"; Grohmann, 2009), on seven-point scales (1 = "does not apply at all"; 7 = "fully applies"). Brand equity was measured on six items, on seven-point scales (1 = "strongly disagree"; 7 = "strongly agree"). Four items were derived from the Overall Brand Equity Scale (OBE; Yoo, Donthu, & Lee, 2000: "It makes sense to buy X instead of any other brand, even if they are the same," "Even if another brand has same features as X, I would prefer to buy X," "If there is another brand as good as X, I prefer to buy X," "If another brand is not different from X in any way, it seems smarter to purchase X"). Two additional items addressed the brands' ability to generate price premiums and brand satisfaction (Aaker, 1996: "It makes sense to pay more for X than for a similar product of another brand," "I would recommend X to my friends"). Participants could decline rating brands they were not familiar with. This procedure resulted in 9,022 brand evaluations.

Results. No significant correlations were found between the number of participants who rated a brand (n), and MBP, FBP, and brand equity, respectively (*p*s > .17). This suggests that the brand rating procedure did not influence results. MBP, FBP, and brand equity ratings were averaged across scale items and aggregated across the 140 brands. Table 1 summarizes number of ratings per brand, MBP (α = .80), FBP (α = .94) and brand equity (α = .97). MBP and FBP were orthogonal (*r* = .00, *p* = .99). To facilitate the interpretation of the results, the analysis that includes the MBP × FBP interaction is based on z-standardized MBP and FBP scores (Aiken & West, 1991).

An adequate model of the relationship between brand gender and brand equity must also take into account that brands included in this study are nested within different

product categories. As a result, due to common product category membership, some brands are likely to be perceived as more similar to each other. The analysis applied Linear Mixed Models (LMM) that allow to specify a random effect grouped by product category (Laird & Ware, 1982) to account for the nested data structure. In particular, the model included fixed effects for MBP, FBP, and the interaction between these two variables, as well as a random intercept grouped by product category (twelve product categories in total) to predict brand equity scores. The lme()-function of the nlme library of the software R (Pinheiro et al., 2008) was used to estimate the model and followed a top-down model building strategy (Verbeke & Molenberghs, 2000).

The model indicated a positive effect of MBP (b = .11, p < .01), a positive effect of FBP (b = .23, p < .001), and a negative interaction between these two variables (b = -.16, p < .001). The estimated values of the model explain 45.5 % of the variance of the observed values of brand equity, which indicates a good model fit (AIC = 204.84; BIC = 222.32; logLik = -96.42). Importantly, the pattern of results does not change in direction or significance after controlling for masculine and feminine gender perceptions associated with the product category. Moreover, neither the masculine category perception nor the feminine category perception has a significant impact on brand equity (p > .44). Thus, the effect of brand gender on brand equity is not dependent upon gender perceptions associated with the product category in which the brand competes.

Overall, high brand equity was observed only for brands that are feminine or masculine (i.e., high levels of FBP accompanied by low levels of MBP, or vice versa), but not for androgynous brands (i.e., high levels of both FBP and MBP). Figure 1 illustrates the importance of unequivocal brand gender positioning based on the model estimates and shows that brand equity is high when a brand is either high in FBP and low in MBP or low in FBP and high in MBP. Low values on both gender dimensions (i.e., undifferentiated brand gender) leads to the lowest brand equity, and androgynous brand gender also harms brand equity.

Table 1: Masculine and Feminine Brand Personality, Brand Gender, and Brand Equity

Panel A

Product Type	Brand	n	MBP	FBP	MBP-FBP	Brand Equity
1. Fragrances, Cosmetics	Klosterfrau	19	3.57	3.99	-0.42	5.68
	Chanel	19	4.29	5.10	-0.81	5.47
	4711	48	3.86	4.59	-0.73	5.13
	Nivea	146	3.85	4.55	-0.71	5.09
	Dove	94	4.02	4.82	-0.80	5.02
	Oil of Olaz	28	4.33	5.03	-0.70	4.97
	Penaten	58	3.59	4.63	-1.03	4.88
	Calvin Klein	31	4.48	4.52	-0.04	4.83
	L'Oreal	49	4.35	4.57	-0.22	4.76
	Douglas	65	4.15	4.66	-0.51	4.44
	bebe	36	3.74	4.89	-1.14	4.36
2. Sweets, Snacks	Lindt	92	3.72	4.74	-1.02	5.21
	Haribo	157	4.15	4.08	0.07	5.12
	Milka	172	3.93	4.64	-0.71	4.77
	Langnese	78	3.74	4.34	-0.60	4.65
	Magnum	88	3.80	4.38	-0.58	4.58
	Bifi	28	4.08	3.48	0.61	3.54
3. Food	Rinti	13	3.66	3.57	0.08	5.60
	Dallmayr	44	3.81	4.00	-0.20	5.18
	kitekat	54	3.99	4.31	-0.32	5.04
	Maggi	117	3.96	3.64	0.32	4.88
	Sheba	35	3.92	4.76	-0.85	4.82
	Lätta	76	3.90	4.14	-0.24	4.73
	Becel	35	3.87	4.22	-0.34	4.72
	Knorr	119	4.21	4.00	0.21	4.69
	Nestle	77	4.13	3.97	0.16	4.69
	Melitta	77	3.82	4.07	-0.25	4.65
	Kellogs	72	4.04	4.04	0.00	4.64
	Rama	84	3.57	3.89	-0.32	4.63
	Dr. Oetker	126	3.94	3.83	0.11	4.57
	Tchibo	110	4.15	3.97	0.18	4.53
	Mazola	24	4.06	4.39	-0.34	4.49
	McDonalds	176	4.45	3.45	1.00	4.47
	Du darfst	35	3.99	4.25	-0.26	4.46
	Aldi	165	4.47	3.42	1.04	4.43
	Pfanni	55	3.54	3.57	-0.04	4.39
	Bertolli	35	3.66	3.57	0.09	4.39
	Starbucks	35	4.60	4.15	0.45	4.25
	Nespresso	23	4.52	3.97	0.55	4.21
	Edeka	159	4.07	3.62	0.45	4.03
4. Soft Drinks	Coca Cola	165	4.45	3.58	0.86	4.81
	Gerolsteiner	40	3.88	4.08	-0.20	4.77
	Volvic	53	3.77	3.95	-0.18	4.51
	Pepsi	61	4.05	3.71	0.34	4.42
	Red Bull	48	4.80	3.28	1.53	4.18
	Lipton	37	4.06	3.84	0.22	4.04
	Clausthaler	27	4.05	3.98	0.07	3.86

Panel B

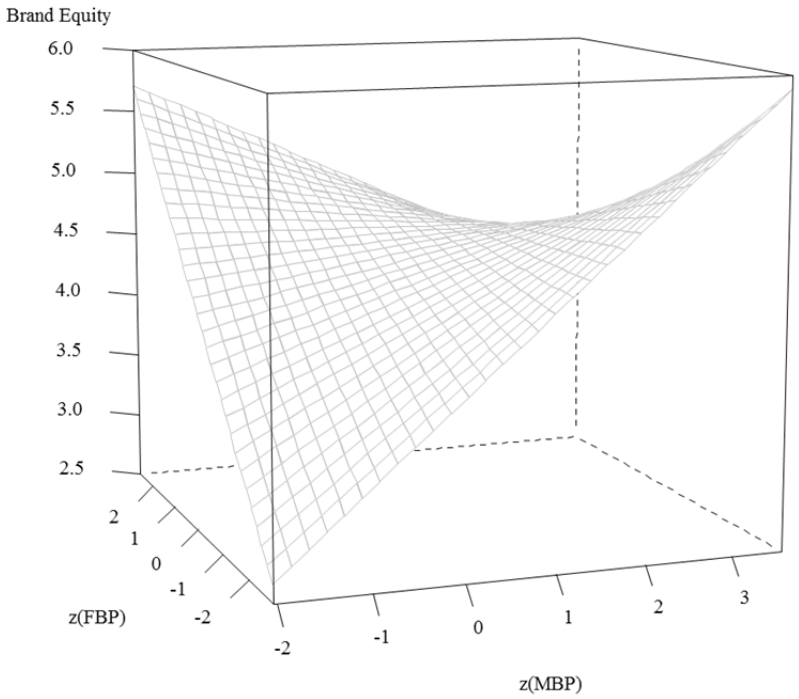
Product Type	Brand	n	MBP	FBP	MBP-FBP	Brand Equity
5. Fashion Apparel	Levis	56	4.67	3.58	1.09	4.95
	Fielmann	85	4.21	3.88	0.33	4.90
	adidas	73	4.65	3.63	1.02	4.85
	Esprit	65	3.97	4.10	-0.13	4.64
	Zara	22	4.09	4.42	-0.33	4.62
	Hugo Boss	52	4.65	4.04	0.61	4.54
	Nike	54	4.39	3.31	1.08	4.43
	Prada	21	4.23	3.73	0.50	4.26
	H&M	95	4.32	4.26	0.06	4.26
	S'Oliver	51	4.17	4.31	-0.14	4.22
	C&A	118	3.72	3.58	0.14	3.99
6. Cigarettes, Alcoholic Beverages	Rotkäppchen	55	3.99	4.29	-0.30	5.31
	Baileys	49	3.93	4.19	-0.25	5.07
	Becks	52	4.14	3.60	0.55	4.89
	Asbach	33	4.09	3.94	0.15	4.89
	Gauloises	30	4.39	3.21	1.19	4.88
	Bitburger	39	3.97	3.51	0.47	4.80
	Bacardi	43	4.58	3.89	0.69	4.78
	Radeberger	47	4.15	3.85	0.30	4.61
	Krombacher	53	4.31	3.77	0.54	4.50
	Warsteiner	60	4.27	3.89	0.39	4.44
	Davidoff	29	4.30	4.10	0.20	4.19
	Jever	39	3.96	3.39	0.57	3.93
	Marlboro	57	4.00	3.00	1.00	3.91
	Camel	35	4.45	3.65	0.81	3.90
	West	36	3.83	3.27	0.56	3.67
	Lucky Strike	37	4.27	3.02	1.25	3.64
7. Home-associated Products	Miele	60	4.14	3.49	0.65	5.49
	M. Proper	42	4.55	3.50	1.05	5.04
	Ariel	73	4.16	3.93	0.23	4.99
	Aspirin	70	3.94	3.61	0.33	4.89
	Lotto	63	3.95	3.02	0.92	4.87
	Persil	85	4.17	3.73	0.44	4.85
	Wick	53	3.94	3.85	0.09	4.71
	Colgate	66	4.03	3.88	0.15	4.54
	Aral	96	4.37	3.40	0.97	4.27
	Shell	70	3.93	2.85	1.08	3.70
	Schlecker	119	3.94	3.22	0.72	3.48
	BA	73	3.55	2.20	1.34	2.63
8. Financial Services	EC-Karte	108	3.85	3.21	0.64	4.89
	Visa	64	4.01	3.07	0.94	4.86
	DWS	21	4.21	3.70	0.52	4.55
	Sparkasse	113	3.91	3.27	0.64	4.35
	Dt. Bank	40	4.39	3.10	1.29	4.29
	Volksbank	63	3.67	3.28	0.39	4.07
	Commerzban	30	3.91	3.01	0.90	3.98
	Postbank	56	4.09	3.46	0.63	3.85
	Allianz	56	4.36	3.27	1.10	3.50
	Hamb.Mannh	22	3.46	2.98	0.48	3.01

Panel C

Product Type	Brand	n	MBP	FBP	MBP-FBP	Brand Equity
9. Electronics	Leica	18	4.31	3.26	1.05	5.77
	Canon	75	4.60	3.71	0.89	5.22
	Nintendo	59	4.41	3.92	0.49	5.06
	Breitling	23	4.33	3.00	1.34	5.02
	Philips	52	4.55	3.79	0.76	4.87
	Sony	71	4.27	3.47	0.81	4.77
	Seiko	10	3.68	3.18	0.49	4.67
	Swatch	32	4.54	3.76	0.77	4.53
	Olympus	15	3.90	2.95	0.95	4.28
	MediaMkt.	124	4.56	3.35	1.20	4.16
10. Cars	Mercedes	50	5.26	4.08	1.18	5.48
	Audi	76	4.87	3.52	1.35	5.19
	VW	94	4.67	3.75	0.91	5.04
	Porsche	38	5.44	3.48	1.95	4.99
	Citroen	24	4.32	4.29	0.03	4.78
	Peugeot	46	4.48	4.17	0.31	4.66
	BMW	81	5.03	3.57	1.47	4.52
	Renault	48	4.33	3.68	0.65	4.41
	Mini	26	4.87	4.30	0.57	4.32
	Opel	66	4.42	3.46	0.95	4.01
	Smart	21	3.82	3.53	0.29	3.50
11. Information Technology	Google	184	4.73	3.43	1.30	4.94
	Nokia	116	4.51	3.56	0.95	4.84
	Amazon	147	4.40	3.70	0.71	4.79
	Samsung	66	4.55	3.73	0.82	4.68
	HP	96	4.27	3.43	0.84	4.63
	Microsoft	115	4.64	3.13	1.51	4.56
	ebay	170	4.40	3.21	1.19	4.40
	Apple	37	4.73	4.11	0.62	4.26
	O2	53	4.16	3.67	0.49	4.20
	Vodafone	71	4.27	3.54	0.73	4.17
	Telekom	123	4.14	3.05	1.10	3.95
	E-Plus	39	3.72	3.00	0.72	3.38
12. Transporta-tion, Energy	Lufthansa	58	4.78	3.70	1.08	4.91
	Post	115	4.11	3.21	0.89	4.42
	FedEx	11	4.15	2.88	1.27	4.30
	DHL	98	4.22	3.29	0.94	4.30
	TUI	49	4.41	3.84	0.57	4.07
	UPS	27	4.25	3.03	1.22	3.95
	Bahn AG	74	4.01	2.67	1.34	3.64
	RWE	30	4.45	3.39	1.07	3.57
	eon	30	4.10	2.93	1.17	3.10
	Yello	35	3.88	3.34	0.55	2.98
	EnBW	15	3.82	2.34	1.48	2.37
	Total*	9022	4.20	3.72	0.45	4.49

*Total: Panels A, B and C

Figure 1: Study 1: Brand Equity Predicted by Masculine and Feminine Brand Personality



The question of whether brand equity ratings for the 140 brands differed as a function of brand gender and participants' sex was also examined (to this end the dataset was aggregated across the 140 brands separated by participants' sex resulting in a total of 280 cases for the subsequent analysis). In a linear regression of brand equity on MBP, FBP, participants' sex, and interaction terms (R^2 = .25, $F(6, 272) = 14.810$, $p < .001$), significant coefficients arose only for brand masculinity (b_{MBP} =.12, $p < .01$) and brand femininity (b_{FBP} = .32, $p < .001$). The coefficient for participants' sex ($p > .67$) and interaction terms were not significant (ps > .20). Male participants rated brands as higher on MBP overall (M_{men} = 4.26, M_{women} = 4.13, $p < .05$). No sex differences were present for FBP (M_{women} = 3.69, M_{men} = 3.76, $p > .30$), MBP–FBP as a measure for brand gender (Uzzell & Horne, 2006; M_{women} = .44, M_{men} = .49, $p > .50$), and for brand equity (M_{women} = 4.53, M_{men} = 4.57, $p > .60$).

Additional Analyses to Rule out Common Method Bias. When data is assessed by a common method—such as ratings on the predictor and criterion variables obtained from the same respondent as in Study 1 reported herein—a common method bias may exist (Podsakoff et al., 2003). Several tests address this concern: First, in Harman's single factor test, the MBP, FBP, and brand equity items were analyzed in an exploratory factor analysis with the solution forced to one factor. This factor explained 45% of the variance and was thus unsuccessful in extracting more than half of the

variance. An extraction of eigenvalues above 1 resulted in three factors. After a varimax rotation, the items loaded highly and significantly on their respective scales (i.e., MBP, FBP, and brand equity). Harman's single test (1976) thus indicates that common method bias is unlikely. Nonetheless, the following, more stringent test for common method bias (Williams, Hartman, and Cavazotte 2010) was also carried out: Age served as a marker variable unrelated to the predictor (MBP, FBP) and criterion (brand equity) items. The standardized regression weights of this marker variable on the eighteen items had a median of .24, with an average variance per item of 5.6% of the common factor. The magnitude of this value indicates that common method bias is highly unlikely.

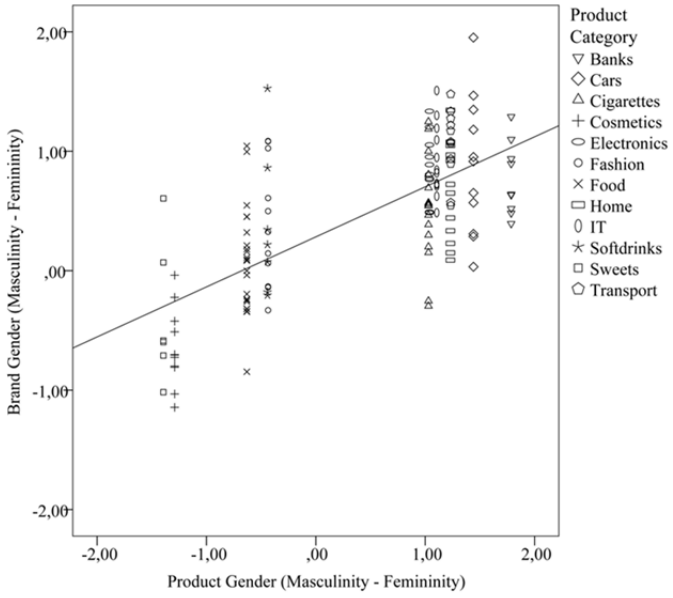
A third approach to ruling out common method bias involves obtaining data on the criterion from other sources. Consequently, an additional study replicated the results regarding a significant relation between brand gender and brand equity with secondary brand equity data provided by a leading market research company in Germany (GfK, Gesellschaft für Konsumforschung) available for 73 of the 140 brands included in Study 1. The GfK's brand potential index measures brand equity (Hupp, 2010), based on aggregated brand ratings (i.e., brand loyalty, brand awareness, brand sympathy, brand identification, brand trust, brand uniqueness, quality of the brand, purchase intention, willingness to pay, and willingness to recommend) regularly provided by 5,000 consumers. The brand equities assessed in Study 1 and the GfK brand equities correlated significantly ($r = .59$, $p < .001$). Following the approach used in Study 1, a LMM that takes the hierarchical structure of the data into account was used to evaluate the impact of MBP and FBP on GfK equity scores. The results mirrored the pattern observed in Study 1: The effect of MBP on brand equity was positive and significant ($b = 2.20$, $p < .05$). The effect of FBP on brand equity was positive but failed to reach significance ($b = 1.32$, $p = .24$). Importantly, the MBP × FBP interaction was again negative and significant ($b = -3.07$, $p < .01$). Results of Study 1 are thus generally supported when an alternative measure of brand equity is used. Finally, according to the LMM results it is important to note that it is unlikely that consumers based their brand gender perceptions on the product categories (rather than the brands) included in this study. In fact, average brand gender (i.e., difference between MBP and FBP; Uzzell & Horne, 2006) differed significantly within product categories, with the exception of electronics. Table 2 and Figure 2 illustrate these results. From Figure 2 it can be seen that for instance cars in general seem to be rather masculine while cosmetics seem to be rather feminine. However, due to the particular positioning of the different brands within the product categories, the least masculine car brand has the

same gender as the least feminine cosmetic brand illustrating the substantial variance of brand gender within product categories.

Table 2: Study 1: Brand Gender by Product Category

Product Category Number	*Product Category*	*Average Brand Gender (MBP-FBP)*	*SD*	*Min.*	*Max.*	*Range*	*F*	*Sig.*
1	Fragrance, Cosmetics	-0.65	0.328	-1.14	-0.04	1.11	$F(1, 10) = 2.41$	= .008
2	Sweets, Snacks	-0.37	0.596	-1.02	0.61	1.62	$F(1, 5) = 18.30$	< .001
3	Food	0.07	0.442	-0.85	1.04	1.89	$F(1, 21) = 13.70$	< .001
4	Soft Drinks	0.38	0.622	-0.20	1.53	1.73	$F(1, 6) = 15.88$	< .001
5	Fashion, Apparel	0.38	0.517	-0.33	1.09	1.42	$F(1, 10) = 12.98$	< .001
6	Cigarettes, Alcoholic B.	0.51	0.439	-0.30	1.25	1.54	$F(1, 15) = 6.17$	< .001
7	Home-associated P.	0.66	0.414	0.09	1.34	1.26	$F(1, 11) = 6.49$	< .001
8	Financial Services	0.75	0.290	0.39	1.29	0.90	$F(1, 9) = 3.36$	= .001
9	Electronics	0.87	0.275	0.49	1.34	0.85	$F(1, 9) = 1.58$	= .119
10	Cars	0.88	0.579	0.03	1.95	1.92	$F(1, 10) = 9.69$	< .001
11	Information Technology	0.91	0.303	0.49	1.51	1.02	$F(1, 11) = 4.26$	< .001
12	Transportation, Energy	1.05	0.297	0.55	1.48	0.93	$F(1, 10) = 2.73$	= .003
	Total	0.45	0.636	-1.14	1.95	3.10		

Figure 2: Study 1: 140 Brands in Twelve Product Categories



Discussion. Study 1 finds that high levels of brand masculinity or femininity were associated with high levels of brand equity, as hypothesized in H1a and H1b. Androgynous (i.e., high scores on both brand gender dimensions) and undifferentiated (i.e., low scores on both brand gender dimensions) brand gender were negatively associated with brand equity. The finding that a strong association between brand masculinity/femininity and brand equity only emerges for brands that score high on one (but not both) brand gender dimensions suggests that brand positioning as clearly

masculine or feminine strengthens brand equity. These results were influenced by neither participants' sex, nor gender associations pertaining to the product categories of the brands.

2.3 Study 2: Brand Gender, Brand Personality, and Brand Equity

A more rigorous test of the relationship between brand gender and brand equity involves the inclusion of other brand personality measures (i.e., Aaker's [1997] five dimensions: "sincerity", "excitement", "sophistication", "competence", and "ruggedness") to demonstrate that brand gender contributes to brand equity above and beyond other brand personality dimensions. Study 2 includes Aaker's (1997) five brand personality dimensions as well as the two brand gender dimensions (Grohmann, 2009) and examines whether brand gender relates to brand equity in the presence of other brand personality measures.

Design, Stimuli, and Procedure. Two logos for well-known brands that differed in personality (BMW, Nivea) served as stimuli. In an online study with a between-participants design, 134 respondents (35% female, M_{Age} = 46.4, SD_{Age} = 11.1) were randomly assigned to one of the brands and rated it on the 42-item brand personality scale (Aaker, 1997), on a 12-item MBP/FBP scale (Grohmann, 2009), and in relation to the six brand equity items used in Study 1. Items were presented in random order.

Results. Compared to Nivea, BMW scored lower on sincerity (4.6 vs. 5.0, $p < .01$), higher on excitement (5.1 vs. 4.5, $p < .01$), higher on competence (5.2 vs. 4.7, $p < .01$), and higher on ruggedness (4.9 vs. 3.6, $p < .001$). The brands did not differ in sophistication (4.6 vs. 4.6, $p > .80$). In terms of brand gender, BMW scored higher on masculinity compared to Nivea (5.05 vs. 3.66, $p < .001$), but lower in femininity (3.59 vs. 4.76, $p < .001$). Brand equity ratings did not differ (4.45 vs. 4.85, $p > .09$). The MBP and FBP ratings for BMW and Nivea obtained in Study 2 did not differ significantly from ratings observed in Study 1 (BMW ps > .90, Nivea ps > .30).

The relative impact of brand personality dimensions on brand equity was examined in a linear regression, with brand equity serving as the criterion and the five factors representing brand personality (Aaker, 1997) as predictors (R^2 = .60; $F(5, 128)$ = 37.99, $p < .001$). Adding MBP and FBP significantly improved model fit (R^2change = .10, $\Delta F(2, 126) = 20.02$, $p < .001$). When equity was regressed on MBP and FBP only, the model was significant and replicated the positive effects of MBP

and FBP on brand equity, as observed in the first study (R^2 = .42; $F(2, 131) = 47.49$, $p < .001$; b_{MBP} =.35, b_{FBP} = .66, ps < .001).

Discussion. A consideration of brand gender is important because it contributes significantly to the prediction of brand equity, even if established brand personality dimensions are accounted for. Study 2 supports the notion that brand gender is salient to consumers and significantly influences consumers' brand equity ratings. When brand masculinity and femininity served as the only predictors of brand equity, they already explain a large portion of the variance in brand equity, although only two (MBP and FBP) instead of five constructs ("sincerity", "excitement", "competence", "ruggedness", and "sophistication") are used. Furthermore, gender and equity results in Study 2 were the same as those in Study 1, which was conducted two years earlier. These similar findings indicate a high test-retest reliability of the employed scales. Overall, the assumption that brand gender is an efficient yet significant predictor of brand equity, is supported.

3. Brand Gender and Ease of Categorization

3.1 Theoretical Background

Consumers positively relate to brands that offer unique and positive experiences (Zarantonello & Schmitt, 2010). Strong brand equity arises from favorable, strong, and unique brand associations (Keller, 1993; Krishnan, 1996; Schmitt, 2009, 2012). The strong brand equity ratings obtained for feminine and masculine brands (i.e., brands with a strong positioning in terms of brand gender) are likely to be based on strong and favorable associations. This statement is in line with literature indicating that sexual identity is one of the most salient personality traits (Dion, Berscheid, & Walster, 1972), and that gender-based categorization is high in chronic accessibility (Blanz, 1999). Since consumers apply the judgment of human personality traits—including gender—to brands (Aaker, 1997; Fournier, 1998; Grohmann, 2009), brand gender is likely to be salient and chronically accessible to consumers. Because masculine and feminine brands are characterized by dominance of one of the two gender dimensions (i.e., masculine brands are high in masculinity, but low in femininity, and vice versa), their positioning in the brand gender space is clear, easily recognizable, and categorized with a high degree of certainty. High levels of masculinity and femininity are linked to attractiveness regardless of the sex of the perceiver (Koehler et al., 2004;

Rhodes et al., 2003; Johnston et al., 2001; Perrett et al., 1998; Grammer & Thornhill, 1994; Penton-Voak et al., 2001). As a result, masculine and feminine brands are likely to produce positive associations, independent of consumers' sex. That is, a clear brand gender positioning triggers strong associations with positive valence because of the link between masculinity/femininity and attractiveness established in the evolutionary psychology literature (Koehler et al., 2004; Rhodes et al., 2003; Johnston et al., 2001; Perrett et al., 1998; Grammer & Thornhill, 1994; Penton-Voak et al., 2001). Therefore, masculine and feminine brands earn higher choice shares in inter-brand contexts (Schmitt, 2012) and higher brand equity (Keller, 1993). Undifferentiated brands (i.e., brands low in both masculinity and femininity) would not be likely to be endowed with strong associations because of their weak links to both masculinity and femininity. Androgynous brands (i.e., brands high in both masculinity and femininity) represent both highly masculine and feminine traits, which reduces the clarity of their positioning. The result may be greater categorization difficulty making strong positive associations less likely to arise.

Studies 3A and 3B test strong and positive associations and resulting ease of categorization of strongly sex-typed stimuli as the psychological mechanism underlying the relationship between brand gender and brand equity. In a two-step process, these studies establish the relation between strong brand gender and strong positive associations (as a proxy of strong brand equity). Study 3A examines the number (i.e., strength) and type (i.e., valence) of associations arising from stimuli that differ with regard to their level of masculinity and femininity. Highly masculine and highly feminine stimuli are expected to evoke a higher number of positive associations compared to moderately masculine or moderately feminine stimuli, respectively. On an aggregate level, more highly sex-typed (i.e., highly masculine and highly feminine) stimuli should elicit a higher number of positive associations as well. Study 3A employs non-branded stimuli to rule out any effects of prior brand exposure or experience on the number and type of associations evoked. Study 3B then examines whether consumers use gender as a criterion in categorizing feminine, masculine, undifferentiated, and androgynous brands according to their fit with moderately versus highly sex-typed stimuli. It also examines the number and type of brand associations by brand gender category, and considers the choice share of brands differing in brand gender.

3.2 Study 3a: Positive Associations Evoked by Sex-Typed Stimuli

Design, Stimuli, and Procedure. In a pretest, a group of male and female doctoral students selected 24 photographs (twelve featuring female faces, twelve featuring male faces) from an online database for advertising agencies. Selection criteria included a similar level of positive facial expression and attractiveness, but differences in masculinity and femininity within both male and female images.

In a second pretest, an online consumer panel (n = 143, 46.1% female, M_{Age} = 43.5 years, SD_{Age} = 12.4 years) rated the 24 images on a seven-point scale ("very feminine", "very masculine")[2]. Presentation order was randomized. Ratings of the images did not differ by participants' sex (p = .56) and served in the selection of four images that differed significantly in terms of femininity/masculinity ($M_{1\ (very\ feminine)}$ = 1.58, SD_1 = .92; $M_{2\ (feminine)}$ = 3.03, SD_2 = 1.03; $M_{3\ (very\ masculine)}$ = 5.94, SD_3 = 1.18; $M_{4\ (masculine)}$ = 5.03, SD_4 = 1.10; all ps < .001). Figure 3 illustrates these images.

Figure 3: Study 3: Stimuli Differing in Sex-Typing

Note: Gender from 1 = "very feminine" to 7 = "very masculine".

A second online consumer panel (n = 405, 44.4% female, M_{Age} = 43.0 years, SD_{Age} = 12.4 years) was randomly assigned to one (of four) images. In an open-ended question, participants described the person shown in the image in their own words, rated the image in terms of both masculinity and femininity (1 = "does not apply at all", 7 = "does fully apply"), and provided demographic information. 15 participants

[2] Regarding sex/gender as a uni- or two-dimensional construct, Storms (1979) states that "despite research evidence that masculine and feminine sex role attributes form orthogonal dimensions, and despite the increased currency of the term androgyny, people are likely to persist in thinking of masculinity and femininity along a single continuum." (Storms, 1979; p. 1786) In this pre-study, it seemed nevertheless suitable to measure the gender on a bipolar scale.

did not provide information about their sex and were hence excluded from analyses where participants' sex is considered.

Results. Participants' sex did not affect masculinity and femininity perceptions (*p*s > .20). Masculinity and femininity ratings replicated pretest results ($M_{1(highly\ feminine)\ masculinity}$ = 1.52, $M_{1(highly\ feminine)\ femininity}$ = 6.30, $M_{1(highly\ feminine)\ difference\ score}$ = -4.78; $M_{2(feminine)\ masculinity}$ = 2.23, $M_{2(feminine)\ femininity}$ = 5.40, $M_{2(feminine)\ difference\ score}$ = -3.17; $M_{3(highly\ masculine)\ masculinity}$ = 5.81, $M_{3(highly\ masculine)\ femininity}$ = 1.80, $M_{3(highly\ masculine)\ difference\ score}$ = 4.01; $M_{4(masculine)\ masculinity}$ = 5.13, $M_{4(masculine)\ femininity}$ = 2.42, $M_{4(masculine)\ difference\ score}$ = 2.71).

Participants' open-ended responses were content analyzed. Seventy-six participants (18.8%) did not list any association, 127 (31.4%) listed one association, 101 (24.9%) listed two, 51 (12.6%) listed three, 36 (8.9%) listed four, 7 (1.7%) listed five, 6 (1.5%) listed six, and 1 participants listed seven associations.

Highly sex-typed images elicited significantly more associations compared to the less sex-typed images ($\chi^2(1) = 7.40$, $p < .01$): The highly feminine image elicited 199 associations (from 105 participants), the feminine image 166 associations (from 102 participants), the highly masculine image 189 (from 97 participants), and the masculine image 150 (from 101 participants). Across all four images, the differences in the number of associations generated were significant ($\chi^2(3) = 8.40$, $p < .05$). On an aggregate level, the more strongly sex-typed images evoked more associations (388 from 202 participants) than the less sex-typed images (316 from 203 participants). An ANOVA with association count serving as the dependent variable, and gender and sex-type of the portraits and participants' sex serving as independent variables) revealed a significant main effect only of sex-typing of the image ($F(1,382) = 5.13$, $p < .05$): the more strongly sex-typed images evoked an average of 1.92 associations per participant, whereas the less sex-typed images evoked only 1.56 ($t(403) = 2.65$; $p < .01$). Neither the biological sex of the person depicted in the image ($p > .85$) nor participants' sex affected the number of associations ($p > .18$), and no significant interactions emerged (*p*s > .23).

An analysis of the most frequently listed associations further rules out differences in responses between female and male participants. The most frequently listed associations were attractive (by female participants 5, by male 9), beautiful (female 9, male 8), friendly (female 35, male 43), likeable (female 35, male 40), nice (female 24, male 26), pretty (female 10, male 21), and smiling (female 53, male 45). Distributions of these associations did not differ across participants' sex ($\chi^2(6) < 5.80$, $p = .45$).

With one exception (the masculine image associated with "boring"), all listed associations were positive. Noteworthy is the number of unique associations listed for each of the images (highly feminine image: 46; feminine image: 38; highly masculine image: 50; masculine image: 37 unique associations). Although the differences are not significant ($p > .10$), more strongly sex-typed images tended to evoke more unique associations.

Discussion. Results of this study demonstrate that strongly sex-typed stimuli generate more positive associations compared to less sex-typed stimuli. This process was driven by the degree of sex-typing (high versus low) rather than the gender dimension (masculine versus feminine). Furthermore, participants' sex did not affect the number or nature of associations arising from the sex-typed stimuli. Although the context of this study did not involve branded stimuli in order to rule out effects of prior brand exposure or experience on type and number of associations, it nevertheless shows that consumers consistently categorize sex-typed stimuli, and that reactions to sex-typed stimuli are similar for men and women.

3.3 Study 3b: Categorization of Brands Based on Brand Gender

Drawing on categorization theory (Lamberts & Brockdorff, 1997; see also Solomon, Medin, & Lynch, 1999), this study introduces masculine, feminine, undifferentiated, and androgynous brands and tests to what extent consumers spontaneously assign brands to categories based on gender. More specifically, the study examines consumers' categorization of brands in a task that requires them to match brands with highly versus moderately masculine/feminine stimuli in order to demonstrate that consumers consistently categorize brands based on gender perceptions, even if they are not provided with an indication that brand gender is a possible categorization criterion. If consumers indeed rely on gender perception in their categorization of brands, a categorization task should lead to a pairing of masculine and feminine (but not undifferentiated or androgynous) brands with highly masculine and feminine stimuli, respectively. Undifferentiated brands, on the other hand, should be paired with both moderately (rather than highly) masculine or feminine stimuli to a greater extent. In addition, androgynous (rather than undifferentiated) brands should be paired with both highly masculine or highly feminine stimuli.

A second objective of this study is to show that more positive associations arise for feminine and masculine (but not undifferentiated and androgynous) brands. The third objective is to replicate Study 1 and Study 2 findings regarding the relationship

between brand gender and brand equity in a choice context: Masculine and feminine (but not undifferentiated and androgynous) brands are expected to be chosen more often in a multi-brand choice context.

Design, Stimuli, and Procedure. This study involved feminine (Chanel, Dove, Lindt, Milka, Nivea), masculine (Adidas, Audi, Lufthansa, Mercedes, Porsche), undifferentiated (Bifi, Edeka, Volksbank, West, Yello), and androgynous brands (Citroen, Davidoff, H&M, Peugeot, S'Oliver). The brand gender groups were based on Study 1 brand ratings. Participants recruited from an online consumer panel (n = 272, 49.1% female, M_{Age} = 44.9 years, SD_{Age} = 12.2 years) saw the 20 brand logos presented one at a time, along with the four sex-typed (i.e., highly feminine, feminine, highly masculine, masculine) images used in Study 3a. Participants assigned the brand to a gender category by selecting the image that best fits the brand ("If the following brand could be represented by a person who would it be?"). Instructions did not make any reference to gender as a potential basis for categorization. After the categorization task, participants listed associations for one randomly assigned brand. The study concluded with a presentation of the 20 brand logos and participants' choice of the preferred brand.

Results. Participants' assignments of brands to images are summarized in Table 3. Overall, feminine (masculine) brands were assigned more often to feminine (masculine) images. More specifically, the five feminine brands were categorized more often with the feminine images (highly feminine image: 666 times; feminine image: 558; highly masculine image: 49; masculine image: 73; χ^2 (1) = 902.23, $p < .001$). Feminine brands were assigned to the highly feminine image (compared to the feminine image) more often (χ^2 (1) = 9.53, $p < .01$). Masculine brands were categorized more often with the masculine images (highly masculine image: 819; masculine image: 230; highly feminine image: 197; feminine image: 102; χ^2 (1) = 417.29, $p < .001$). Masculine brands were assigned to the highly masculine (compared to the masculine) image more frequently (χ^2 (1) = 330.72, $p < .001$). Thus, highly feminine and highly masculine brands tend to be categorized with highly sex-typed portraits. Undifferentiated brands were categorized with the less sex-typed images more often (masculine: 524; feminine: 376; highly masculine: 328; highly feminine: 121). As expected, categorization with less sex-typed images (900) exceeded categorization with highly sex-typed images (449; χ^2 (1) = 150.78, $p < .001$). Categorization of androgynous brands differed from the pattern observed for undifferentiated brands (masculine: 432; highly feminine: 385; highly masculine: 356;

feminine: 174), in that categorization with highly sex-typed images (741) exceeded categorization with less sex-typed images (606; χ^2 (1) = 13.53, $p < .001$). Participants' sex did not affect the brand-image categorization for 17 out of the 20 brands (χ^2s(1) < 7.46, ps > .06). Differences only emerged for three brands with ambiguous gender positioning: Bifi (undifferentiated), Volksbank (undifferentiated) and Citroen (androgynous; ps < .05).

Table 3: Study 3: Assignment of 20 Brands to Sex-Typed Portraits

Brand Gender	Brand		Portrait			
			Female 1 Highly Feminine	Female 2 Less Feminine	Male 1 Highly Masculine	Male 2 Less Masculine
Highly Feminine Brands	Chanel		199	46	16	8
	Dove		101	165	2	1
	Lindt		112	124	16	17
	Milka		129	102	4	35
	Nivea		125	121	11	12
		Subtotal	666	558	49	73
Highly Masculine Brands	adidas		18	4	92	155
	Audi		15	9	217	28
	Lufthansa		104	57	101	9
	Mercedes		22	23	212	12
	Porsche		38	9	197	26
		Subtotal	197	102	819	230
Undifferentiated Brands	Bifi		15	42	56	155
	Edeka		31	159	18	62
	Volksbank		20	84	112	55
	West		23	26	111	110
	Yello		32	65	31	142
		Subtotal	121	376	328	524
Androgynous Brands	Citroen		39	59	48	123
	Davidoff		27	10	207	26
	H&M		167	27	16	61
	Peugeot		56	60	39	114
	S'Oliver		96	18	46	108
		Subtotal	385	174	356	432

The listing of associations resulted in 553 positive associations for the 20 brands. For feminine brands, 68 participants listed 131 associations. For masculine brands, 69 participants listed 165 associations. For undifferentiated brands, 74 participants listed 115 associations, and for androgynous brands, 61 participants listed 142 associations. Undifferentiated brands evoked fewer associations (χ^2 (3) = 15.70, $p < .01$), but no difference emerged between masculine, feminine, and androgynous brands (χ^2 (2) = 3.88, $p > .14$). Participants' sex did not have an effect on the number of associations listed (χ^2 (9) = 15.47, $p > .08$).

Analysis of the brand choice task is based on the 218 complete responses (summarized in Table 4). Among the brands chosen as the preferred brand, 86 were highly feminine, 68 highly masculine, 24 undifferentiated, and 40 androgynous. Thus, significantly more feminine and masculine (compared to undifferentiated and androgynous) brands

were selected (χ^2 (3) = 42.48, $p < .001$), supporting previous results regarding the impact of brand gender on brand equity. Brand choice did not differ between men and women for 17 out of the 20 brands (χ^2s (1) > 3.56, $p > .06$). Two masculine brands (Audi, Mercedes) as well as one androgynous brand (Davidoff) were chosen significantly more often by male (compared to female) participants (χ^2s (1) > 4.0, ps < .05).

Table 4: Study 3: Brand Choice Frequencies

Brand Gender	Brand	Number of Nominations as Favorite Brand
Highly Feminine Brands	Chanel	8
	Dove	16
	Lindt	17
	Milka	19
	Nivea	26
	Subtotal	86
Highly Masculine Brands	adidas	16
	Audi	14
	Lufthansa	9
	Mercedes	17
	Porsche	12
	Subtotal	68
Undifferetiated Brands	Bifi	7
	Edeka	6
	Volksbank	4
	West	2
	Yello	5
	Subtotal	24
Androgynous Brands	Citroen	5
	Davidoff	7
	H&M	10
	Peugeot	7
	S'Oliver	11
	Subtotal	40

Discussion. Study 3 supports a categorization account of the relationship between brand gender and brand equity. Masculine and feminine brands were consistently categorized with strongly sex-typed stimuli (i.e., highly masculine and highly feminine images, respectively) in the vast majority of cases, regardless of participants' sex. Categorization of undifferentiated brands mostly involved less sex-typed stimuli, while androgynous brands were more frequently categorized with highly sex-typed stimuli. Masculine and feminine brands elicited more favorable associations (compared to undifferentiated brands). Participants' sex did not influence the number or nature of associations. Finally, masculine and feminine brands enjoyed higher choice shares (compared to undifferentiated and androgynous brands). This finding is in line with higher levels of brand equity observed for masculine and feminine brands in Studies 1 and 2, and suggests that ease of categorization accounts for these effects. In Study 3, associations served as a proxy for brand equity. Although the association measure

differs from common brand equity scales, the literature acknowledges associations as a valid and efficient way to assess brand equity (Faircloth, Capella, & Alford, 2001). Furthermore, the number of brand associations significantly relates to brand equity (Chen, 2001; Keller, 1993) suggesting the appropriateness of the adopted approach.

4. Generell Discussion and Implications

This research examines the extent to which brand masculinity and femininity are linked to brand equity and empirically tests categorization as a theoretical account for this association. Study 1 involved a large sample of consumers and brands, and demonstrates that brands associated with high levels of masculinity and femininity command higher equity than do undifferentiated brands. Brand androgyny (high levels of both masculinity and femininity) was negatively related to brand equity. The observed relationship between brand gender and brand equity was not influenced by gender associations pertaining to the product category to which brands belonged, and—more importantly—it was unaffected by consumers' sex. Study 2 replicated the findings regarding brand gender effects on brand equity in a regression model that also included other brand personality dimensions (i.e., Aaker's [1997] "sincerity", "sophistication", "competence", "excitement", and "ruggedness" dimensions). In this model, brand gender uniquely and significantly contributed to brand equity ratings, indicating that brand gender is an important extension of established brand personality models. This research then proceeded to explore an underlying mechanism of the relationship between brand gender and brand equity. More specifically, Study 3 focused on ease of categorization as a theoretical mechanism. Results support the hypothesis that strongly sex-typed cues are more easily categorized and evoke more positive consumer responses than less sex-typed cues. In addition, masculine and feminine brands were consistently categorized based on gender, and overall generated more positive associations and greater choice share compared to less clearly gender-positioned brands.

From a theoretical perspective, this article extends the literature on brand personality (e.g., Aaker, 1997; Fournier, 1998; Sirgy, 1986) and contributes to the emerging literature on brand gender (Grohmann, 2009) by linking brand gender perceptions to brand equity. The present studies show that highly masculine and highly feminine brands elicit higher brand equity ratings, regardless of whether they are congruent with participants' sex. This research further investigates the psychological process that drives the positive effect of brand gender on consumer responses and finds support for

an ease of categorization account. Results suggest that brand gender influences brand equity because it is easy for consumers to categorize sex-typed (i.e., highly masculine and highly feminine) stimuli, including brands. This ease of categorization of sex-typed brands, in turn, triggers more positive responses to highly masculine (or highly feminine) brands. Undifferentiated and androgynous brands, which are more difficult to categorize due to more ambiguous gender positioning, cannot command superior choice shares or brand equity.

The greater number and variety of brands considered herein differentiates this research from prior studies on brand gender that found a moderating effect of sex or sex role identity on consumer responses to gendered brands: Studies 1 and 3 were based on large sets of brands (up to 140) in various product categories (e.g., twelve product categories in Study 1). For these sets of brands, there was a consistent association of highly feminine and highly masculine brands and brand equity that was not affected by consumers' sex (Study 1 and 3). Previous research on brand gender effects, on the other hand, considered a relatively small number of brands in a single product category (e.g., three brands of personal care products; Grohmann, 2009). Although results of the current research suggest that, on an aggregate level, brand gender effects are not moderated by consumers' sex, the few exceptions observed (e.g., the masculine car brands Audi and Mercedes in Study 3b) hints at the possibility that consumer responses to some brands in product categories that involve self-enhancement (such as personal care products or cars) may at least in part be influenced by self-expression processes. This possibility raises interesting questions for future research into brand gender effects. Future research might also address how brand equity is affected by brand extensions that are inconsistent with brand gender of the parent brand. Results of the current research suggests that a dilution of gender associations of the parent brand due to inconsistent brand extensions have the potential to harm brand equity.

For managerial practice, this research suggests that instilling a brand with a masculine or feminine brand personality increases consumer-based brand equity. For this reason, an assessment of consumers' perceptions of brand masculinity and femininity (e.g., using the MBP/FBP scale; Grohmann, 2009) is advisable. Managers who wish to create a new brand with a masculine or feminine profile can use the results of this research to focus their efforts. Clear positioning of a brand in terms of masculinity or femininity was associated with higher brand equity in this research. It is important to note that a positive impact of brand gender on brand equity can be expected for clearly masculine or feminine brands, while androgynous brands (i.e., brands that are high in

both masculinity and femininity) do not command higher levels of brand equity. Results of this research indicate that androgynous brands may be less successful because consumers face a greater challenge in categorizing less clearly sex-typed brands.

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Article III

Van Tilburg, M., Herrmann, A., Grohmann, B. & Lieven, T. (submitted). The Effect of Brand Gender Similarity on Brand Alliance Fit and Purchase Intention.

Marketing Letters.

The Effect of Brand Gender Similarity on Brand Alliance Fit and Purchase Intention

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Abstract

Brand alliances, particularly co-branding, are a strategic alternative to brand extension in which a brand seeks to reinforce its brand image, expand into new markets and gain new customer segments by utilizing the brand image of a second, external brand. A brand alliance will only be successful if the brand fit between the two constituent brands is perceived to be high. Recent literature suggests brand personalities as a possible basis for brand fit. On this basis, brand gender is a relevant criterion for determining the success of a brand alliance, although this criterion has not been considered in previous studies. In this article, which relies on congruence theory, two experiments are conducted to explore the role of brand gender as a driver of both positive consumer response and consumer behavior towards an alliance. The first experiment demonstrates that if consumers are asked to match an initial brand to a second brand from a set of brand options, consumers pair brands with the same brand gender. The second experiment reveals that brand gender similarity in a brand alliance results in greater perceived fit, visual appeal and perceived unity for the alliance in question, as well as an increase in purchase intention. This positive response to gender similarity is independent of the sex and age of the study participants. Managerial implications for successful brand alliances may be drawn from these findings.

Keywords: Co-branding; Brand gender; Brand alliance fit; Congruence theory.

1. Introduction

Several examples, such as the alliance between Apple and Nike and that between Nescafé and DeLonghi, suggest that brand alliances between two or more brands (Voss and Gammoh 2004) have become a useful tool for strengthening a brand's image (Rao et al. 1999; Washburn et al. 2000), an alternative to brand extensions (Venkatesh et al. 2000) and a lucrative strategy for entering new markets (Voss and Tansuhaj 1999). The literature demonstrates that brand alliances are evaluated more positively if a greater perceived fit exists between the constituent brands and/or their product categories (Simonin and Ruth 1998). Although brand personality in general has been considered as a basis for brand fit (Simonin and Ruth 1998), brand gender, which is defined as the masculine or feminine traits of a brand (Grohmann 2009), has thus far been neglected as a possible basis of brand fit.

Brand personality is specified as "the set of human characteristics associated with a brand" (Aaker 1997, p. 347). In the literature of social psychology, an individual's gender is regarded by others as the individual's most salient and accessible human characteristic (Dion et al. 1972). Consumers also transfer social psychology principles to brands (Aaker 1997) and perceive gender as a salient characteristic of brands (Grohmann 2009), thus, brand gender may serve as a potential basis for brand fit perception.

The current investigation seeks to close this research gap with respect to brand gender fit. In particular, this investigation relies on congruence theory, which implies that humans prefer harmony among objects (Eagly and Chaiken 1993), and fluency theory, which states that fluently processed objects produce more positive impressions (Reber et al. 2004), to propose that gender-congruent brands are perceived to be more harmonious and are processed more fluently than brands that differ in gender and to therefore suggest that brand fit is enhanced if two allying brands have the same gender.

The research uses two studies to test the proposed relationship. The first study demonstrates that individuals choose gender-congruent brands if they are asked to identify the brand that best fits with a given brand. The second study reveals that greater perceived brand alliance fit, brand fit, perceived unity, visual unity and purchase intention regarding a brand alliance are observed if the allying brands are more similar with respect to brand gender.

2. Theoretical Background

2.1 Brand Fit

Co-branding offers a useful basis for studying brand fit. Co-branding is commonly regarded as the systematic long-term branding of one product (the co-brand) with at least two brands that are perceived by third parties to be (legally) independent (Park et al. 1996). The essential goal of co-branding is to achieve positive image transfer between the constituent brands in the form of co-brand effects and spillover effects (Washburn et al. 2000). Image transfer becomes more likely if there is a better perceived fit between the constituent brands. Fit is defined as a subjective judgment regarding the match between two constituent brands (Uggla 2004). Brand fit between two brands is thought to be established if the consumer perceives a comprehensive connection between the brands and can integrate the concepts related to these two different brands. Within the literature, brand fit has emerged as a pivotal factor in the success of brand alliances (Bucklin and Sengupta 1993; Levin and Levin 2000; Park et al. 1996; Simonin and Ruth 1998). Studies have analyzed the fit between two brands in the context of co-branding. Inconsistent results have been obtained regarding the basis of brand fit, with some studies indicating that high similarity between the personalities of the two constituent brands is required (Simonin and Ruth 1998) and others emphasizing the importance of combining brands with salient characteristics to achieve co-branding success or indicating that complementarity between the two brand images (Park et al. 1996) is a dominant factor in the outcome of co-branding initiatives. All of these findings address the compatibility of the personalities of the two constituent brands.

2.2 Brand Gender

Recent theorizing about brand personality suggests that brand masculinity and femininity are two distinct sub-dimensions that consist of masculine and feminine brand personality traits, respectively (Grohmann 2009), complementing Aaker's model of brand personality (Aaker 1997). Thus, it seems that gender is a salient, universal personality trait of brands (Grohmann 2009). In accordance with this notion, research has demonstrated that brands created using gendered design elements, such as brand names, fonts, colors and brand logos, are associated with femininity and masculinity (Lieven et al. 2011). Studies have also indicated that consumers perceive brand gender

in terms of a continuum of masculine and feminine traits, resulting in brand gender profiles that may be highly masculine, masculine, androgynous/undifferentiated, feminine or highly feminine (Lieven et al. 2011).

2.3 Congruence Theory

Cognitive consistency theory may be utilized to explain the brand fit perceptions of brand alliances. Cognitive consistency theory claims that individuals seek to reduce disharmonious conditions among objects (Eagly and Chaiken 1993). Congruence theory, a major facet of cognitive consistency theory, provides useful insight regarding consumers' brand fit perceptions. Positive consumer responses regarding brand choice, brand impressions and perceived value result from the congruence of meanings that have been articulated across or within elements of a product's marketing mix (e.g., Erdem and Swait 2004; Van Rompay and Pruyn 2011). The concept of processing fluency provides insight into this context (Reber et al. 2004; Winkielman and Cacioppo 2001). An object that is processed easily is evaluated positively and provokes favorable response, including perceptions that the item in question is aesthetically attractive, beautiful and pleasant to the senses (Lee and Labroo 2004; Reber et al. 2004). These positive consumer responses occur because processing fluency is hedonic (i.e., fluent processing is perceived in a positive way; Reber et al. 2004). Therefore, individuals evaluate stimuli more positively if these stimuli are processed in a more fluent manner.

Co-branding requires a consumer to judge about or make a purchase decision regarding the integration of two brand symbols. Studies of brand fit and congruence theory indicate that perceptions of better brand gender fit arise for brands with congruent genders rather than for brands with dissimilar genders. Therefore, the following hypotheses are proposed:

H1: Consumers with the freedom to choose a brand that matches a given brand will choose matching brands of the same brand gender and brand gender magnitude.

H2: Greater similarity between two brands with respect to brand gender will be associated with greater **(a)** perceived alliance brand fit and brand fit; **(b)** perceived visual unity and visual appeal; and **(c)** purchase intention.

3. Pretests

Several pretests were utilized to identify focal study stimulus material on brands associated with different genders. To avoid confounding effects such as brand preference or popularity that might be associated with familiar brands, this study used 10 artificial brands that were created for the purpose of this research. These brands included 2 highly masculine, 2 masculine, 2 neutral, 2 feminine and 2 highly feminine brands.

3.1 Pretest 1

The first pretest included 30 brand names that were associated with different genders. The names were manipulated through the use of front and back vowels. Sound symbolism theory suggests that there is a relationship between vowel sounds as well as consonants and brand gender perceptions (Klink 2000, 2003; Yorkston and Menon 2004). Front vowels (e.g., *i* or *e*) and fricatives (e.g., *f*, *s*, *v* or *z)* strengthen associations with femininity, whereas back vowels (e.g., *o* or *u*) and stops (e.g., *p*, *t*, *b* or *k)* enhance perceptions of masculinity (Klink 2000). Feminine (Masculine) brand names were formed using front vowels and fricatives (back vowels and stops), whereas highly feminine (masculine) names were formed using a higher number of front vowels and fricatives (back vowels and stops). Neutral brand names were configured to contain either no or the same nonzero number of masculine or feminine vowels or consonants. The initial brand names were written in Arial font, which is regarded as neutral (Shaikh et al. 2006). The following brand names were employed: the highly feminine names “Avora, Meiva, Adela, Esera, Erisa and Adane”; the feminine names “Edara, Ipola, Irisu, Yilda, Edana and Garena”; the neutral names “Alero, Edelo, Idano, Aloro, Orilo and Emoro”; the masculine names “Odano, Blotan, Breton, Yodor, Belg and Arton”; and the highly masculine names “Odelo, Turt, Burt, Delmos, Jerod and Byton”.

Private e-mail communications were used to invite 40 participants (65% female, M_{Age} = 27, SD_{Age} = 4) to complete an online survey for which each participant was randomly assigned to 1 of 2 brand name groups. In each group, respondents were asked to rate 15 brands on a 7-point *masculinity* scale and a 7-point *femininity* scale (ranging from 1 = “not at all masculine [feminine]”) to 7 = “very masculine [feminine]”). To obtain mean brand gender (M_{BG}) scores, the difference between the means of the masculine brand gender (MBG) and feminine brand gender (FBG) scores

(M_{MBG} - M_{FBG}) was calculated. This finding yielded gender scores ranging from 6.00 (indicating maximal masculinity) to -6.00 (indicating maximal femininity), which allowed the following categories to be defined: highly masculine, for gender scores of 6.00 to 4.80; masculine, for gender scores of 4.79 to 2.40; undifferentiated/androgynous (hereafter referred to as "neutral"), for gender scores of 2.39 to -2.40; feminine, for gender scores of -2.41 to -4.80; and highly feminine, for gender scores of -4.81 to -6.00. Based on the mean gender scores, the following 10 brand names representing the different gender categories were selected for additional pretesting: the highly feminine names Edana (M_{BG} = -5.17), Erisa (M_{BG} = -4.94) and Adela (M_{BG} = -4.77); the neutral name Irisu (M_{BG} = -0.46); the masculine names Odelo (M_{BG} = 2.39), Aloro (M_{BG} = 2.18) and Idano (M_{BG} = 2.28); and the highly masculine names Jerod (M_{BG} = 4.33), Arton (M_{BG} = 4.68) and Burt (M_{BG} = 4.82).

3.2 Pretest 2 and Pretest 3

Pretest 2. A second pretest involving 16 neutral and 16 feminine brand names, which were also invented in accordance with the guidelines used for pretest 1, was conducted to identify additional neutral and feminine brand names.

In this pretest, 5 doctoral students in marketing (60% female, M_{Age} = 25, SD_{Age} = 0) were asked to rate the masculinity and femininity of these brand names. Based on brand gender (i.e., difference scores) and the fit of the tested brand names within the aforementioned categories of brand gender magnitude, the 3 feminine brand names Inany (M_{BG} = -2.60), Irisu (M_{BG} = -2.40) and Belisi (M_{BG} = -3.00) and the 2 neutral brand names Yeren (M_{BG} = 0.20) and Ceras (M_{BG} = 0.60) were identified in this pretest.

Pretest 3. A third pretest was conducted online to test the brand names "Inany, Irisu, Belisi, Yeren and Ceras" again in neutral fonts and to test 17 other brand names written in different fonts. In particular, most of these 17 brand names were names that had been used in pretest 1 but were now presented in different fonts, which made it possible to determine the participants' preliminary gender perceptions. Certain new brand names were added to this pretest to obtain alternatives to the previously examined choices. The brands were randomly split into 3 groups (2 groups with 11 brands and 1 group with 10 brands).

The 41 participants who were invited by e-mail (n = 40 because 1 individual did not respond, 42.50% female, M_{Age} = 32.24, SD_{Age} = 5.68) were randomly assigned to 1 of the 3 brand groups and were asked to rate the masculinity and femininity of these

brands. The brand name results confirmed the findings of pretest 2, as the same gender categories were obtained for the brand names Inany (M_{BG} = -2.86), Irisu (M_{BG} = -2.07), Belisi (M_{BG} = -1.71), Yeren (M_{BG} = -0.07) and Ceras (M_{BG} = 0.79). The other names examined in this pretest were not used in subsequent experiments.

3.3 Pretest 4

A fourth pretest was conducted online. In this pretest, 28 brand names (obtained from the previous pretests) displayed in different fonts were tested to generate the final ten brands. Research has demonstrated that brand gender associations are influenced by the use of different fonts (Lieven et al. 2011). The font selection for this pretest was based on the findings of Shaikh et al. (2006) regarding gender perceptions of fonts; more specifically, fonts were assigned to brand names such that the gender associations of the font and brand name were consistent. The following font selections were employed: 3 highly feminine brand names ("Edana, Erisa and Adela") were presented in the feminine fonts Monotype Corsiva and Rage Italic; 3 feminine brand names ("Inany, Irisu and Belisi") were presented in the feminine fonts Gigi and Kristen ITC; 2 neutral brand names ("Yeren and Ceras") were presented in the neutral fonts Courier and Arial; 3 masculine brand names ("Aloro, Idano and Odelo") were presented in the masculine fonts Agency FB and Courier New; and 3 highly masculine brand names ("Jerod, Arton and Burt") were presented in the masculine fonts Rockwell Extra Bold and Impact.

Private e-mail communications were used to invite 48 individuals (62.50% female, M_{Age} = 29.38, SD_{Age} = 7.61) to participate in this pretest. Each participant was asked to rate 14 brands in terms of their *femininity* and *masculinity*; and based on the *liking* scale devised by Schmitt et al. (1994) (which involved using 7-point scales to assess the following 7 items: "like/dislike", "positive/negative", "good/bad", "agreeable/disagreeable", "pleasant/unpleasant", "not at all acceptable/very acceptable" and "unsatisfying/satisfying"; α = 0.98). The following brand names/font combinations most clearly reflected the gender categories. Highly feminine combinations included Adela (M_{BG} = -4.93, $M_{Liking(L)}$ = 4.42, SD_L = 1.25) and Erisa (M_{BG} = -4.77, M_L = 4.59, SD_L = 1.39), with no difference between the positive responses to these brands ($t(13)$ = 0.52, $p > 0.05$). Feminine combinations included Belisi (M_{BG} = -2.68, M_L = 4.13, SD_L = 1.69) and Inany (M_{BG} = -2.19, M_L = 3.86, SD_L = 1.67), with no difference between the positive responses to these brands ($t(12)$ = 0.85, $p > 0.05$). Neutral combinations included Ceras (M_{BG} = 1.15,

M_L = 3.65, SD_L = 1.27) and Yeren (M_{BG} = 0.54, M_L = 3.99, SD_L = 0.93), with no difference between the positive responses to these brands (t(13) = -0.92, p > 0.05). Masculine combinations included Idano (M_{BG} = 2.96, M_L = 3.74, SD_L = 1.29) and Aloro (M_{BG} = 2.50, M_L = 4.17, SD_L = 1.66), with no difference between the positive responses to these brands (t(5) = 0.58, p > 0.05). Highly masculine combinations included **Arton** (M_{BG} = 4.74, M_L = 4.32, SD_L = 1.48) and **Burt** (M_{BG} = 4.86, M_L = 4.48, SD_L = 2.10), with no difference between the positive responses to these brands (t(8) = -0.39, p > 0.05). These brand names were used in studies 1 and 2.

4. Study 1: Brand Gender Matching

4.1 Study Design, Stimuli and Procedure

The purpose of study 1 was to test H1. A total of 87 participants from an online consumer panel participated in this study (49.4% female, M_{Age} = 39.2, SD_{Age} = 11.9; 2 respondents did not reveal their gender and age). The participants entered an online survey in which they were told to "imagine that they were brand managers" and were given the task of "matching the brands that appeared to fit best with each other". To avoid product-related gender effects, the study gave the participants no information regarding the products associated with each brand. The participants were then successively presented with 5 initial brands, including 1 brand from each brand gender category (Table 1, first column). The brand from each category that exhibited the most pronounced brand gender in the pretest was chosen as the initial brand. The 5 brands that participants could match with each of the presented brands are listed in the first row of Table 1. The order in which the 5 initial brands and the matching options were displayed was randomized.

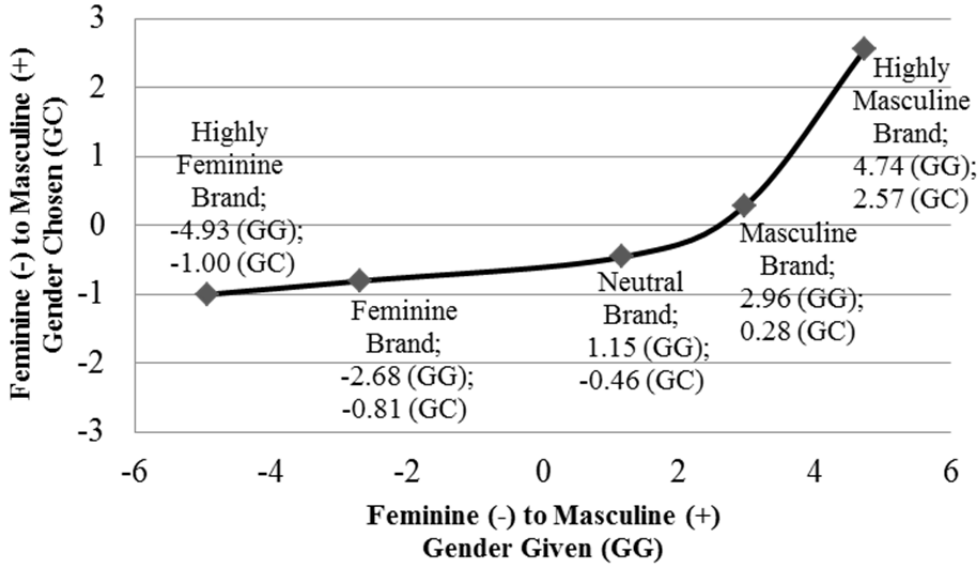
Table 1: Frequency of Brand Matches

Initial Brand		**Chosen Brand**					
		Erisa	Inany	Yeren	Aloro	**Burt**	
	M_{BG}	–4.77	–2.19	0.54	2.50	4.86	Total
Adela	–4.93	23	28	8	24	4	87
Belisi	–2.68	29	18	7	24	9	87
Ceras	1.15	20	15	31	13	8	87
Idano	2.96	12	20	11	40	4	87
Arton	4.74	8	6	11	14	48	87

4.2 Results

The response frequencies for this matching task are presented in Table 1. The independent variable was the initial brand that was presented, which was manipulated in terms of brand gender based on the results of pretest 4. The dependent variable was the matching brand chosen by the participants, with available selections that differed on the brand gender scale based on the results of pretest 4. The selection of a brand was regarded as indicative of the selection of this brand's brand gender score. The brand gender means revealed that consumers tended to match brands with the same genders. The highly feminine brand was typically matched with another feminine brand ($M_{highly\ feminine}$ = -1.00). Consumers perceived the feminine brand as the best match for the feminine brand ($M_{feminine}$ = -0.81). Similarly, the participants most frequently matched the neutral brand with a neutral brand ($M_{neutral}$ = -0.46), selected the masculine brand as the best match for a masculine brand ($M_{masculine}$ = 0.28) and chose a highly masculine brand to match with a highly masculine brand ($M_{highly\ masculine}$ = 2.57). As the results indicate, the gender-matching effect was stronger for masculine brands than for feminine brands. Figure 1 presents the study results.

Figure 1: Brand Matching Choice



To test the relationship between the initial and the chosen brands, a repeated-measures analysis of variance was conducted. Mauchly's test showed that the assumption of sphericity had been violated (χ^2 (9) = 18.24, $p < 0.05$), therefore degrees of freedom were corrected using Greenhouse-Geisser estimates of sphericity (ε = 0.90). Results demonstrated that the initial brand had a significant main effect (F(3.60, 309.20) = 17.40, $p < 0.001$) on the choice of the second brand, supporting the validity of H1.

5. Study 2: The Influence of Brand Gender Similarity

5.1 Study Design, Stimuli and Procedure

The second study tested the effects of brand gender on the perceived alliance fit, brand fit, visual appeal and perceived unity of a brand alliance as well as purchase intention regarding this brand alliance (H2). Brand alliances were created to allow for the measurement of fit perception and purchase intention. To obtain brand alliances involving different brand genders, the 10 brands identified in pretest 4 (Table 1) were crossed. These brands were divided into 2 groups, with each group containing a highly feminine, feminine, neutral, masculine and highly masculine brand. The brands were grouped randomly. Thus, the groups were not the same as the groups of initial and chosen brands used in study 1. The initial brands in study 1 all exhibited stronger gender scores than the brands in the corresponding gender categories in the pool of chosen brands. Thus, to avoid consistently listing brands with stronger gender scores first in any potential brand alliance, different brand groupings were employed for study 2. Crossing the 2 brand groups that were generated for this study produced 25 brand alliances with different gender combinations.

A total of 440 participants from an online consumer panel participated in the online study (n = 401, 50.60% female, M_{Age} = 39.44, SD_{Age} = 12.42; 39 participants did not provide information regarding gender and age). Each participant was randomly requested to rate 5 out of the 25 obtained brand alliances on various 7-point scales. In particular, 3 items were used to measure *brand alliance fit* ("good/bad", "positive/negative" and "favorable/unfavorable"; Osgood et al. 1957; α = 0.97). To measure *brand fit*, the participants were asked whether the brands "complemented each other" and whether they were "consistent" (Aaker and Keller 1990; α = 0.92). The study measured *visual appeal* by asking the participants to rate the optical fit between the allied brands ("bad/good", "pleasant/unpleasant", "likable/not likable", "flattering/unflattering", "unattractive/attractive" and "stylish/not stylish"; Cox and Cox 2002; α = 0.98). The study measured *visual unity* by asking the participants to rate the fit between the brand images of the allied brands ("low in unity/high in unity", "poorly coordinated/well coordinated", "inconsistent/consistent"; Bell et al. 1991; α = 0.97). The study measured *purchase intention* regarding the brand alliance by asking the participants to use a 5-point scale to respond to the following 3 items: "Would you purchase a product by this brand alliance?", "I'm likely to make a

purchase/I'm unlikely to make a purchase" and "I would like to receive more information/I would not like to receive more information" (Rodgers 2004; $\alpha = 0.91$).

5.2 Results

Linear mixed models were used to explore how the similarity of the brand genders in a brand alliance related to alliance fit, brand fit, visual appeal, unity and purchase intention, with a random intercept included to account for the intercorrelation produced by repeated measures, as each participant rated 5 out of the 25 brand alliances. The independent variable consisted of the rating for each brand alliance, which was transformed into a metric variable by calculating the absolute difference score between the constituent brands forming the alliance (a metric referred to as brand dissimilarity; Table 2). A value close to 0 indicates high similarity between the brand genders of the constituent brands, whereas a value close to 10 indicates low similarity between the brand genders of the constituent brands.

Table 2: Absolute Dissimilarity Values for Brand Alliances ($M_{BG\,1}$ - $M_{BG\,2}$)

Brands	Adela	Inany	Yeren	Idano	**Arton**
Erisa	0.16	2.59	5.31	7.73	9.64
Belisi	2.25	0.50	3.22	5.64	7.42
Ceras	6.06	3.34	0.61	1.81	3.59
Aloro	7.43	4.69	1.96	0.46	2.24
Burt	9.79	7.05	4.32	1.90	0.12

The regression of brand dissimilarity on alliance fit indicated that dissimilarity negatively affected *alliance fit* ($b = -0.02$, $t = -2.59$, $p = 0.01$), and the regression of brand dissimilarity on brand fit revealed that brand dissimilarity produced negative effects on *brand fit* ($b = -0.03$, $t = -3.07$, $p = 0.002$). Therefore, H2a is supported. The regression of brand dissimilarity on visual appeal demonstrated that brand dissimilarity negatively affected *visual appeal* ($b = -0.04$, $t = -4.26$, $p < 0.001$). Regression analysis also indicated that brand dissimilarity negatively affected *perceived unity* ($b = -0.05$, $t = -5.92$, $p < 0.001$). Therefore, the results of this study also support H2b. In accordance with H2c, regression analysis revealed that brand dissimilarity negatively impacted *purchase intention* ($b = -0.01$, $t = -2.11$, $p = 0.035$). Additional analyses demonstrated that neither the sex (ps > 0.05, Fs < 1.88) nor the age (ps > 0.05, Fs < 0.68) of the participants significantly affected their ratings for alliance fit, brand fit, visual unity, visual appeal, or purchase intention. These findings support H2.

6. General Discussion and Implications

This investigation has examined the role of brand gender in predicting the perceived brand fit, alliance fit, visual unity, visual appeal and purchase intention associated with co-brands. The results of two studies indicate that co-brands with similar brand genders are perceived to fit better in an alliance than are co-brands with dissimilar brand genders. The results of the first study indicate that if consumers are asked to match two brands in terms of fit, they will select brands with congruent brand genders. This result demonstrates that consumers perceive brand alliances between brands of the same gender as congruent combinations with high levels of perceived fit. This effect was stronger for masculine than for feminine brands, which suggests that consumers have more fluent responses to masculine brands than to feminine brands, interpreting masculine brands more quickly and easily. Consumers might regard matches between masculine brands as inherently more congruent than matches between feminine brands, and congruence may be enhanced if alliances involve brands with not only the same brand genders but also the same brand gender magnitudes. Future research could more comprehensively analyze this effect. The second study in this investigation demonstrates that relative to brands with dissimilar genders, brands with similar genders form more successful co-brands that not only evoke positive consumer reactions with respect to perceived alliance fit, brand fit, visual appeal and visual unity but also activate positive consumer behavior by increasing purchase intention. These findings hold for both male and female consumers and are independent of consumer age.

Based on these findings, managers should include the gender of a potential partner brand in their evaluation criteria for prospective brand alliances. A high level of brand gender similarity is an important success factor for brand alliances, although this factor appears to be more applicable to masculine brands than to feminine brands.

From a theoretical perspective, the findings from this investigation contribute to the brand alliance literature and help to close the knowledge gap regarding brand gender fit perception. The use of congruence and fluency theory to explain how brand gender similarity affects fit perception expands the boundaries of the theories utilized in the co-branding literature. This investigation is the first attempt to examine brand gender fit as a basis for successful brand alliances. As indicated by the research results, brand gender is a salient characteristic for consumers and a sufficient fit criterion for brand alliances, even in the absence of additional brand personality information.

The use of artificial brands and the focus on brand gender alone are limitations of this investigation. Further research could employ real brands and analyze the importance of brand gender relative to other personality characteristics. Although gender is a universally known category, its perception is influenced by social dynamics, belief systems and political views that assign stereotypes and culturally encoded expectations to each gender (Maccoby 1988). These influences might produce divergent cultural responses to gender-related co-branding characteristics in different nations. Future studies could conduct cross-cultural examinations to investigate cultural differences in perceptions of brand gender fit. In addition, subsequent research should incorporate product gender into the analysis, as product fit also plays a role in perceptions of brand alliance fit (Simonin and Ruth 1998).

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Article IV

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Beyond "Pink it and Shrink it": The Influence of Product Gender through Aesthetics on Product Value

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Abstract

Marketing research on product personality suggests that products possess gender, but the process by which a product becomes masculine or feminine is unknown. Such sources as the gender of the product promoter or the gender of the customer base have been considered. Although the anthropomorphism of objects is well known, product aesthetics has not been considered in detail as a source of product gender. Because products are judged like people, the process by which we evaluate the gender of people, e.g., based on their figure, hair, or skin condition, should apply to products as well. Evolutionary psychology provides insights into which attributes we perceive as feminine or masculine in people, identifying them as cues for attractiveness in mate selection. Motivated by evolutionary psychology and qualitative interviews with designers, in two studies this research considers product aesthetics as a source of product masculinity and femininity and investigates the influence of product gender created by aesthetics on consumer behavior. Across three product categories, the first study identifies the impact of the aesthetic dimensions of form (proportion, shape, and lines); color (tones, contrast, and reflection); and material (texture, surface, and weight) in defining a product's gender. Evolutionary psychology explains these gender cues in people as an expression of mate value, i.e., attractiveness. Having identified a parallel between gender cues for people and products, the positive consequences of strong gender cues in people should also apply to products. The second study thus considers how product gender influences consumer response, revealing that more strongly gendered products yield more positive affective and behavioral responses. Thus, this research identifies product aesthetics as a significant source of product gender while highlighting the theoretical contribution of evolutionary psychology to consumer behavior. Managerial implications for product design are discussed, offering guidelines for creating strongly gendered products.

Keywords: Product gender; Product aesthetics; Product value; Product personality.

1. Introduction

Consumers as well as designers have a general understanding of some of the design principles used to identify the gender of the target market of a product. For example, from razors to power tools, there is the notion that one needs to "pink it and shrink it" to target a previously masculine product to females. While some of the associations between design elements and gender are undoubtedly learned, others may be innate. We tend to anthropomorphize products, giving them humanlike characteristics (Epley, Waytz, and Cacioppo, 2007) and evaluating them in the same manner as we evaluate people (Govers and Schoormans, 2005). Indeed, we judge brands and products to have a personality just like people (Aaker, 1997; Jordan, 1997). Moreover, much of how a product's personality is communicated by designers and understood by the audience is through its appearance (Govers, Hekkert, and Schoormans, 2002). We propose that the physical characteristics that evolutionary psychology suggests have a strong identification with masculinity or femininity in people may offer the same symbolic meaning when expressed in objects. Moreover, just as brands with strong gender expression tend to be well liked (Lieven et al. 2011), we propose that products with strong gender identification will produce greater affective and behavioral responses.

We consider these issues in two studies. The first study demonstrates that perception of product gender can be influenced by the design elements of shape, color, and material. We identify specific variations of each of these elements that create a more masculine or feminine perception. The second study then explores the effect of product gender on consumer response in terms of the perception of aesthetics, functionality, affective attitude toward the product, and purchase intent. Thus, the aim of this research is to identify product aesthetics as a crucial source of product gender and to reveal the importance of product gender in terms of consumer response. From a managerial perspective, this research offers a detailed guideline for designers for creating feminine product gender (FPG) and masculine product gender (MPG) and thus enhancing product value. The use of evolutionary psychology in marketing is generally more recent (e.g., Saad, 2006; Griskevicius and Kenrick, 2013); this research, therefore, also offers a valuable illustration of how findings in evolutionary psychology can offer guidance in such seemingly unrelated areas as product design and marketing.

2. Theoretical Background

2.1 Product Aesthetics as a Source of Product Gender

Most studies of gender with respect to products have considered gender as an explanatory variable for consumer behavior. Respondent gender has been analyzed as a moderator of the perception of products using such variables as sex-role self-concept or biological sex (e.g., Gentry, Doering, and O'Brien, 1978; Golden, Allison, and Clee, 1979). Some studies have also considered products to have a gender, like people. As sources of a product's gender, researchers have identified the gender of the product promoter (Debevec and Iyer, 1986; Iyer and Debevec, 1989; Golden, Allison, and Clee, 1979) as well as perceptions of the product's general consumer group (Allison et al., 1980).

Analogous to human physical features that influence the perception of a person's personality, a product's appearance is a major determinant of its personality, and people tend to agree on the perception of personality traits of a particular product (Govers, Hekkert, and Schoormans, 2002). As mentioned above, this tendency to attribute human traits to inanimate objects is called anthropomorphism, e.g., recognizing a human body in the shape of a bottle (Epley, Waytz, and Cacioppo, 2007). Prior research suggests it is optimal when a product's various physical aspects offer a consistent product personality (Townsend, Montoya, and Calantone, 2011). However, product design is more than that; it is "the set of properties of an artifact, consisting of the discrete properties of the form (i.e., the aesthetics of the tangible good and/or service) and the function (i.e., its capabilities) together with the holistic properties of the integrated form and function" (Luchs and Swan, 2011, p. 338). This research will examine how the properties of a product's form, i.e., its aesthetics, influence perceptions of product personality.

In accordance with prior work on product personality (Govers and Schoormans, 2005), we aim to examine person perception to provide insight into how product gender is perceived. Theories of person perception state that gender is one of the first aspects noticed and mentally processed when meeting someone (Dion, Berscheid, and Walster, 1972). The first basis on which people judge the gender of a person is their physical appearance (Deaux and Lewis, 1984). Thus, appearance appears to be a likely candidate as a strong indicator of product gender. Most of what we know about the attribution of femininity and masculinity to individuals comes from the field of

evolutionary psychology, which synthesizes ideas from modern psychology and evolutionary biology (Buss, 1994). Evolutionary psychology explains that people use certain cues in the opposite sex as criteria for selecting a valuable mate. Theories of sexual strategy explain that the values sought after in males and females are different. The ideal male mate is one who displays readiness and capability to invest in his partner and offspring, whereas the cues for high productiveness in females are signals of youth, health, and physical attractiveness (Buss, 1994). These cues can be expressed through certain physical characteristics that respectively represent masculinity and femininity. It follows that physical appearance should be important when judging product gender and we look to evolutionary psychology to understand how aesthetics may influence a product's perceived gender.

2.2 Dimensions of Product Aesthetics

The visual whole of a product is created by different aspects (Bloch, 1995), such as color, material, shape, ornamentation, proportion, reflectiveness and scale, which designers use in the creation of products (Davis, 1987). In line with prior work on aesthetics, we divide these aspects into three dimensions of product aesthetics, form, color and material, and consider each dimension separately.

Product Form. Product form has been shown to activate various consumer responses, such as aesthetic liking and general preference (Yamamoto and Lambert, 1994). Product form entails the dimensions of proportion, shape, and lines. With respect to proportion characteristics, research by Lieven et al. (2011) indicates that bold, solid, angular, and sharp characteristics of brand logos enhance brand masculinity and that airy, delicate, round, and smooth brand logos enhance brand femininity. Regarding shape, prior research suggests that angular forms embody dynamism and masculinity, whereas round forms create softness and femininity (Schmitt and Simonson, 1997). Gender has also been shown to influence graphic production in a similar manner. Graphics produced by males tend to include more vertical lines, whereas those from females tend to include more rounded lines (Moss, Gunn, and Heller, 2006). Thus, relying on past research, we propose that products with slim (bulky) proportions, a round (angular) shape, or curvy (straight) lines are perceived as feminine (masculine). Moreover, evolutionary psychology suggests that physical characteristics of body shape and facial form are indicators of masculinity and femininity. A round, smooth body shape suggests femininity (Singh, 1993), whereas a solid, defined body is prototypical for a masculine body (Fisher, Dum, and Thomson, 2002). The literature

states that delicate, light facial shapes are feminine (Johnston et al., 2001), whereas edged, sharp shapes are masculine (Scheib, Gangestad, and Thornhill, 1999). Thus, we hypothesize the following:

H1a: Products with a slim proportion, round shape, or curvy lines enhance product femininity perception.

H1b: Products with a bulky proportion, angular shape, or straight lines enhance product masculinity perception.

Product Color. Product color has the potential for emotional and psychological properties (Hevner, 1935) and is thus used in advertising, packaging, distribution, and brand logo design to create brand and product identities (Klink, 2003). Product color entails the dimensions of color tones, the amount of colors, and reflection. Danger (1969) offers a universal association list of color tones, which describes blue as associated with masculinity and pink with femininity. A parallel can be found between the perception of color and evolutionary psychology. Women have lighter skin than men (Jablonski and Chaplin, 2000). This leads to the assumption that lighter (darker) colors are perceived as feminine (masculine). A summary of research comparing male and female drawings states that there is a tendency on the part of females to use a greater number of colors and to prefer warmer colors (e.g., pink and red) to cooler colors (e.g., blue and green) (Moss, Gunn, and Heller, 2006). This tendency might suggest that a greater (smaller) number of colors make a product appear more feminine (masculine). Another color characteristic that influences product gender might be the reflectiveness of the product's surface. In addition to certain body and face shapes, shiny and strong hair can be a signal of fertility and physical health in women (Etcoff, 2000). This signal might lead to the assumption that shiny (dim) product surfaces are perceived as feminine (masculine). Thus, we formulate the following hypotheses:

H2a: Products with lighter tones, more colors, or a shiny reflectiveness enhance product femininity perception.

H2b: Products with darker tones, fewer colors, or a dim reflectiveness enhance product masculinity perception.

Product Material. Product material can also transfer meaning and is used to transmit the characteristics of products, e.g., designers use metal to stress the technological superiority and high level of engineering of a product design (Ashby and Johnson, 2002). Whereas such material properties as compliance, weight, warmth, and surface texture are sensed with the haptic system (touch), the visual system can also deliver

this information (Klatzky, Lederman, and Reed, 1987). Product material is comprised of texture, surface, and weight. Evolutionary psychology provides insights into material perception. Although a male beard does not appear to have any major benefit for survival, it is viewed as a sexual characteristic (Darwin, 1871). Skin condition has also been explored as a valuable signal for female mate value (Symons, 1979). Smooth skin signals female fertility and affects male judgments of attractiveness (Johnston et al., 2001). These two findings imply that harsh or hard (soft) surfaces enhance masculinity (femininity). The perceptions of female skin condition and the male beard provide insights into texture structure. Smooth skin might be associated with a more delicate structure, whereas a robust, hairy skin might be viewed as a rough structured surface. Thus, smooth (rough) structured surfaces might lead to perceptions of femininity (masculinity). Evolutionary psychology also informs us that men are generally heavier than women (due to muscles and bone structure). Thus, products that appear heavier (lighter) might be associated with masculinity (femininity). We therefore posit:

H3a: Products that appear to have a smooth texture structure, soft surface, or light weight enhance product femininity perception.

H3b: Products that appear to have a rough texture structure, hard surface, or heavy weight enhance product masculinity perception.

2.3 Qualitative Pretest of Hypotheses

As an initial exploration of these hypotheses about product aesthetics influencing product gender we performed a series of interviews with individuals working in product design.

Method, Design, Procedure. In-depth interviews were conducted using a series of open-ended non-leading questions. An iterative elicitation style allowed the questions to be adjusted according to what was learned. The four interviewees (75% Male, M_{Age} = 37.5, SD_{Age} = 4.33, $M_{Experience\ (in\ years)}$ = 8.75, $SD_{Experience}$ = 4.82) were all involved in or close to the product development or design process, exerting a major influence on the product design (development manager, assistant designer, product manager, and category manager). Three of the four designers were from a well-known German and one was from a well-known American international-selling sport article producer (the American designer only provided insights about the product form). Two telephone and two face-to-face interviews were conducted. The designers received a

short briefing about the project and were then asked specific questions about manipulating product gender through design.

Results. With respect to product form, all four designers noted that product proportion is important. They identified slim versus bulky as identifiers of gender. Further attributes used to describe female (male) products were "narrow, airy, and slim" ("broad and clumsy"). Personality characteristics that were mentioned for female (male) products were "harmonic" ("aggressive"). All of the designers mentioned shape and the descriptions "more shaped, curved" ("more angular, edgy and straight") for female (male) products. Lines were also mentioned by all four designers, with the attributes "curved, soft" ("straight, strong") for female (male) products.

Three of the three designers that were further interviewed mentioned color tones as very important and as the easiest way to differentiate female and male products. They characterized the consumer market as very stereotyped regarding colors, explaining that classically women's (men's) products are colored with "pink, purple, pastel, light colors" ("stronger, dark colors"). Color distribution insights revealed that male (female) products are often colored with "three" ("two") colors. Regarding reflectiveness, two of the three designers said that in the European market "dim" ("shiny") material would be used for male (female) products. In contrast, an Asian market would also accept a "glittery" material for male products.

All three of the further-interviewed designers also talked about product material. The texture characteristics of "smooth" ("rough") were said to influence the femininity (masculinity) of a product. The surface attributes "soft" versus "hard" were also mentioned by all three designers. In addition, an "even and more comfortable touch" ("more stiff, hard, and harsh") was mentioned to describe female (male) products. They described female (male) products as "lighter" ("heavier") in weight, emphasized by the description of male (female) products as more "robust" ("subtle").

Discussion. Overall, we find support for H1-3, although the insights about color somewhat contradict H2. Designers said fewer (more) colors enhance perceptions of femininity (masculinity). Regarding reflectiveness, at least for a Western country, dim (shiny) material suggests masculinity (femininity). This culture-specific gender perception might be explained by dual inheritance theory, according to which human behavior is the result of the interaction of two evolutionary processes: genetic evolution (referring to Darwin's selection process) and cultural evolution (see also Barkow, Cosmides, and Tooby, 1995; Richerson and Boyd 2008). Following this

theory, culture is a socially learned information and behavior. Future research should investigate the influence of culture on product gender perception.

One point made by all designers was that these insights were gained through experience and not by any published or established guidelines. This speaks to the importance of this research and its managerial implications. But also, overall, the results demonstrate that the H1-3 are practically relevant and worth testing empirically. We do so next using a variety of products in an effort to derive guidelines for producing gender in product design.

2.4 Product Gender as a Source of Product Value

Having examined what makes a product more masculine or feminine, we next test the relevance of gender, i.e., how product gender influences consumer response. As defined, product design reveals a product's aesthetic influences, including not only the personality of the product but also its perceived capabilities. Product design is said to be effective if a desirable consumption experience is created (Desmet and Hekkert, 2007) and can thus be used to gain market share and recognition (Bloch, 1995). Creusen and Schoormans (2005) describe the role of a product's appearance in the selection of a product as the communication of aesthetic value; attracting attention; and offering information on symbolism, functionality, ergonomics, and categorization. We consider the effect of product gender on the aesthetic value, functionality, affective attitude toward the product, and purchase intent.

Aesthetic Value. The simple pleasure deduced from looking at a product, without judging its utility, results in aesthetic value (Holbrook, 1980). Most of the literature states that aesthetic value is the outcome of how an object is represented and interpreted and of a hedonic impression (e.g., Schmitt and Simonson, 1997). Visual organization principles, such as proportion (e.g., "the Golden Section"), symmetry and unity (Hekkert, 1995; Veryzer and Hutchinson, 1998), appear to naturally lead to aesthetic preference. Unity, understood as clarity in elements, makes an object easier to process and interpret. Clarity in elements enhances fluency and leads to a more favorable judgment of stimuli (Reber, Schwarz, and Winkielman, 2004). A positive reaction occurs because fluency induces error-free processing and effective stimulus recognition (Winkielman et al., 2006). Another indicator supporting preference for clarity in product gender cues is the preference for prototypes (Hekkert, 1995; Veryzer and Hutchinson, 1998). Several preference phenomena in psychology and aesthetics can be explained by this effect (Reber, Schwarz, and Winkielman, 2004). Thus,

products that have all masculine or all feminine cues possess more clarity or prototypicality with respect to the attribute of gender, making them easier to process and leading to a more positive feeling toward the product and increasing their aesthetic appeal. Again, an interesting parallel can be found in evolutionary psychology. The connection between evolutionary psychology and aesthetic preference lies in the so-called "transfer hypothesis" (see Rhodes, 2006), which is based on mate selection theory. An examination reveals that extremely masculine and extremely feminine human features are perceived as very attractive (Kaplan and Gangestad, 2005). The features signaling masculinity or femininity are perceived as signals for good health and may be an indicator of reproductive fitness, which is the ability to produce healthy offspring. Thus, highly prototypical examples of males or females are appealing because they offer strong cues for mate value (Symons, 1979). Although there is no biological relevance, the desirability of those features may be transferred to nonhuman objects and might explain why consumers appreciate masculinity and femininity, not only in people but also in objects. Indeed, there is prior research that uses principles of person perception to explain consumer response to product aesthetics (Townsend and Sood, 2012).

Thus, we posit:

H4a: Products that are more strongly gendered (more masculine or feminine) will be perceived as more aesthetically pleasing than those that are less gendered.

H4b: The positive relationship between strongly gendered products (more masculine or more feminine) and the perception of aesthetics will be mediated by a positive affective attitude toward the product.

Purchase Intent. Work by Creusen and Schoormans (2005) reveals that all else being equal, consumers will choose the better-looking product. We therefore hypothesize the following:

H5a: Products that are more strongly gendered (more masculine or feminine) will receive higher purchase intent ratings than those that are less gendered.

H5b: The positive relationship between strongly gendered (more masculine or feminine) products and purchase intent will be mediated by the perception of aesthetics.

Functionality. Product design can also influence perceptions of functionality and utility (Bloch, 1995). Different designs can imply different functions and different levels of functional performance (Hoegg and Alba, 2011). For example, the use of construction materials can suggest durability, larger size can be interpreted as power, and shape can suggest aerodynamics (Creussen and Schoormans, 2005). Moreover, high aesthetics in general can suggest better functionality (Creusen and Schoormans, 2005; Yamamoto and Lambert, 1994). A bias toward unattractive products with respect to functionality has recently been identified. This effect occurs only if the possibility of a careful adjustment and elaboration of inconsistencies between visual and verbal information is provided simultaneously (Hoegg, Alba, and Dahl, 2010). The relationship between perceived functionality and aesthetics finds a parallel in the social psychology literature. Studies of interpersonal perception reveal a positive relationship between physical attractiveness and socially desirable characteristics, such as intelligence and social skills expressed through being nurturing, ethical, or competent at one's job (Dion, Berscheid, and Walster, 1972; Langlois et al., 2000). The "beautiful is good" phenomenon is explained by two research streams. On the one hand, this phenomenon reflects a stereotype approach that relates beauty with positive personality characteristics (Dion, Berscheid, and Walster, 1972). On the other hand, the phenomenon might be produced by a halo effect (Nisbett and Wilson, 1977), in which beauty is the most obvious and accessible personality trait to others; in an interaction it gets noticed first and then influences all subsequent perceptions of other personality characteristics (Dion, Berscheid, and Walster, 1972). Given these ideas from evolutionary psychology that highly gendered people are perceived as very attractive, in combination with the identification by social psychology of the beauty premium in people, which indicates that beautiful people possess socially desirable characteristics, we hypothesize the following relationship for products:

H6a: Products that are more strongly gendered (more masculine or more feminine) will be perceived as more functional.

H6b: The positive relationship between strongly gendered products (more masculine or more feminine) and functionality will be mediated by the perception of aesthetics.

Thus, after examining the preceding four hypotheses, the following is a logical result:

H7: The positive relationship between more strongly gendered products (more masculine or feminine) and functionality will be mediated first by a positive affective attitude and second by the perception of aesthetics.

3. Study 1: Product Aesthetics as a Source of Product Gender

The purpose of study 1a-c was to test H1-3 and analyze the impact of the aesthetic dimensions of form, color, and material on perceptions of a product's gender.

3.1 Method

Design. In order to test the effect of aesthetic elements on product femininity and masculinity, participants were presented with product images that varied on the aesthetic dimensions of form, color, or material. The experimental design of study 1a tested product form by examining proportion (slim, bulky), shape (round, angular) and lines (curvy, straight) as within-subjects factors. Study 1b tested the influence of color by examining colors (light, dark), contrast (more colors, fewer colors) and reflectiveness (shiny, dim) as within-subjects factors. Study 1c analyzed the effect of material by examining texture (smooth, rough), surface (soft, hard) and weight (light, heavy) as within-subjects factors.

Stimuli. In an effort to consider the generalizability of the hypotheses three product categories, shoes, glasses, and fragrances, were used as stimuli. All three are neutral product categories with unisex function. The images were developed with a design agency to rule out associations with pre-existing products. In a pretest, we determined that the product gender of the base models was neutral on a seven-point scale (1 = "feminine", 4 = "neutral", 7 = "masculine"). The results demonstrated that the shoe (n = 361, $M_{Product\ Gender}$ = 3.87, 95% confidence interval (CI): 3.74 to 4.00), glasses (n = 307, $M_{\ Product\ Gender}$ = 4.05, CI: 3.91 to 4.19), and fragrance (n = 375, $M_{\ Product\ Gender}$ = 4.18, CI: 4.04 to 4.32) were perceived as neutral.

For study 1a the products were in a full 2 (proportion: slim, bulky) × 2 (shape: round, angular) × 2 (lines: curvy, straight) experimental design, resulting in eight versions of each product (see Figure 1-3: (1) slim, round, curvy; (2) slim, angular, curvy; (3) slim, round, straight; (4) slim, angular, straight; (5) bulky, round, curvy; (6) bulky, angular, curvy; (7) bulky, round, straight; (8) bulky, angular, straight).

For study 1b, products were in a full 2 (color: light, dark) × 2 (contrast: more, fewer) × 2 (reflection: shiny, dim) experimental design, resulting in eight versions of each product (see Figure 4-6: (1) light, more, shiny; (2) light, fewer, shiny; (3) light, more, dim; (4) light, fewer, dim; (5) dark, more, shiny; (6) dark, fewer, shiny; (7) dark, more, dim; (8) dark, fewer, dim).

Colors were chosen according to research by Picarriello and colleagues (1990), who suggest bright pink (navy blue) as a light, very feminine-perceived (as a dark, very masculine) color and lavender (maroon) as a feminine (masculine) color. Greater (less) contrast was represented by the use of more (fewer) colors: 50% (90%) grey, 40% (0%) in a less sex-typed color, and 10% (10%) in a strong sex-typed color. The product surface was treated to look shiny (dim). For study 1c, products were in a full 2 (texture: smooth, rough) × 2 (surface: soft, hard) × 2 (weight: light, heavy) experimental design, resulting in eight different designs for each product (Figure 7-9: (1) smooth, soft, light; (2) smooth, hard, light; (3) smooth, soft, heavy; (4) smooth, hard, heavy; (5) rough, soft, light; (6) rough, hard, light; (7) rough, soft, heavy; (8) rough, hard, heavy. Wool (leather) shoes were chosen to represent the light (heavy) version of shoes. Both versions were designed once with a soft surface (in this case, uneven) and once with a hard (in this case, plain) as well as with a smooth and rough texture. Fragrances and glasses were treated to look soft (in this case, plain) and hard (in this case, uneven), smooth and rough structures were applied. The light (heavy) glasses included a transparent (non-transparent) material. The light (heavy) fragrance was designed in a thin (thick) bottle.

Sample. A German consumer panel was used for all studies. The sample size was n = 146 for study 1a (45.7% female, M_{Age} = 42.99, SD_{Age} = 13.59), n = 142 for study 1b (41.2% female, M_{Age} = 44.36, SD_{Age} = 15.59), and n = 212 for study 1c (37.7% female, M_{Age} = 46, SD_{Age} = 15.44).

Procedure. Each participant entered the online study about (a) form, (b) color, or (c) material through a link, was provided a short introduction, and then viewed the different products and their designs. In study 1a-b, participants first saw the shoes, then the glasses, and then the fragrances. In study 1c, participants viewed only one product category. We limited the number of products in study 1c due to the difficulty in judging product material (Klatzky, Lederman, and Reed, 1987). The different designs were in a randomized order. Below each picture, the participant was asked to provide their perception of the gender of the product. Gender was measured by a MPG and FPG scale (1 = “not masculine [feminine]) at all”, 7 = “very masculine [feminine]”) (Allison et al., 1980). Participants were also asked to give their sex (“female” or “male”), sexual orientation (“heterosexual”, “bisexual” or “homosexual”), and sexual identity (using the short form of the Bem Sex Role Inventory, Bem 1974).

Figure 1: Stimuli Product Form – Shoes

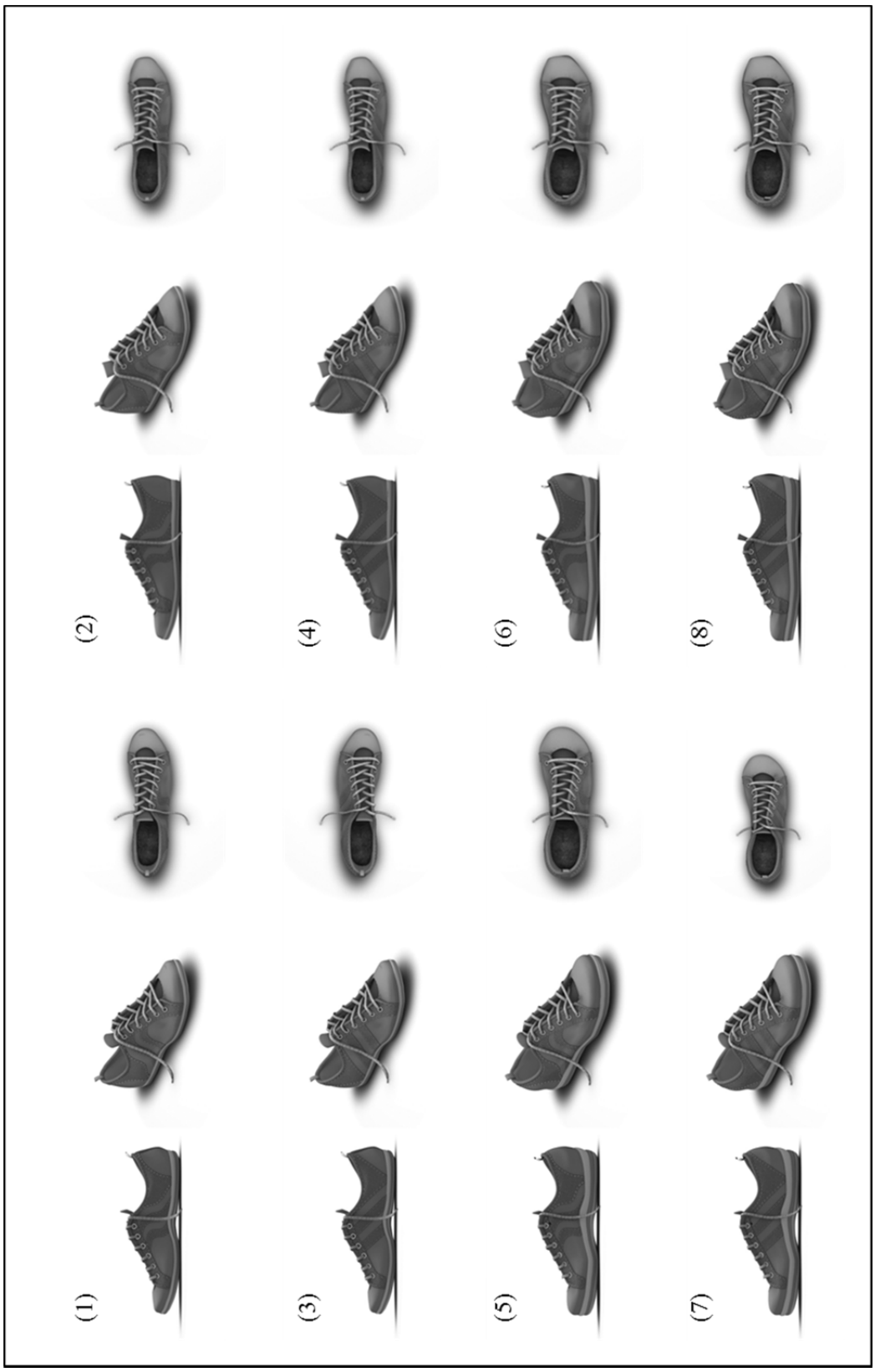


Figure 2: Stimuli Product Form – Glasses

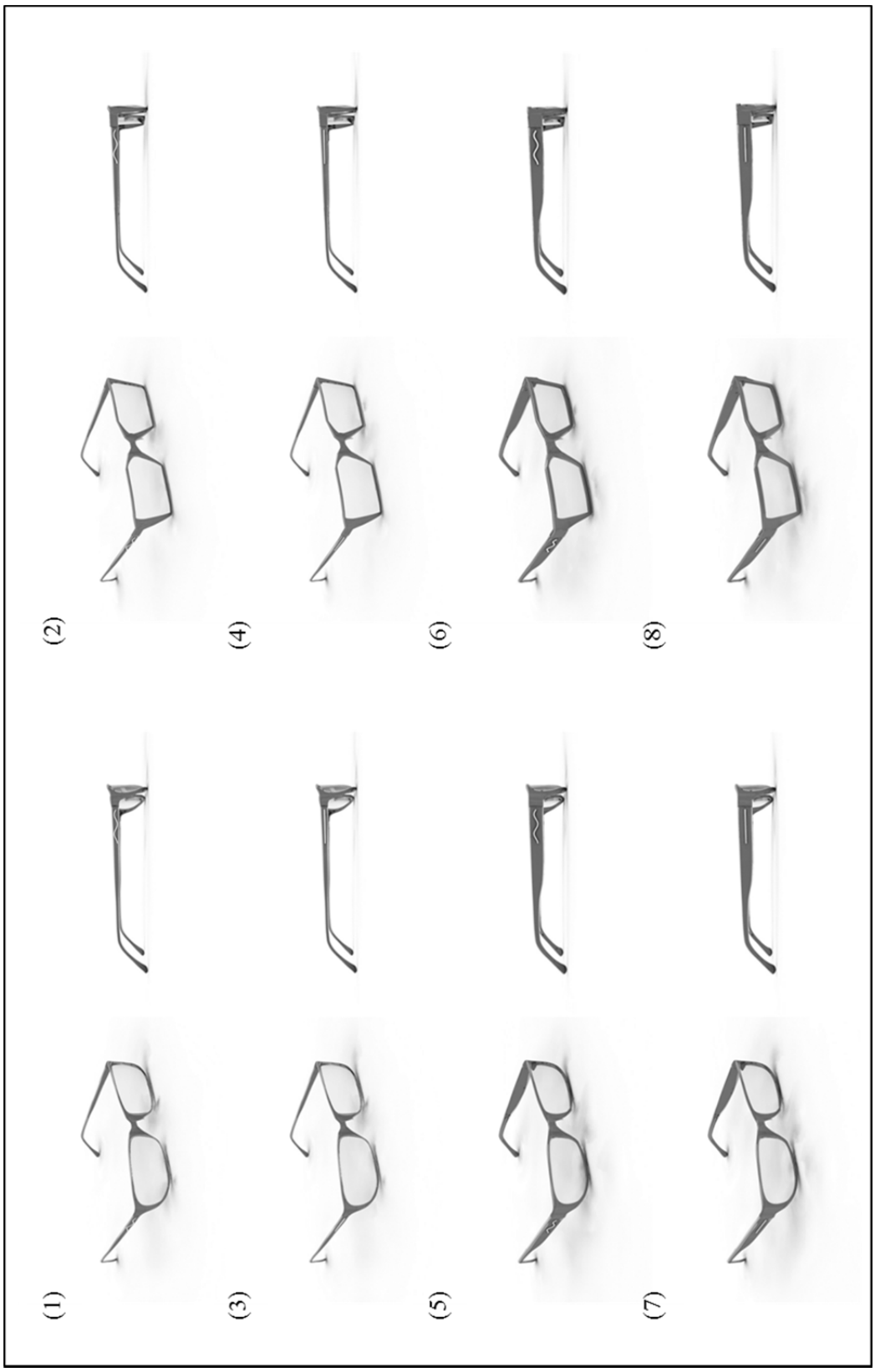


Figure 3: Stimuli Product Form – Fragrances

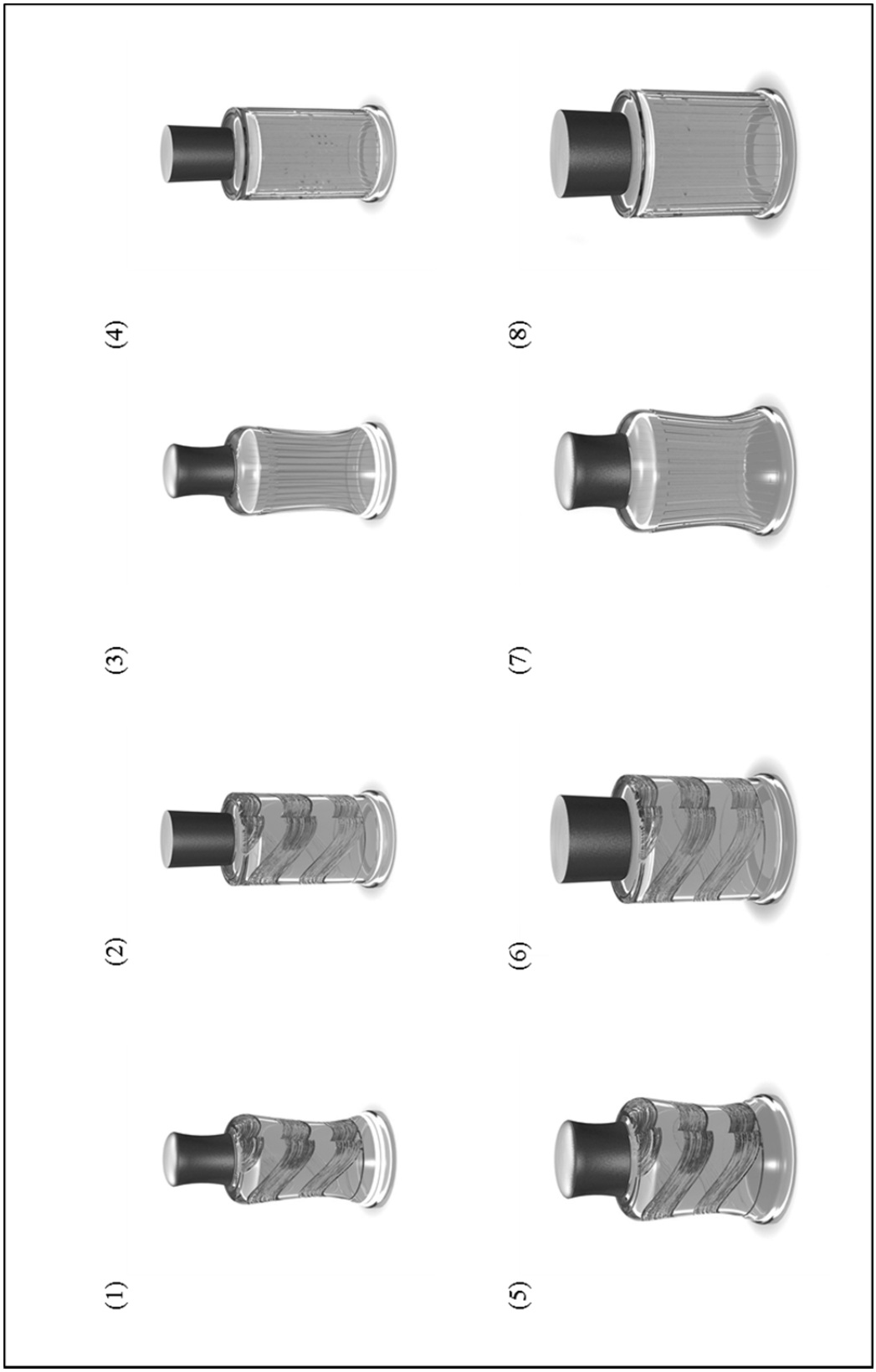


Figure 4: Stimuli Product Color – Shoes

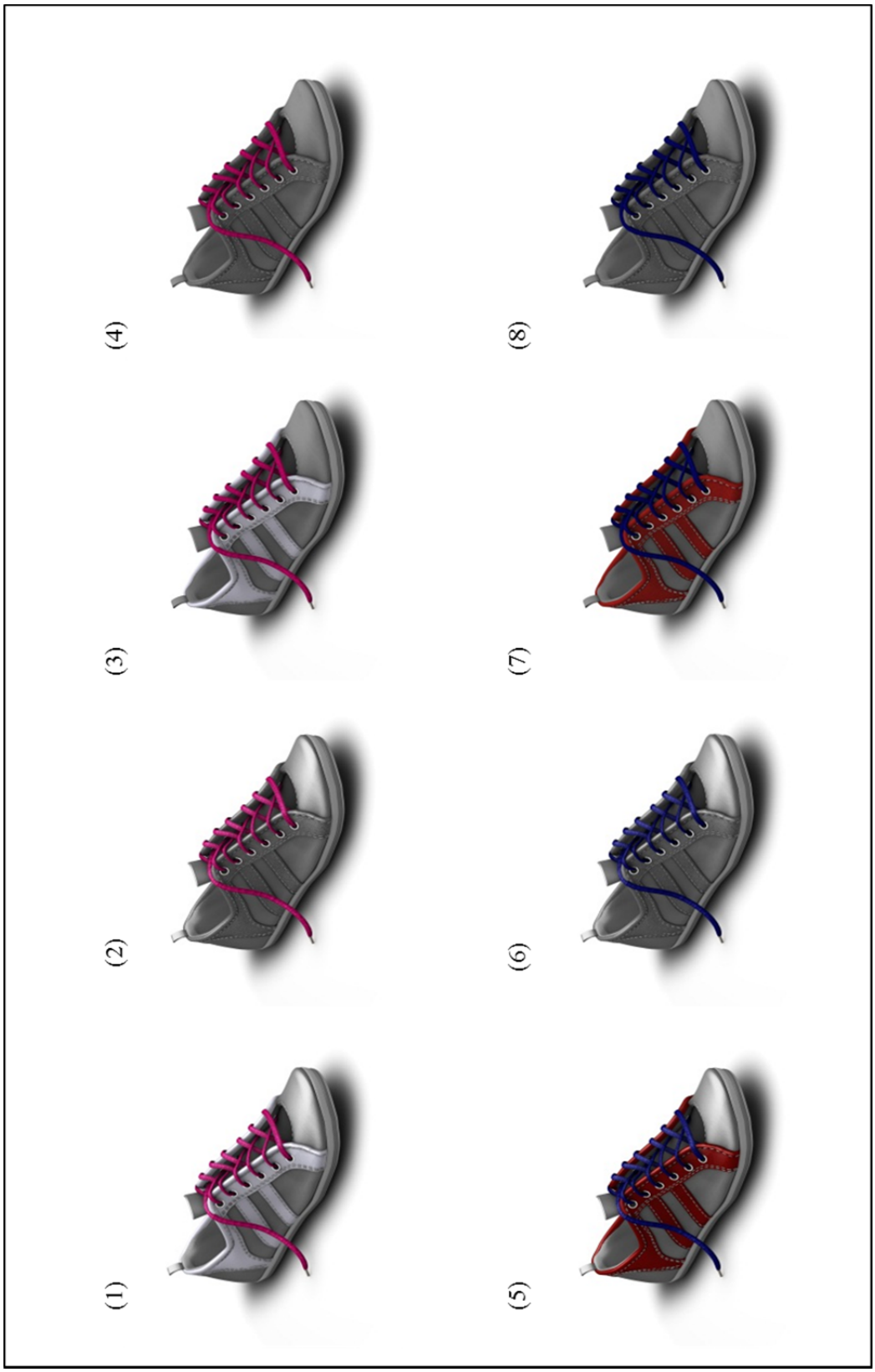


Figure 5: Stimuli Product Color – Glasses

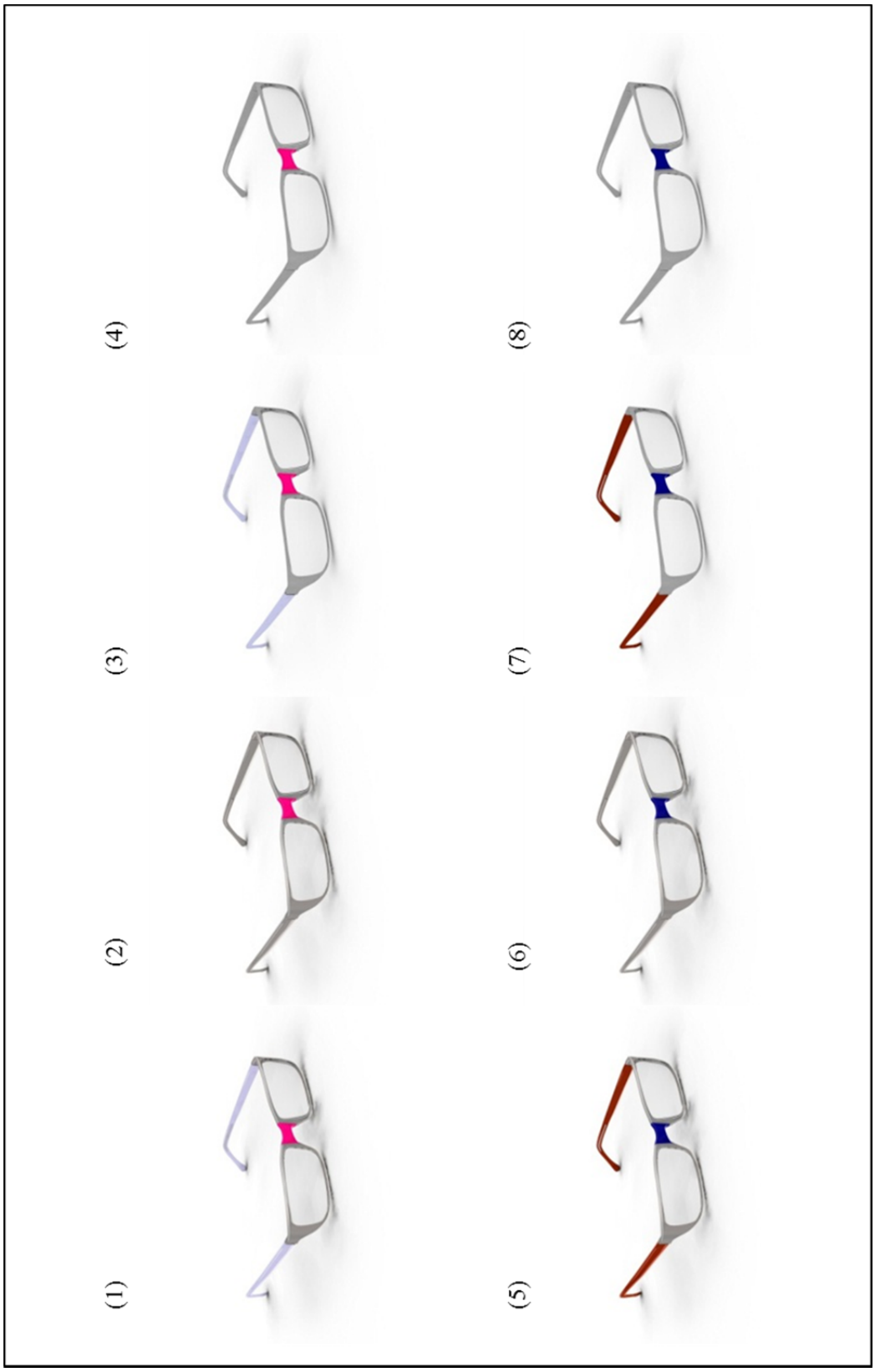


Figure 6: Stimuli Product Color – Fragrances

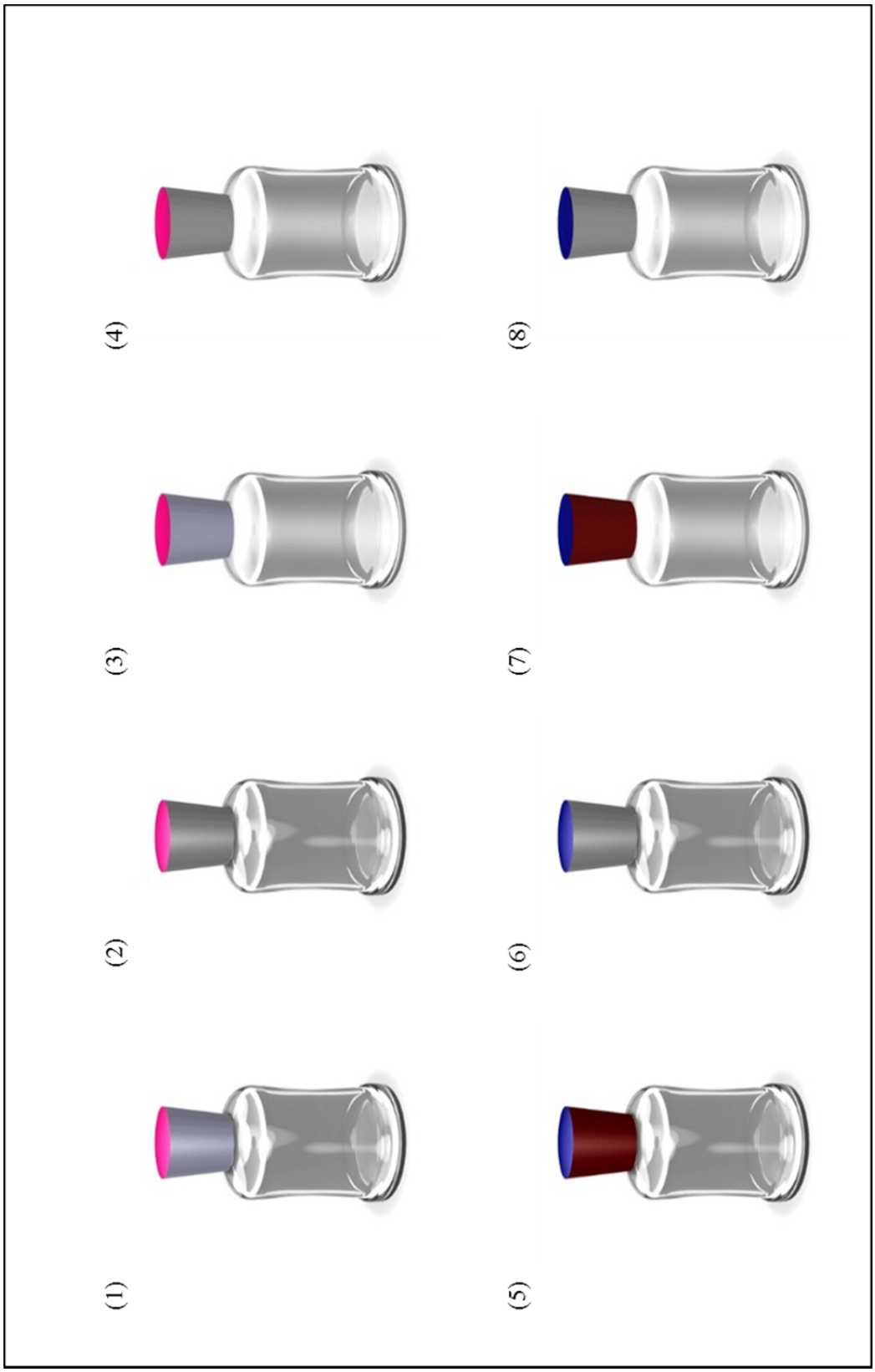


Figure 7: Stimuli Product Material – Shoes

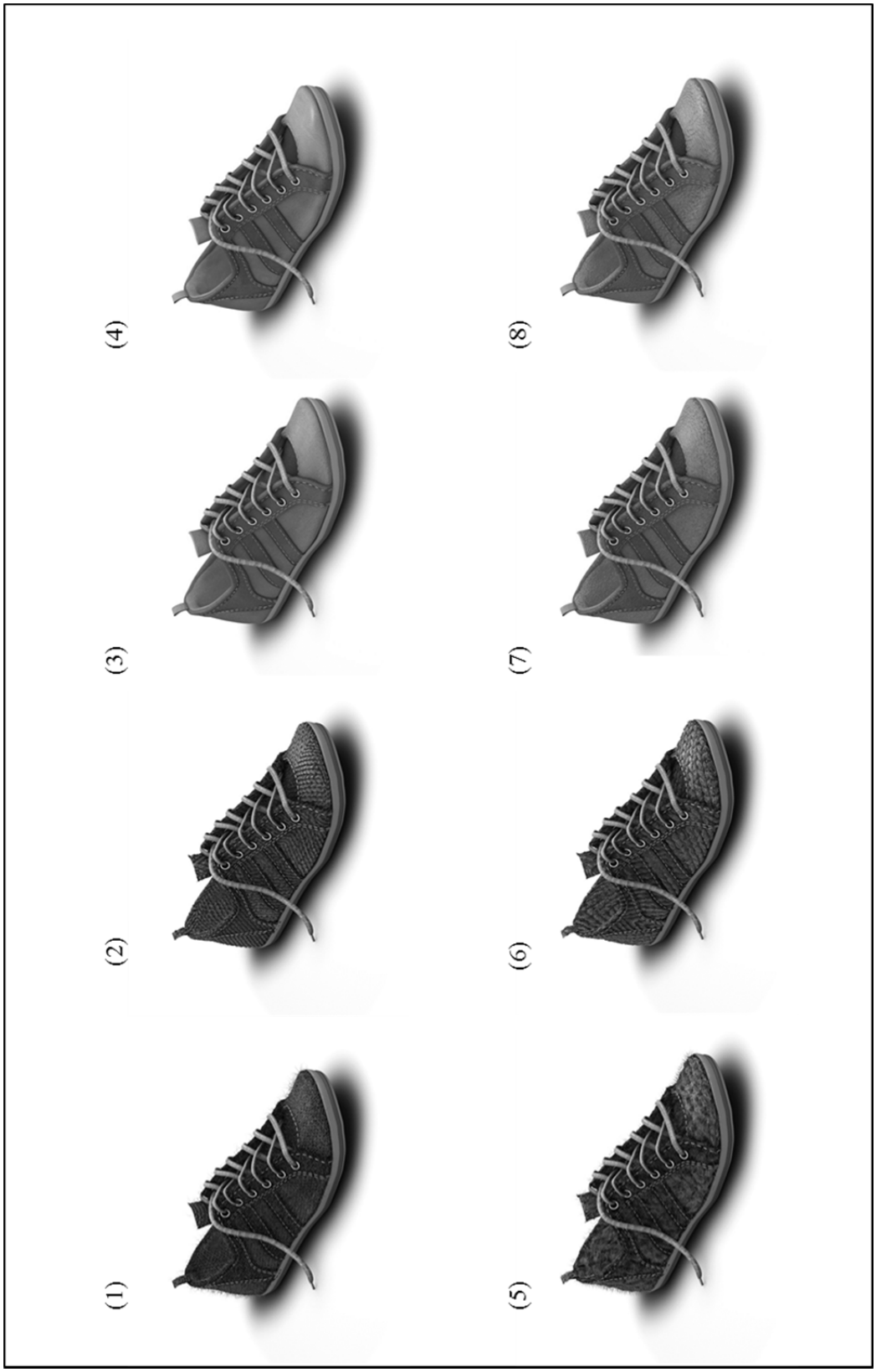


Figure 8: Stimuli Product Material – Glasses

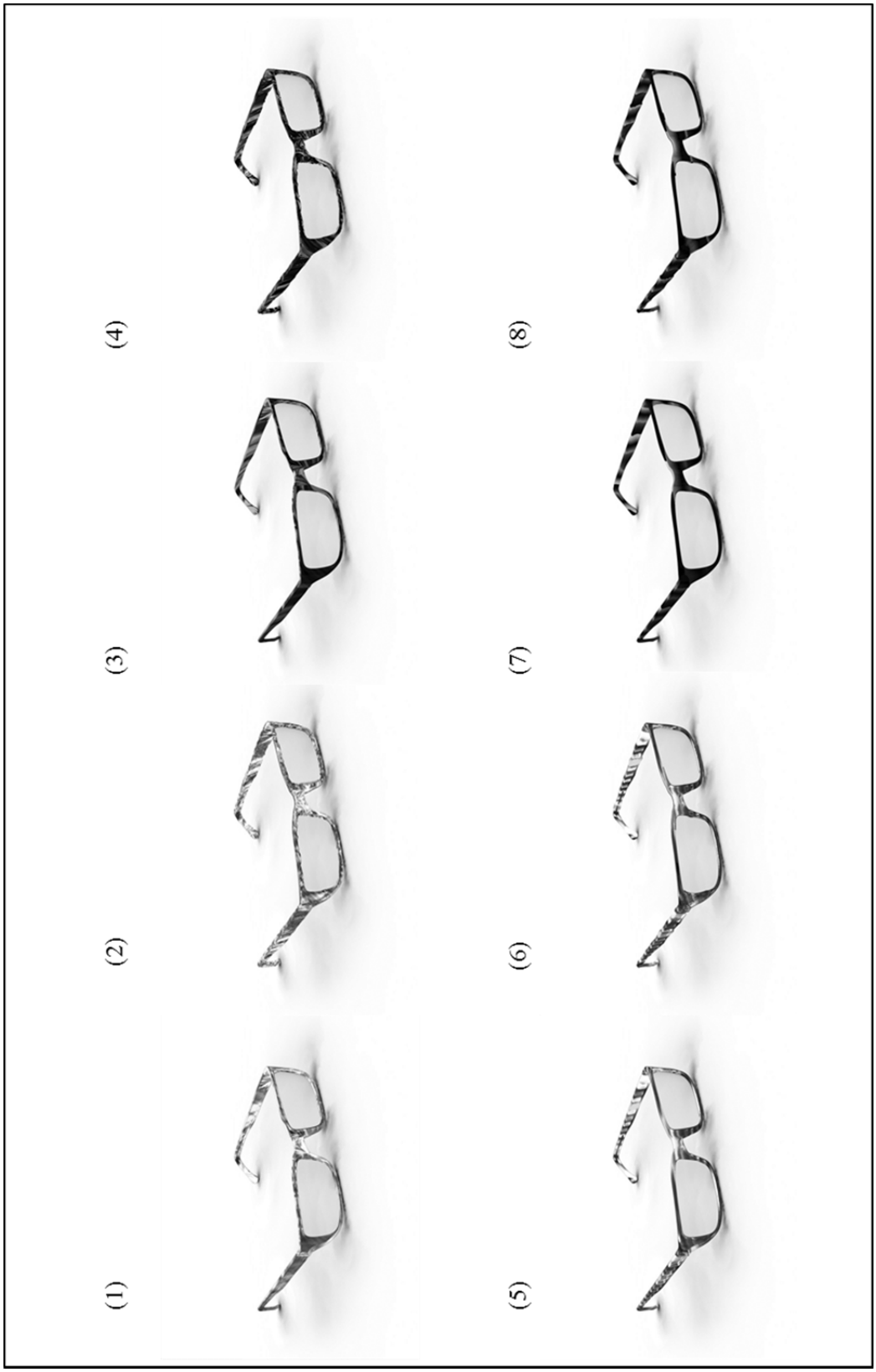
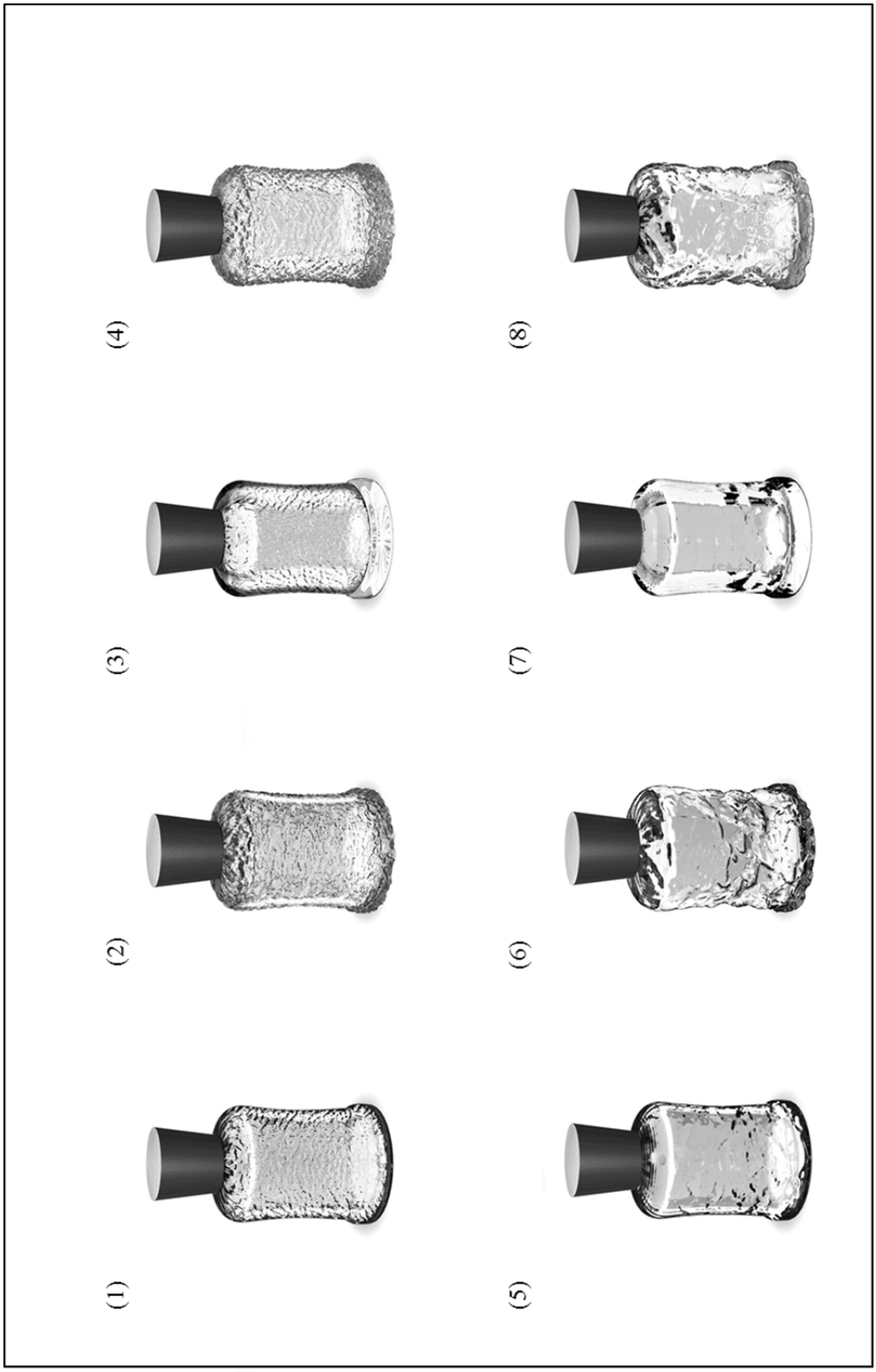


Figure 9: Stimuli Product Material – Fragrances



3.2 Results and Analysis

3.2.1 Product Gender Perception of Product Form

We analyzed FPG and MPG perception of product form separately in a 2 × 2 × 2 × 3 repeated measures analysis of variance (RM-ANOVA) with product (shoes, glasses, fragrances), proportion (slim, bulky), shape (round, angular) and lines (curved, straight) as within-subjects factors.

Regarding *FPG perception of form*, Mauchly's test indicated that the assumption of sphericity had been violated for effects of product ($\chi^2(2) = 18.41$, $p < .001$), product × shape ($\chi^2(2) = 6.91$, $p < .05$), and product × lines ($\chi^2(2) = 14.33$, $p < .05$). Therefore, degrees of freedom were corrected using the Greenhouse-Geisser estimate of sphericity ($\varepsilon = .89$ for the main effect of product, $\varepsilon = .96$ for product × shape, $\varepsilon = .91$ for product × lines). RM ANOVA displayed a significant main effect of proportion ($F(1, 145) = 91.86$), shape ($F(1, 145) = 152.39$), and lines ($F(1, 145) = 82.34$) on femininity at $p < .001$, $\eta_p^2 > .300$, which were qualified by significant interaction effects with product (for proportion: $F(2, 290) = 28.65$; for shape: $F(1.910, 277.022) = 32.33$; for lines: $F(1.827, 264.91) = 21.05$, at $p < .001$; $\eta_p^2 > .100$). The results of pairwise comparisons indicated that *slim proportions* applied to shoes ($M_{slim\text{-}bulky} = 0.71$, $SE_{slim\text{-}bulky} = 0.09$, $p < .001$) and fragrances ($M_{slim\text{-}bulky} = 0.66$, $SE_{slim\text{-}bulky} = 0.07$, $p < .001$) enhanced femininity perception and differed significantly in their effect strength at $F = 0.20$, $p < .05$. Glasses did not display this effect ($M_{slim\text{-}bulky} = -0.02$, $SE_{slim\text{-}bulky} = 0.07$, $p > .05$), and thus, slim proportion applied to shoes and fragrances had a significantly higher effect strength at Fs > 42.46, ps < .001. *Round shapes* were perceived as feminine (shoes: $M_{round\text{-}angular} = 0.29$, $SE_{round\text{-}angular} = 0.09$, $p = .001$; glasses: $M_{round\text{-}angular} = 0.82$, $SE_{round\text{-}angular} = 0.12$, $p < .001$, fragrances: $M_{round\text{-}angular} = 1.38$, $SE_{round\text{-}angular} = 0.10$, $p < .001$), although significant difference in the effect strength on product level were observed at Fs > 14.90, ps < .001. *Curvy lines* enhanced femininity perception for glasses ($M_{curvy\text{-}straigth} = 0.49$, $SE_{curvy\text{-}straigth} = 0.06$, $p < .001$) and fragrances ($M_{curvy\text{-}straigth} = 0.61$, $SE_{curvy\text{-}straigth} = 0.09$, $p < .001$) and did not differ significantly in their effect strength at $F = 1.74$, $p > .05$. This effect was not observed for shoes ($M_{curvy\text{-}straigth} = 0.02$, $SE_{curvy\text{-}straigth} = 0.06$, $p > .05$), and thus, effect strength compared to glasses and fragrances differed significantly at Fs > 29.43, ps < .001. The two-way interaction between proportion × lines ($F(1, 145) = 7.07$) was also significant at $p < .05$ but low in strength $\eta_p^2 = .046$. Pairwise comparisons indicated that the effect of curvy lines on femininity perception was higher when

applied to a bulky product (slim proportion: $M_{curvy\text{-}straight}$ = 0.30, $SE_{curvy\text{-}straigth}$ = 0.05, $p < .001$; bulky proportion: $M_{curvy\text{-}straight}$ = 0.44, $SE_{curvy\text{-}straigth}$ = 0.05, $p < .001$). All other main or higher-order interactions were not significant. This offers support for H1a with the caveat of differences at the product level regarding the effect strength of the characteristics.

Regarding *MPG perception of form*, Mauchly's test indicated that the assumption of sphericity had been violated for effects of product ($\chi^2(2) = 14.87$, $p < .001$) as well as for product × shape × lines ($\chi^2(2) = 11.50$, $p < .05$). Therefore, degrees of freedom were corrected using the Greenhouse-Geisser estimate of sphericity ($\varepsilon = 0.911$ for the main effect of product, $\varepsilon = 0.929$ for product × shape × lines). RM ANOVA revealed a significant main effect of proportion ($F(1, 145) = 93.28$), shape ($F(1, 145) = 108.59$), and lines ($F(1, 145) = 77.08$) at $p < .001$, $\eta_p^2 > .300$, which were qualified by significant interaction effects with product (for proportion: $F(2, 290) = 21.44$; for shape: $F(2, 290) = 44.80$; for lines: $F(2, 290) = 19.21$, at $p < .001$; $\eta_p^2 > .100$). The results of pairwise comparisons demonstrated that *bulky proportions* were perceived as masculine for shoes ($M_{slim\text{-}bulky}$ = -0.68, $SE_{slim\text{-}bulky}$ = 0.09, $p < .001$) and fragrances ($M_{slim\text{-}bulky}$ = -0.62, $SE_{slim\text{-}bulky}$ = 0.07, $p < .001$). The effect strength between these two products did not differ significantly ($F = 0.31$, $p > .05$). Glasses did not display this effect at a significant level ($M_{slim\text{-}bulky}$ = -0.05, $SE_{slim\text{-}bulky}$ = 0.07, $p > .05$), and thus, effect strength differed significantly compared to shoes and fragrances at Fs > 31.48, ps < .001. *Angular shapes* were perceived as masculine (shoes: $M_{round\text{-}angular}$ = -0.18, $SE_{round\text{-}angular}$ = 0.08, $p < .05$; glasses: $M_{round\text{-}angular}$ = -0.50, $SE_{round\text{-}angular}$ = 0.12, $p < .001$; fragrances: $M_{round\text{-}angular}$ = -1.39, $SE_{round\text{-}angular}$ = 0.10, $p < .001$), with an increasing degree of strength on product level for shoes vs. fragrances and fragrances vs. glasses at Fs > 40.69, ps < .001, for shoes vs. glasses at $F > 5.57$, $p < .05$. *Straight lines* were perceived as masculine for glasses ($M_{curvy\text{-}straight}$ = -0.56, $SE_{curvy\text{-}straight}$ = 0.07, $p < .001$) and fragrances ($M_{curvy\text{-}straight}$ = -0.60, $SE_{curvy\text{-}straight}$ = 0.09, $p < .001$), with no significant difference in the effect strength $F > .15$, $p > .05$. Straight lines did not enhance masculinity perception for shoes ($M_{curvy\text{-}straight}$ = -0.02, $SE_{curvy\text{-}straight}$ = 0.06, $p > .05$), and thus, effect size compared to glasses and fragrances displayed a significant difference at Fs > 26.02, $p < .001$. The three-way interaction of product × shape × lines was also significant ($F(1.857, 269.329) = 4.57$) at $p < .05$ but low in strength at $\eta_p^2 = .031$. Analyzing the interaction of product × shape × lines revealed that differences occur at the product level. RM ANOVA for each product revealed a significant interaction between shape × lines for glasses ($F(1, 145) = 5.52$, $\eta_p^2 = .037$, $p < .05$). Pairwise comparisons revealed that the effect on masculinity perception is

stronger for glasses with round shapes combined with straight lines ($M_{curvy\text{-}straight}$ = -0.69, $SE_{curvy\text{-}straight}$ = 0.09, $p < .001$) than for angular shape and straight lines ($M_{curvy\text{-}straight}$ = -0.43, $SE_{curvy\text{-}straight}$ = 0.09, $p < .001$). Non-significant interactions of shape × lines for shoes ($F(1, 148) = 0.03$) and fragrances ($F(1, 145) = 3.29$) were obtained. All other main and higher-order interactions were not significant. This offers support for H1b with the caveat of differences at the product level regarding the effect strength of the characteristics.

3.2.2 Product Gender Perception of Product Color

We analyzed FPG and MPG perception of product color separately in a 2 × 2 × 2 × 3 RM-ANOVA with product (shoes, glasses, fragrances), colors (light, dark), contrast (more, fewer) and reflectiveness (shiny, dim) as within-subjects factors.

Regarding *FPG perception of color*, Mauchly's test of sphericity indicated that the assumption of sphericity had been violated for interaction effects of product × color × contrast ($\chi^2(2) = 6.05$, $p < .05$), and product × reflection ($\chi^2(2) = 16.06$, $p < .001$). Therefore, degrees of freedom were corrected using the Greenhouse-Geisser estimate of sphericity ($\varepsilon = .96$ for the interaction effect of product × color × contrast, $\varepsilon = .90$ for product × reflection). RM ANOVA displayed a main effect of product ($F(2, 282) = 12.92$, $\eta_p^2 = .084$, $p < .001$), color ($F(1, 141) = 418.32$, $\eta_p^2 = .748$), reflection ($F(1, 141) = 23.73$, $\eta_p^2 = .144$), and contrast ($F(1, 141) = 54.29$, $\eta_p^2 = .278$) at $p < .001$, which were qualified by significant interaction effects with product (for color: $F(1, 141) = 54.38$, for contrast: $F(2, 282) = 13.26$ at $p < .001$; for reflection: $F(1.804, 254.424 = 9.45$ at $p = .001$; $\eta_p^2 > .060$). Pairwise comparisons indicated that products with *light tones* were perceived as feminine (shoes: $M_{light\text{-}dark} = 1.47$, $SE_{light\text{-}dark} = 0.11$, $p < .001$; glasses: $M_{light\text{-}dark} = 2.12$, $SE_{light\text{-}dark} = 0.13$, $p < .001$; fragrances: $M_{light\text{-}dark} = 2.68$, $SE_{light\text{-}dark} = 0.13$, $p < .001$), with a significantly increasing degree of strength at Fs > 26.39, ps < .001. Regarding contrast, *more colors* enhanced femininity perception (shoes: $M_{more\text{-}fewer} = 0.50$, $SE_{more\text{-}fewer} = 0.07$, $p < .001$; glasses: $M_{more\text{-}fewer} = 0.32$, $SE_{more\text{-}fewer} = 0.06$, $p < .001$; fragrances: $M_{more\text{-}fewer} = 0.12$, $SE_{more\text{-}fewer} = 0.05$, $p < .05$). The effect strength comparing glasses vs. fragrances and comparing shoes vs. fragrances differed significantly at Fs > 5.68, ps < .05, comparing fragrances vs. shoes at $F = 24.90$, $p < .001$. *Shiny reflectiveness* was perceived as feminine for shoes ($M_{shiny\text{-}dim} = 0.26$, $SE_{shiny\text{-}dim} = 0.05$, $p < .001$). This effect was not significant for glasses ($M_{shiny\text{-}dim} = 0.04$, $SE_{shiny\text{-}dim} = 0.03$, $p > .05$) and fragrances ($M_{shiny\text{-}dim} = 0.06$, $SE_{shiny\text{-}dim} = 0.03$, $p > .05$). Thus, effect strength differed significantly

comparing fragrances vs. shoes at $F = 10.04$, $p < .05$ and comparing shoes vs. glasses at $F = 14.07$, $p < .001$. For fragrances vs. glasses, the effect strength did not differ significantly at $F = 0.50$ ($p > .05$). The interaction between color × contrast ($F(1, 141) = 17.87$, $\eta_p^2 = .112$) was significant at $p < .001$. Pairwise comparisons of the interaction of color × contrast indicated that the effect of a masculine color on femininity perception is stronger when combined with more colors than the effect of feminine colors combined with more colors (masculine color: $M_{more\text{-}fewer} = 0.50$, $SE_{more\text{-}fewer} = 0.08$, $p > .001$; feminine color: $M_{more\text{-}fewer} = 0.13$, $SE_{more\text{-}fewer} = 0.04$, $p > .001$). The three-way interaction between product × color × contrast ($F(1.919, 270.559) = 4.83$) was significant at $p < .05$ but low in strength at $\eta_p^2 = .030$. Investigating this interaction further led to the conclusion that differences occur at the product level. Separate RM ANOVA at the product level demonstrated that the interaction between color × contrast was significant for shoes ($F(1, 143) = 21.37$, $\eta_p^2 = .130$, $p < .001$) and glasses ($F(1, 143) = 9.41$, $\eta_p^2 = .062$, $p < .05$) but not for fragrances ($F(1, 141) = 1.43$, $p > .05$). Comparisons revealed the same difference in the effect strength of the two-way interaction identified above between color × contrast for glasses (masculine color: $M_{more\text{-}fewer} = 0.50$, $SE_{more\text{-}fewer} = 0.10$, $p > .001$; feminine color: $M_{more\text{-}fewer} = 0.14$, $SE_{more\text{-}fewer} = 0.06$, $p < .05$.) and shoes (masculine color: $M_{more\text{-}fewer} = 0.81$, $SE_{more\text{-}fewer} = 0.12$, $p < .001$; feminine color: $M_{more\text{-}fewer} = 0.18$, $SE_{more\text{-}fewer} = 0.07$, $p < .05$). All other main or higher-order interactions were not significant. This offers support for H2a with the caveat of differences at the product level regarding the effect strength of the characteristics.

Regarding *MPG perception of color*, Mauchly's test of sphericity indicated that the assumption of sphericity had been violated for interaction effects of product × color × contrast ($\chi^2(2) = 7.04$, $p < .05$). Therefore, degrees of freedom were corrected using the Greenhouse-Geisser estimate of sphericity ($\varepsilon = .95$ for the effect of product × color × contrast). RM ANOVA revealed a main effect of product ($F(2, 282) = 17.95$, $\eta_p^2 = .113$), color ($F(1, 141) = 397.37$, $\eta_p^2 = .738$), contrast ($F(1, 141) = 73.49$, $\eta_p^2 = .343$), and reflection ($F(1, 141) = 15.60$, $\eta_p^2 = .100$) at $p < .001$. All main effects were qualified by significant interaction effects with product (for color: $F(2, 282) = 49.69$; for contrast: $F(2, 282) = 14.24$; for reflection ($F(2, 270.798) = 8.96$) at $p < .001$; $\eta_p^2 = .060$). Pairwise comparisons revealed that products with *dark tones* were perceived as masculine (shoes: $M_{light\text{-}dark} = -1.55$, $SE_{light\text{-}dark} = 0.10$, $p < .001$; glasses: $M_{light\text{-}dark} = -2.25$, $SE_{light\text{-}dark} = 0.13$, $p < .001$; fragrances: $M_{light\text{-}dark} = -2.69$, $SE_{light\text{-}dark} = 0.14$, $p < .001$), differing significantly in effect size at Fs > 14.08, ps $< .001$ and that products with *fewer colors* were perceived as masculine

(shoes: $M_{more\text{-}fewer}$ = -0.56, $SE_{more\text{-}fewer}$ = 0.07, $p < .001$; glasses: $M_{more\text{-}fewer}$ = -0.40, $SE_{more\text{-}fewer}$ = 0.07, $p < .001$; fragrances: $M_{more\text{-}fewer}$ = -0.14, $SE_{more\text{-}fewer}$ = 0.05, $p < .05$), with decreasing effect strength across products (shoes vs. glasses and glasses vs. fragrances at Fs > 3.39, ps < .05; fragrances vs. shoes at F = 31.07, $p < .001$). A *dim reflection* enhanced masculinity perception (shoes: $M_{shiny\text{-}dim}$ = -0.25, $SE_{shiny\text{-}dim}$ = 0.06, $p < .001$; fragrances: $M_{shiny\text{-}dim}$ = -0.08, $SE_{shiny\text{-}dim}$ = 0.04, $p < .05$), but not for glasses ($M_{shiny\text{-}dim}$ = 0.02, $SE_{shiny\text{-}dim}$ = 0.04, *n.s*). Effect strength differed significantly at F = 17.30, $p < .001$ comparing shoes vs. glasses and at F = 6.07, $p < .05$ comparing fragrances vs. shoes and did not differ significantly comparing glasses vs. fragrances at F = 2.80, $p > .05$**.** The interaction between color × contrast (F(1, 141) = 30.35, η_p^2 = .177) was significant at $p < .001$. Pairwise comparisons of the interaction of color × contrast revealed that the effect of masculine color combined with fewer colors on masculinity perception was stronger ($M_{more\text{-}fewer}$ = -0.62, $SE_{more\text{-}fewer}$ = 0.08, $p < .001$) than the effect of feminine color combined with fewer colors ($M_{more\text{-}fewer}$ = -0.12, $SE_{more\text{-}fewer}$ = 0.04, $p < .05$). The three-way interaction between product × color × contrast (F(1.907, 268.821) = 3.38) was significant at $p < .05$ but low in strength, η_p^2 = .023 and revealed differences at the product level. Separate RM ANOVA revealed a significant two-way interaction of color × contrast for shoes (F(1, 143) = 22.52, η_p^2 = .136, $p < .001$), glasses (F(1, 143) = 17.88, η_p^2 = .111, $p < .001$), and fragrances (F(1, 141) = 4.96, η_p^2= .034, $p < .05$). Pairwise comparisons revealed difference in the effect strength for the two-way interaction between color × contrast for shoes (masculine color: $M_{more\text{-}fewer}$ = -0.90, $SE_{more\text{-}fewer}$ = 0.11, $p < .001$; feminine color: $M_{more\text{-}fewer}$ = -0.21, $SE_{more\text{-}fewer}$ = 0.08, $p < .05$) and glasses (masculine color: $M_{more\text{-}fewer}$ = -0.68, $SE_{more\text{-}fewer}$ = 0.11, $p < .001$; feminine color: $M_{more\text{-}fewer}$ = -0.14, $SE_{more\text{-}fewer}$ = 0.07, p = .051). The effect strength was opposite for fragrances (masculine color: $M_{more\text{-}fewer}$ = -0.01, $SE_{more\text{-}fewer}$ = 0.05, $p > .05$; feminine color: $M_{more\text{-}fewer}$ = -0.27, $SE_{more\text{-}fewer}$ = 0.10, $p < .05$). All other main or higher-order interactions were not significant. This offers support for H2b with the caveat of differences at the product level regarding the effect strength of the characteristics.

3.2.3 Product Gender Perception of Product Material

We analyzed FPG and MPG perception of product material separately in a 2 × 2 × 2 × 3 RM-ANOVA with texture (smooth, rough), surface (soft, hard) and weight (light, heavy) as within-subjects and product (shoes, glasses, fragrances) as between-subjects factor.

Regarding *FPG perception of material* RM ANOVA demonstrated a main effect of weight ($F(1, 209) = 31.20$, $\eta_p^2 = .130$) at $p < .001$. The two-way interaction with product was significant for texture ($F(2, 209) = 7.50$, $p = .001$) and weight ($F(2, 209) = 18.58$, $p < .001$) with $\eta_p^2 > .07$. Pairwise comparisons revealed that a *smooth texture* enhanced femininity perception for glasses ($M_{smooth\text{-}rough} = 0.31$, $SE_{smooth\text{-}rough} = 0.09$, $p = .001$). This effect was not significant for fragrances ($M_{smooth\text{-}rough} = 0.07$, $SE_{smooth\text{-}rough} = 0.09$, $p > .05$). For shoes, rough texture made the products appear feminine ($M_{smooth\text{-}rough} = -0.20$, $SE_{smooth\text{-}rough} = 0.10$, $p < .05$). In contrast to our expectations, a *hard surface* made the products appear feminine (shoes: $M_{soft\text{-}hard} = -0.24$, $SE_{soft\text{-}hard} = 0.10$, $p < .05$), although this effect was not significant for glasses ($M_{soft\text{-}hard} = -0.05$, $SE_{soft\text{-}hard} = 0.10$, $p > .05$) and fragrances ($M_{soft\text{-}hard} = -0.03$, $SE_{soft\text{-}hard} = 0.10$, $p > .05$). As expected, *light weight* did enhance the perception of femininity (shoes: $M_{light\text{-}heavy} = 0.48$, $SE_{light\text{-}heavy} = 0.14$, $p = .001$, glasses: $M_{light\text{-}heavy} = 1.02$, $SE_{light\text{-}heavy} = 0.14$, $p < .001$). Only for fragrances the result was not significant ($M_{light\text{-}heavy} = -0.16$, $SE_{light\text{-}heavy} = 0.14$, $p > .05$). All other main or higher-order interactions were not significant. These results support H3a for some products but must be rejected regarding the surface characteristic.

Regarding *MPG perception of material*, RM ANOVA revealed a main effect of texture ($F(1, 209) = 6.53$, $\eta_p^2 = .030$) and surface ($F(1, 209) = 4.90$, $\eta_p^2 = .230$) at $p < .05$ and weight ($F(1, 209) = 46.56$, $\eta_p^2 = .182$) at $p < .001$ on masculinity; the two effects were qualified by a significant interaction with product (for texture: $F(2, 209) = 17.93$) and for weight: ($F(2, 209) = 21.44$) at $p < .001$, $\eta_p^2 > .1$). Pairwise comparisons revealed that shoe masculinity perception was enhanced by a *smooth texture* ($M_{smooth\text{-}rough} = 0.30$, $SE_{smooth\text{-}rough} = 0.09$, $p = .001$). Rough texture enhanced masculinity perception for the other two products (glasses: $M_{smooth\text{-}rough} = -0.43$, $SE_{smooth\text{-}rough} = 0.09$, $p < .001$; fragrances: $M_{smooth\text{-}rough} = -0.27$, $SE_{smooth\text{-}rough} = 0.09$, $p < .05$). A *soft surface* did enhance masculinity perception (shoes: $M_{soft\text{-}hard} = 0.24$, $SE_{soft\text{-}hard} = 0.09$, $p < .05$), although not significant for glasses ($M_{soft\text{-}hard} = 0.09$, $SE_{soft\text{-}hard} = 0.09$, $p > .05$) and fragrances *(*$M_{soft\text{-}hard} = 0.03$, $SE_{soft\text{-}hard} = 0.09$, $p > .05$). *Heavy weight* enhanced masculinity perception for shoes ($M_{light\text{-}heavy} = -0.53$, $SE_{light\text{-}heavy} = 0.13$, $p < .001$) and glasses ($M_{light\text{-}heavy} = -1.08$, $SE_{light\text{-}heavy} = 0.13$, $p < .001$). For fragrances, a light weight enhanced masculinity perception, although not significant. ($M_{light\text{-}heavy} = 0.10$, $SE_{light\text{-}heavy} = 0.13$, $p > .05$). All other main or higher-order interactions were not significant. Thus, H3b finds some support for some products but must be rejected regarding the enhancement of masculinity perception by hard surfaces.

To examine the influence of sex, sexual orientation, and sexual identity, RM ANOVAs were conducted separately for study 1a-c with MPG and FPG as separate dependent variables and with the participants' ratings as between-subjects factors. Overall, no influence was observed (ps > .05), with the following exceptions: both FPG and MPG Form: shape × sex; only FPG Form: product × sex; only MPG Form: product × shape × sex; product × sexual orientation; lines × sexual orientation; shape × lines × sexual orientation; both FPG and MPG Color: product × reflection × sex, color × sexual identity; only FPG Color: contrast × reflection × sexual identity; only MPG color: reflection × sexual orientation; color × reflection × sexual identity; only FPG Material: texture × weight × sexual orientation; texture × surface × sexual identity; at ps < .05 and Fs < 4.4 (with the exception of FPG form: shape × sex, $F = 7.13$) with $\eta_p^2 < .096$. Thus, there was no continuous effect and we can assume that there is no generalizable difference in product gender perception between participants.

3.3 Discussion

In line with expectations, the results of study 1 identified product aesthetics as a source of product gender. Overall we find support for H1a-b and H2a-b. However, differences at the product level regarding the effect strength of the respective characteristics must be considered. Thus, products with slim (bulky) proportions, round (angular) shape, or curvy (straight) lines generally enhance product femininity (masculinity) perception. Also in line with expectations, products with lighter (darker) tones, more (less) colors, or a shiny (dim) reflectiveness enhance product femininity (masculinity) perception. We found limited support for H3a-b; product material appears to be very product specific. A smooth (rough) texture enhanced the femininity (masculinity) perception of any product. For shoes a rough (smooth) texture made the product appear feminine (masculine). This may be due to a product-specific association; rough shoes might look lighter than smooth-structured shoes and were thus associated with femininity. Contrary to our hypotheses, a hard (soft) surface created product femininity (masculinity) perception. Again, this result may be due to other associations with the product besides hard and soft. The hard surface might be perceived as more detailed than the soft surface. However, the direction of the effect was obtained for all products, indicating that hard (soft) surfaces can be used to enhance product femininity (masculinity) perception. Overall, light (heavy) weight did enhance the femininity (masculinity) perception of products. Thus, the results of study 1c reveal product

specific implications. Study 1a-c also indicated that product gender perception is independent of consumer's sex, sexual orientation, and sexual identity.

4. Study 2: Product Gender as a Source of Product Value

Having tested H1-3 we next consider H4-7 and generally how product gender as illustrated through product aesthetics influences consumer reaction.

4.1 Method

Design and Stimuli. Participants in study 2a-c were presented the same gendered products as in study 1 (see Fig. 2-10) and asked to rate the products in terms of visual aesthetics, affective attitude towards the object, purchase intention, and perception of functionality of the product.

Sample. As in study 1, the data was collected online in Germany from a consumer panel. A total of 1,657 participants participated; 35 extreme outliers were identified using Cook's Distance, leaving 1,622 participants. Of these, 1,335 people provided their gender and age (42.8% female, M_{Age} = 44.92, SD_{Age} = 12.88). Missing values in a scale rating led to the exclusion of this specific rating. As each participant was asked to rate three products, different numbers of cases for the different scales were obtained: 4,089 for visual aesthetics; 4,129 for affective attitude, 4,093 for the utilitarian attitude toward the product, and 4,140 for the purchase intent.

Procedure. Participants entered the online survey through a link and were assigned to participate in the survey about product (a) form, (b) color, or (c) material. The participants randomly viewed one product of each type (shoe, glasses, fragrances) and below each product they were asked to rate them on several scales (order randomized). Specifically, to measure *visual aesthetics*, using 7-point bipolar scales, participants were asked to give five products ratings: "bad/good", "unpleasant/pleasant", "not likeable/likable", "unflattering/flattering", and "stylish/not stylish" (Cox and Cox 2002; only five of the six items were used, α = .94). To measure *affective attitude toward the object*, participants were asked to give three ratings of their believe that the product has the ability to elicit a positive feeling using 9-point bipolar scales: "It's depressing/It's upbeat", "I felt sad/I felt happy", "It created a negative mood/It created a positive mood" (Cohen and Andrade, 2004; α = .97). To measure the *attitude towards the act of purchase*, thus purchase intent, participants were asked the following three questions using a 7-point likelihood scale for each: "If you were

planning to buy a product of this type, would you choose this product?", "Would you purchase this product?", "If friends were looking for a product of this type, would you advise him or her to purchase this product?" (Berens, van Riel, and van Bruggen, 2005, α = .94). To measure *utilitarian attitude toward the product,* thus functionality, participants were asked to rate the following items using 7-point bipolar scales: "not effective/ effective", "not helpful/ helpful", "not functional/functional", "not necessary/ necessary", and "not practical/ practical" (Voss, Spangenberg, and Grohmann, 2003, α = .93). The perceived product gender, which was used as independent variable in the following analysis, was built using the MPG and FPG means from study 1 and by calculating the absolute difference score: |MPG-FPG|. Thus, high values represent high product gender of masculinity or femininity.

4.2 Results and Analysis

Product Gender and Aesthetic Value. To test H4a-b, a regression analysis with product gender as the independent variable and *visual aesthetics* as the dependent variable yielded a positive and significant effect of product gender (b = .04, $t(4087) = 2.76$, $p < .01$). To test the mediation effect of affective attitude on the relationship between product gender and visual aesthetics, the bootstrapping method suggested by Preacher and Hayes (2008) was used. Product gender was included in the model as a predictor, affective attitude represented possible mediator, and visual aesthetics served as the dependent variable. The indirect effect of *affective attitude* was positive and significant (b = .04) with a CI (always 95%) excluding zero (0.02 to 0.06). Including the indirect effect into the model, the direct effect of product gender was no longer significant (c' = -.004, $p > .05$). These results suggest full mediation (see Figure 10, Panel A). Thus, we find support for H4a-b.

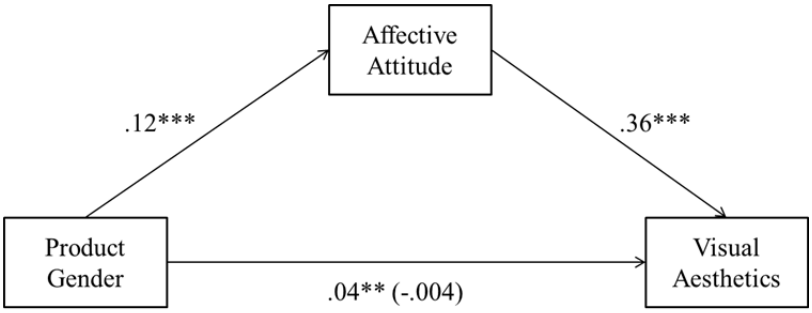
Product Gender and Purchase Intent. Analyzing H5a-b, a regression with product gender as the independent variable and *purchase intent* as the dependent variable yielded a positive and significant effect of product gender (b = .03, $t(4138) = 2.10$, $p < .05$). Again, a bootstrapping method was used to test the mediation effect of visual aesthetics on the relationship between product gender and purchase intent. The indirect effect of *visual aesthetics* was positive and significant (b = .03), with a CI excluding zero (0.01 to 0.06). Including the indirect effect in the model, the direct effect was no longer significant (c' = .003, $p > .05$), establishing full mediation (see Figure 10, Panel B). This supports H5a-b.

Product Gender and Functionality. Investigating H6a-b, a regression with product gender as the independent variable and *functionality* as the dependent variable yielded a positive and significant effect of product gender (b =.03, $t(4091) = 2.59$, $p < .01$). To test the mediation effect of visual aesthetics, product gender was included as a predictor, functionality as a dependent variable, and visual aesthetics as a possible mediator and again a bootstrapping method was used. The indirect effect of *visual aesthetics* was positive and significant (b = 0.02), with a CI excluding zero (0.01 to 0.04). Including the indirect effect in the model, the direct effect was no longer significant (c' = 0.01, $p > .05$). This result suggests full mediation (see Figure 10, Panel C). Thus, H6a-b is supported.

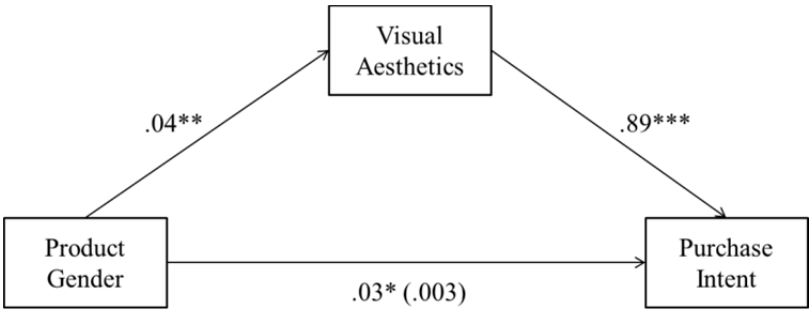
Product Gender, Affective Attitude, Visual Aesthetics, and Functionality. To find evidence for H7, the serial mediation model product gender – affective attitude – visual aesthetics – functionality was analyzed using the bootstrapping method. The coefficients of the model are presented in Fig. 13. There was a significant total effect of product gender on functionality (b= .33, t = 2.61, $p < .01$). The indirect effect of product gender through affective attitude on functionality was positive and significant (b = .01), with a CI excluding zero (0.01 to 0.003). An analysis of the indirect effect through both mediators, first through *affective attitude* and secondly through *visual aesthetics*, indicated that the path was significant, with a CI interval between 0.01 and 0.03 (excluding zero). The indirect effect of product gender through visual aesthetics was negative and not significant (b = -.002), with a CI including zero (-0.01 to 0.01). The total indirect effect was significant, with a CI from 0.01 to 0.05 (excluding zero). Including the indirect effect through both mediators resulted in a non-significant direct effect of product gender on functionality (b = .003, t = 0.33, $p > .05$). The results suggest full mediation through both mediators (see Figure 10, Panel D). Thus, H7 is supported.

Figure 10: Mediation Models.

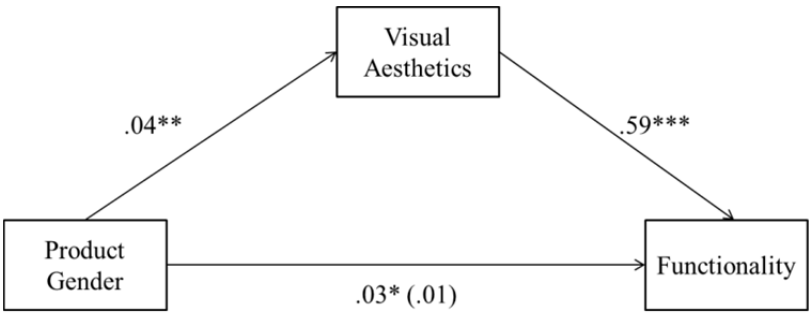
A: Mediation of the effect of product gender on visual aesthetics by affective attitude



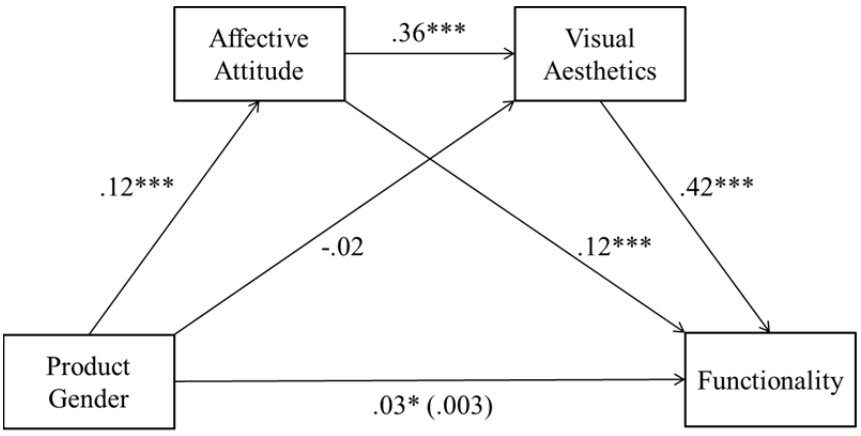
B: Mediation of the effect of product gender on purchase intent by visual aesthetics



C: Mediation of the effect of product gender on functionality by visual aesthetics



D: Mediation of the effect of product gender on functionality by affective attitude and visual aesthetics



Note: *b* is the unstandardized beta weight. The parenthetical number is beta controlling for the mediator.
***$p < .001$; **$p < .01$; *$p < .05$.

4.3 Discussion

Study 2 offers support for H4-7. A greater level of product gender resulted in greater visual aesthetic appeal. This effect was mediated by positive affective attitude. Thus, products that are clear in their male or female appearance are perceived as pleasant. In addition, the evolutionary psychological process of appreciating appearance of strong gender in others appears to be so deeply anchored in the human mind that even highly gendered products are perceived as attractive to the consumer. High product gender also yielded greater perceptions of functionality. This effect was mediated by positive affective attitude and perceptions of positive visual aesthetics. Thus, we find evidence that the "what is beautiful is good" stereotype applies to products, with strongly gendered products appearing more beautiful and functional. High product gender also resulted in a higher purchase intent, which was mediated by high aesthetics. Consumers are more likely to buy products they perceive as highly aesthetic. Thus, highly gendered products provoke a positive consumer response.

5. General Discussion and Implications

This research provides managers and designers with guidelines on how to design a gendered product using the dimensions of form, color, and, to some extent, material. Moreover, this research reveals the positive outcome of producing products with strong aesthetic demonstrations of gender; high product gender evokes positive consumer perception and behavior. Specifically study 2 revealed that highly gendered products are perceived as highly aesthetic and this is explained by positive affect provoked by the product. Moreover, this aesthetic pleasure derived by the highly gendered product leads to a higher perception of functionality and higher purchase intent. As such this research may motivate designers to create highly gendered products.

There are, of course, limitations to this research. To begin with the use of an online environment for the experiments is not ideal. People tend to make more informed and better judgments when they touch product material (Klatzky, Lederman, and Reed, 1987). While our findings likely also apply in an offline environment, future studies might examine this. Additionally future studies could investigate the cultural differences that may exist for product gender perceptions as suggested in interviews with the designers. Findings with a true evolutionary motivation ought to hold across cultures. However more learned responses may not. Future research might identify

which preferences are more learned and create culture-specific guidelines. Another potential area for future research could be how product gender as evoked by aesthetics interacts with the product gender of the category or brand.

More theoretically, this research extends the literature of product personality by explaining product aesthetics as a source of product gender. It enriches the research of Fugate and Philipps (2010), who show a trend towards strongly gendered products. Moreover this research reveals how evolutionary psychology can be applied and integrated into marketing theory.

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Article V

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Sex Matters:
Die positive Wirkung des Marken- und Produktgeschlechts

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Zusammenfassung

Konsumenten ordnen Marken und Produkten intuitiv Geschlechter zu. Durchgeführte Studien verdeutlichen, dass das Design von Marken und Produkten das wahrgenommene Marken- und Produktgeschlecht beeinflusst und dass ein sehr weiblich oder sehr männlich ausgeprägtes Geschlecht wiederum zu einem positiven Gesamterlebnis für den Konsumenten führt.

Stichwörter: Markengeschlecht; Produktgeschlecht; Markenwert; Produktwert.

1. Einleitung

„Pink it and Shrink it“ („Färbe es pink und verkleinere es“) ist eine unter Designern bekannte Redewendung, um männlich wirkende Produkte in weiblich wirkende Produkte umzugestalten. Auch Konsumenten genügt meist ein kurzer Blick, um Produkte als weiblich oder männlich zu kategorisieren. Ein bekanntes Beispiel ist die Marke Coca-Cola des gleichnamigen Konzerns. Das Unternehmen hat die Submarken Light und Zero entwickelt, um mit der silbern designten Light-Variante weibliche Kunden und mit der schwarz designten Marke Zero das männliche Kundensegment anzusprechen. Es wird deutlich, dass Konsumenten sowie Designer implizit auf Design-Prinzipien zurückgreifen, die es ihnen ermöglichen, das Geschlecht einer Marke oder eines Produkts zuzuordnen beziehungsweise zu gestalten. Die Marketing-Literatur hat erkannt, dass Marken (Grohmann 2009) und Produkte (Allison et al. 1980) ein Geschlecht besitzen, und hat Einflussfaktoren dieser Geschlechterzuschreibung analysiert, beispielsweise das Geschlecht der Kundengruppe oder der Werbeperson für Produkte (Iyer/Debevec 1989) und die Wahl des Namens für Marken (Klink 2003). Das Design als möglicher Einflussfaktor wurde dabei bisher nicht berücksichtigt.

Welche Designausprägungen lassen eine Marke oder ein Produkt weiblich oder männlich wirken? Welche Auswirkung hat diese Assoziation der Weiblichkeit bzw. Männlichkeit auf das Erlebnis mit der Marke oder dem Produkt? In einem Zeitalter der Marken- und Produktüberflutung des Konsumenten ist diese Fragestellung relevant mit dem Ziel, ein positives Marken- und Produkterlebnis zu schaffen, und wird in diesem Beitrag beantwortet.

2. Marken- und Produktgeschlecht als hervorstechende Merkmale

Konsumenten neigen dazu, Marken und Produkten menschliche Eigenschaften anhand ihrer physischen Beschaffenheit zuzuweisen. Diese so genannte Anthropomorphisierung (Epley/Waytz/Cacioppo 2007) führt dazu, dass Marken sowie Produkte eine Persönlichkeit erhalten. Die Sozialpsychologie erkennt das Geschlecht als eines der ersten registrierten Aspekte in einer sozialen Interaktion (Dion/Berscheid/Walster 1972). Gemäß der Evolutionspsychologie (EP) dienen bestimmte physische Eigenschaften als Geschlechtermerkmale und Kriterien in der Partnerwahl. Dieser Theorie zufolge suchen Frauen einen Mann, der ihnen die

Fähigkeit vermittelt, für sie und ihren Nachwuchs zu sorgen. Männer suchen hingegen eine Frau, die eine hohe Fruchtbarkeit ausstrahlt (Buss 1994). Diese Fähigkeiten werden durch physische Eigenschaften ausgedrückt, die Männlichkeit beziehungsweise Weiblichkeit symbolisieren. Es besteht somit ein positiver Zusammenhang zwischen der stark sichtbaren Männlichkeit beziehungsweise Weiblichkeit und der wahrgenommenen Attraktivität eines Menschen (Etcoff 2000).

Anhand einer Zusammenfassung empirischer Studienergebnisse erläutert der vorliegende Beitrag, ob dieser in der EP begründete Mechanismus so tief in den Köpfen der Konsumenten verankert ist, dass er sich auf Marken und Produkte übertragen lässt.

2.1 Starkes Markengeschlecht führt zu positivem Markenerlebnis

Eine vom Konsumenten als positiv wahrgenommene Markenpersönlichkeit erhöht das Vertrauen, die Kaufwahrscheinlichkeit und die Loyalität gegenüber einer Marke sowie letztendlich den Markenwert (Keller 1993). In der Marketing-Literatur wird die Beziehung eines Konsumenten mit einer von ihm als ansprechend empfundenen Marke mit der zu einem attraktiven Partner gleichgestellt (Fournier 1998). Demnach gilt: Je attraktiver oder ansprechender eine Marke ist, desto höher ist ihr Markenwert. Wie erläutert, ist das Geschlecht einer Person das erste Merkmal, das wahrgenommen wird, und eine stark ausgeprägte Geschlechtlichkeit einer Person wird als attraktiv empfunden. Eine Übertragung dieses Zusammenhangs auf Marken führt zu der Annahme, dass eine sehr weibliche oder sehr männliche Marke attraktiver auf Konsumenten wirkt als eine androgyne (sehr weiblich und sehr männlich) oder undifferenzierte (weder sehr weiblich noch sehr männlich) Marke und diese somit einen höheren Wert besitzen. Eine in diesem Zusammenhang durchgeführte Studie mit realen Marken stützt diese Annahme (siehe Abbildung 2, Studie 1). Die Ergebnisse offenbaren einen positiven Zusammenhang zwischen dem Grad der Geschlechtlichkeit von Marken und ihrem Wert. Marken, die von den Teilnehmern als explizit weiblich oder männlich wahrgenommen wurden, wiesen höhere Werte in der Bewertung der Markenstärke auf als Marken, die als androgyn oder undifferenziert eingestuft wurden. Dieser Zusammenhang impliziert, dass sich eine klare Positionierung als stark weibliche oder stark männliche Marke positiv auf den Markenwert auszahlt.

2.2 Starkes Markengeschlecht durch einheitliches Markendesign

Die Ergebnisse aus Studie 1 stützen die grundsätzliche Annahme, dass ein Zusammenhang zwischen der Ausgeprägtheit des Markengeschlechts und dem Wert einer Marke besteht. Dabei bleibt die Frage offen, welche Design-Faktoren das wahrgenommene Markengeschlecht beeinflussen. Nachfolgend wird der Einfluss der Markendesignelemente *(a) Markenlogoform*, *(b) Markenname* und *(c) Markenfarbe* auf die Geschlechtlichkeit einer Marke erläutert.

Markenlogoform. Das Logo einer Marke wird als Wahrnehmungsquelle der Markenpersönlichkeit gesehen (Batra/Lehmann/Singh 1993). Somit dienen Logos der physischen und symbolischen Manifestation einer Marke und können als Anhaltspunkte für ihre Entstehung und geschlechtliche Wahrnehmung verstanden werden.

Die EP postuliert, dass der Körper sowie das Gesicht die wichtigsten physischen Merkmale aufweisen, die auf die Attraktivität einer Person schließen lassen. Die Attraktivität des Körpers einer Frau kann durch das Verhältnis vom Taillenumfang zum Hüftumfang (THV) gemessen werden. Ein weiblicher THV von .7 wird als attraktiv wahrgenommen (Singh 1993). Charakteristika, die die männliche Attraktivität bestärken, sind schmale Hüften, eine breite Brust und breite Schultern, d. h. ein Oberkörper, der eine V-Form zeigt. Diese Merkmale lassen auf physische Stärke schließen (Furnham/Radely 1989). Demnach wird ein kurviger/sanfter (breiter/solider) Körper mit Weiblichkeit (Männlichkeit) assoziiert. Als weibliche attraktive Gesichtszüge werden hohe, hervorstehende Wangenknochen und eine kleine Nase empfunden (Cunningham 1986), somit zierliche/schmale Formen. Als männliche attraktive Gesichtszüge gelten ausgeprägte Wangenknochen sowie ein ausgeprägtes Kinn (Scheib et al. 1999), somit eckige/kantige Formen.

Um die Übertragbarkeit dieser Merkmale auf Marken zu untersuchen, wurde eine Studie (siehe Abbildung 2, Studie 2a) mit fiktiven Markenlogos durchgeführt. Die Auswertungen zeigen, dass ein schmales/zierliches (breites/ solides) sowie kurviges/sanftes (eckiges/kantiges) Logo die Weiblichkeit (Männlichkeit) einer Marke bestärkt (siehe Abbildung 1). Batra und Kollegen (1993) propagieren das Markenlogo als Quelle der Markenpersönlichkeit. Logos dienen als symbolische, physische Manifestation der Marke und können als Anhaltspunkte für die Entstehung der geschlechtlichen Wahrnehmung einer Marke verstanden werden.

Markenname. Die bestehende Forschung stützt den Zusammenhang zwischen Vokallauten (Vorder- [beispielsweise. i oder e] und Hinterzungenvokalen [beispielsweise o oder u]) in Markennamen und der Wahrnehmung einer Markenpersönlichkeit (Klink 2003) sowie die Verbindung von Schriftarten mit Persönlichkeitseigenschaften (Childers/Jass 2002).

Eine auf diesen Erkenntnissen aufbauende Studie (siehe Abbildung 2, Studie 2b) zeigt, dass die spezifische Kombination von Wortlauten und Schriftarten in Markennamen darüber hinaus das Markengeschlecht beeinflusst.

Die Ergebnisse stützen die Annahme, dass Markennamen mit Vorderzungenvokalen (Hinterzungen-) als weiblich (männlich) wahrgenommen werden. Zusätzlich bestärken die Studienergebnisse den Zusammenhang zwischen schmalen/kurvigen (breiten/eckigen) Schriften und der wahrgenommenen Weiblichkeit (Männlichkeit) einer Marke. Die Kombination eines weiblich (männlich) wahrgenommenen Namens mit einer (weiblich) männlich wahrgenommenen Schrift resultierte in einem stärkeren weiblichen (männlichen) Markengeschlecht als die Nutzung geschlechtlich inkonsistenter Elemente (siehe Abbildung 1). Die Wahrnehmung einer sehr weiblichen oder sehr männlichen Marke führte auch in dieser Studie zu einer höheren Markenpräferenz. Eine Kongruenz zwischen dem Geschlecht der Produktkategorie und dem der Marke führte ebenfalls zu einer erhöhten Markenpräferenz.

Abbildung 1: Markendesign: Stimuli der Studien 2a) Markenlogoform und 2b) Markenname (In Anlehnung an Lieven et al. 2013)

	Logo	Schrift
Männlich		**Bloyt**
Weiblich		*Edely*

Markenfarbe. Farben werden unter anderem in der Werbung, bei der Verpackung oder im Logodesign genutzt, um eine bestimmte Markenpersönlichkeit zu vermitteln (Klink 2003). Die EP gibt Hinweise darauf, dass die Gesichtsfarbe als Merkmal der Geschlechtlichkeit dient: Frauen verfügen über ein höheres Östrogenniveau (Perrett et al. 1998) und tendieren deshalb dazu, eine hellere Haut zu besitzen als Männer (Jablonski/Chaplin 2000).

In Studie 2c wurde die Annahme, dass Farben einen Einfluss auf das wahrgenommene Geschlecht einer Marke ausüben, anhand von zwei Produkten getestet. Die Erkenntnisse der geschlechtlichen Wahrnehmung von Produktkategorien aus Studie 2b wurden genutzt, um das Produkt Deodorant der weiblich wahrgenommenen Produktkategorie Kosmetikwaren und das Produkt Smartphone der männlich wahrgenommenen Produktkategorie ITWaren auszuwählen. Studie 2c (siehe Abbildung 2, Studie 2c) deutet auf eine schwache Auswirkung der Farbe auf das Markengeschlecht hin: Eine dunkle Farbe verstärkte die empfundene Männlichkeit beider getesteter Produkte. Eine helle Farbe verstärkte nur die wahrgenommene Weiblichkeit einer Produktmarke (Deodorant). Die Auswertungen stützen erneut die Annahme, dass die Schrift einen Einfluss auf die geschlechtliche Wahrnehmung der Marke hat. Zudem zeigen die Ergebnisse, dass die Markenpräferenz für ein Markengeschlecht durch das Teilnehmergeschlecht bestimmt wurde. Frauen (Männer) bevorzugen weibliche (männliche) Produkte. Diese Markenpräferenz veränderte sich jedoch durch das Geschlecht der Produktkategorie: Wurde die Produktkategorie als weiblich (männlich) wahrgenommen, wurde eine weibliche (männliche) Marke, unabhängig vom Teilnehmergeschlecht, präferiert.

Abbildung 2: Markendesign: Details zu Studie 1) Markenstärke, 2a) Markenlogo, 2b) Markenname und 2c) Markenfarbe

Studie	Stichprobe	Stimuli/Design	Vorgehen	Skalen
1) Marken-stärke	N = 3.284, 44,5% weiblich, M_{Alter}= 44,3, SD_{Alter}= 14	Set aus 140 bekannten Marken	Randomisierte Zuordnung von 30 Marken aus einem Set von 140 Marken (unbekannte Marken konnten abgelehnt werden) 1) Bewertung Markengeschlecht 2) Bewertung Markenstärke	**Markenmännlichkeit:** *abenteuerlich, aggressiv, mutig, waghalsig, dominant, stur.* **Markenweiblichkeit:** *drückt weiche Gefühle aus, zerbrechlich, anmutig, sensibel, süss, zart,* auf einer 7-Punkte-Skala (*1= trifft überhaupt nicht zu*; *7= trifft voll zu*), Grohmann 2009 **Markenstärke:** *Es macht Sinn X zu kaufen anstatt irgendeine andere Marke, auch wenn sie gleich sind/ Auch wenn eine andere Marke die gleichen Merkmale hat wie X, würde ich X lieber kaufen/ Wenn es eine andere Marke gibt, die genauso gut ist wie X, kaufe ich X/ Wenn eine andere Marke sich in keiner Weise von X unterscheidet, ist es schlauer X zu kaufen* (Yoo/Donthu/Lee 2000) und *Es macht Sinn mehr für X zu zahlen, als für ein ähnliches Produkt einer anderen Marke/ Ich würde X einem Freund empfehlen* (Aaker 1996) auf einer 7-Punkte-Skala (*1= stimme überhaupt nicht zu; 7= stimme voll zu*)
2a) Marken-logos	N= 548, 40% weiblich, M_{Alter}= 45, SD_{Alter}= 12,1	4 Markenlogos: sich ergebend aus dem 2 (Proportionen: breit/solide, schmal/zierlich) × 2 (Form: eckig/kantig, rund/sanft) Design (between- Participants Design)	Randomisierte Zuordnung eines Logos 1) Bewertung Form 2) Bewertung Geschlecht	**Logoform:** *1= breit/solide, 11= schmal/zierlich* und *1= eckig,kantig, 11= rund/sanft*; Björntorp 1987 **Markenmännlichkeit/-weiblichkeit:** siehe oben, Grohmann 2009
2b) Marken-name	N= 657, 44,2% weiblich, M_{Alter}= 41,2, SD_{Altee}= 12,2	8 Marken: sich ergebend aus dem 2 (Markenname aus: Vorder- [Edely] und Hinterzungenvokalen [Bloyt] × 4 (2 schmale/runde Schriften [Monotype Corsiva, Kristen] und 2 breite/kantige Schriften [Impact, Agency FB], Shaikh et al. 2006]) Design (within-Participant Design)	1) Bewertung Geschlecht des Markennamens 2) Bewertung Schriftform 3) Bewertung Geschlecht der Schrift 4) Bewertung Geschlecht der Markennamen/ Schriftkombination 5) Randomisierte Zuordnung von 3 aus 12 Produktkategorien 6) Bewertung Geschlecht der Kategorie 7) Bewertung Präferenz für Markennamen/Schrift Kombination	**Geschlecht der Markennamen:** *1= überhaupt nicht weiblich, 7 =sehr weiblich; 1= überhaupt nicht männlich, 7= sehr männlich* **Schriftform:** *1= breit/solide, 11= schmal/zierlich* und *1= eckig,kantig, 11= rund/sanft*; Björntorp 1987 **Geschlecht der Schrift**: *1= überhaupt nicht weiblich, 7= sehr weiblich;* 1= *überhaupt nicht männlich, 7= sehr männlich* **Geschlecht der Markennamen/Schriftkombinationen:** *1= überhaupt nicht weiblich, 7= sehr weiblich; 1= überhaupt nicht männlich, 7= sehr männlich* **Markenmännlichkeit/-weiblichkeit der Produktkategorie:** siehe oben, Grohmann 2009 **Markenpräferenz:** *100 Punkte über die Markennamen/Schrift Kombinationen verteilen*
2c) Marken-farbe	N= 1.103, 41,3% weiblich, M_{Alter}= 44,7, SD_{Alter}= 12,1	4 Markendesigns: sich ergebend aus dem 2 (Schrift: breit/eckig [Impact], schmal/rund [Monotype Corsiva]) × 2 (Farbe: hell [pink: RGB 255, 0, 127], dunkel [blau: RGB 0, 0, 128], Picariello et al. 1990) Design Angewendet auf: Fiktive Deodorantmarke *young* und Smartphonemarke *connect* (between-Participants Design)	1) Randomisierte Zuordnung eines Produkts 2) Randomisierte Zuordnung eines Markendesigns 3) Bewertung Markengeschlecht 4) Bewertung Markenpräferenz für alle 4 Marken	**Markenmännlichkeit/-weiblichkeit:** siehe oben, Grohmann 2009 **Markenpräferenz:** *100 Punkte über die Marken zu verteilen*

2.3 Starkes Produktgeschlecht durch einheitliches Produktdesign

Wie Marken weisen auch Produkte eine Persönlichkeit auf (Jordan 1997). Die Produktpersönlichkeit wird ähnlich wie bei Marken stark durch die physische Beschaffenheit, die visuelle Ästhetik, beeinflusst. So ist es zum Beispiel möglich, dass eine Flasche mit einer menschlichen Körperform assoziiert wird (Epley/Waytz/Cacioppo 2007). Designer bezeichnen die physische Beschaffenheit als Charakter des Produkts (Janlert/Stolterman 1997).

Als gestalterische Eigenschaften, die das Geschlecht eines Produkts beeinflussen, wurde in drei Studien *(a) die Produktform, (b) die Produktfarbe* und *(c) das Produktmaterial* von Unisex-Produkten (Schuhe, Parfumflakons und Brillen) untersucht. Ausgangsbasis aller Produktmanipulationen bildeten Abbildungen fiktiver Produkte, um bestehende Assoziationen der Persönlichkeit mit bekannten Produkten zu vermeiden.

Produktform. Studie 3a (siehe Abbildung 4) zur Produktform stützt die Annahme, dass die zuvor aus der EP abgeleiteten Geschlechtermerkmale der Form die gleichen Assoziationen bei Produkten hervorrufen wie bei Marken. Produkte mit schmalen/breiten Proportionen, runden/eckigen Endungen oder kurvigen/geraden Linien wurden als weiblich/männlich wahrgenommen.

Produktfarbe. Studie 3b (siehe Abbildung 4) zur Produktfarbe bestärkt die Annahme, dass Produkte mit hellen (dunklen) Tönen, mehr (weniger) Farben und glänzender (matter) Reflexion als weiblich (männlich) wahrgenommen werden. Dies zeigt, dass die zuvor determinierten geschlechtlichen Farbmerkmale aus der EP einen ähnlichen Einfluss auf die Geschlechtlichkeit von Produkten bewirken wie bei Marken. Zudem wird die Übertragbarkeit der Annahme bestärkt, dass eine glänzende (matte) Reflexion als weiblich (männlich) wahrgenommen wird. Diese Annahme resultierte aus der Erkenntnis der EP, dass gesundes und glänzendes Haar bei Frauen als Fruchtbarkeitszeichen und als Zeichen physischer Gesundheit gesehen wird (Etcoff 2000). Zusätzlich lässt sich der Befund, dass Frauen dazu tendieren, mit mehr Farben zu malen als Männer (Moss/Gunn/Heller 2006), auf die geschlechtliche Wahrnehmung von Produkten übertragen.

Produktmaterial. Studie 3c (siehe Abbildung 4) zum Produktmaterial ergab, dass eine feine (grobe) Texturstruktur und ein leichtes (schweres) Gewicht die Wahrnehmung eines weiblichen (männlichen) Geschlechts hervorrufen. Für das getestete Produkt Schuhe ergab sich die Ausnahme, dass eine grobe Struktur die weibliche Anmutung

eines Produkts fördert. Diese Assoziation kann dadurch entstanden sein, dass ein Schuh mit grober Struktur gleichzeitig leichter wirkt. Ein kontraintuitives Ergebnis ist, dass eine harte (weiche) Oberfläche ein weibliches (männliches) Produktgeschlecht kreiert. Insgesamt bestärken die Ergebnisse die Übertragbarkeit der geschlechtlichen Merkmale aus der EP auf Produkte. Männer sind, bedingt durch Körperform und Muskulatur, schwerer als Frauen. Dies erklärt die wahrgenommene Männlichkeit bezüglich schwerer Produkte. Weiche Haut wird in der EP als Fruchtbarkeitszeichen von Frauen bezeichnet (Symons 1979). Dies bietet einen Erklärungsansatz dafür, dass eine feine (grobe) Struktur der Produktoberfläche Weiblichkeit (Männlichkeit) hervorruft. Die Ergebnisse aller drei Studien zeigten außerdem, dass die konsistente Nutzung der weiblichen oder männlichen Designelemente zu einem höher ausgeprägten Produktgeschlecht führt als die inkonsistente Nutzung der Elemente (siehe Abbildung 3).

„Nach der Marketingliteratur gilt: Je attraktiver oder ansprechender eine Marke ist, desto höher ist ihr Markenwert.“

Abbildung 3: Beispielhafte männliche & weibliche Produkte (van Tilburg et al. 2013)

	Produktform	Produktfarbe	Produktmaterial
Männlich			
Weiblich			

2.4 Starkes Produktgeschlecht führt zu positivem Produkterlebnis

Die bisher diskutierten Ergebnisse zeigen, inwiefern das Design eines Produkts dessen Geschlecht determiniert. Ob stark geschlechtliche Produkte ein positives Erlebnis in Form einer erhöhten wahrgenommenen *Ästhetik* und wahrgenommenen *Funktionalität* fördern, wurde in einer weiteren Studie erforscht. Die getesteten Designvariationen bezogen sich wie bereits zuvor auf (a) die Produktform, (b) die Produktfarbe und (c) das Produktmaterial.

Ästhetik. Als Produktästhetik wurde in der beschriebenen Studie das Vergnügen verstanden, das aus dem puren Anblick eines Produkts resultiert (Holbrook 1980). Die durchgeführte Studie (siehe Studie 4, Abbildung 4) stützt die Annahme, dass eine starke Männlichkeit oder Weiblichkeit von Produkten zu einer hohen wahrgenommenen Ästhetik führt. Dieser Zusammenhang lässt sich durch ein positives Gefühl begründen, welches durch ein stark geschlechtliches Produkt vermittelt wird. Eine Erklärung für dieses Phänomen liefert die Kenntnis, dass bestimmte visuelle Prinzipien zu ästhetischer Präferenz führen. So wird beispielsweise die Einheitlichkeit (verstanden als Kongruenz der Bestandteile eines Objektes) als angenehm empfunden, da sich diese kognitiv leicht verarbeiten lässt. Dies führt letztendlich zu einer positiveren Bewertung des Produkts (Winkielman et al. 2003). Ein stark geschlechtliches Produkt weist ein einheitliches Design auf und wird als ästhetisch empfunden, da es leichter zu verarbeiten ist und so dem Rezipienten folglich ein positives Gefühl vermittelt.

Funktionalität. Das Design eines Produkts kann ebenfalls einen Einfluss auf die wahrgenommene Funktionalität ausüben (Bloch 1995). Auswertungen der durchgeführten Studie (siehe Studie 4, Abbildung 4) zeigen, dass stark geschlechtlich designte Produkte als sehr ästhetisch wahrgenommen werden und dies zu einer höheren wahrgenommenen Funktionalität führt. Dieser Zusammenhang findet eine Parallele in der Sozialpsychologie. Studien weisen eine positive Beziehung zwischen der wahrgenommenen physischen Attraktivität einer Person und den wahrgenommenen sozial erwünschten Eigenschaften und Fähigkeiten (z. B. Intelligenz, ethisches Verhalten und Kompetenz) einer Person auf (Dion/Berscheid/Walster 1972). Das „What-is-Beautiful-is Good‘‘-Phänomen kann durch den Stereotypen-Ansatz oder durch den Halo-Effekt erklärt werden (Nisbett/Wilson 1977): Ersterer geht von einer gelernten Verbindung zwischen Schönheit und positiven Persönlichkeitseigenschaften aus; der Halo-Effekt argumentiert, dass Schönheit als offensichtlichstes Persönlichkeitsmerkmal alle weiteren, weniger offensichtlichen Persönlichkeitseigenschaften positiv beeinflusst. Insgesamt zeigen die Ergebnisse, dass geschlechtliche Produkte als attraktiv empfunden werden und ihnen aufgrund ihrer Attraktivität positive Eigenschaften zugeschrieben werden. Die Ergebnisse der durchgeführten Studie stützen somit die Übertragbarkeit der Annahmen aus der EP und Sozialpsychologie auf Produkte.

Abbildung 4: Produktdesign: Details zur Studie 3a) Produktform, 3b) Produktfarbe, 3c) Produktmaterial und 4) Ästhetik und Funktionalität

Studie	Stichprobe	Stimuli/Design	Vorgehen	Skalen
3a) Produkt-form	N= 146, 45,7% weiblich, M_{Alter}= 42,99, SD_{Alter}= 13,59	8 Produktdesigns: sich ergebend aus dem 2 (Proportionen: schmal, breit) × 2 (Form: rund, eckig) × 2 (Linien: kurvig, gerade) Design, für jede der 3 Produktsorten (Schuhe, Brille, Parfum), (within-Participants Design)	1) Bewertung des Produktgeschlechts der in randomisierter Reihenfolge gezeigten Produktdesigns (Schuhe, Brille, Parfumflakons)	**Produktgeschlecht:** *1= überhaupt nicht weiblich, 7= sehr weiblich* und *1= überhaupt nicht männlich, 7= sehr männlich*, Allison et al. 1980
3b) Produkt-farbe	N= 142, 41,2% weiblich, M_{Alter}= 44,36, SD_{Alter}= 15,59	8 Produktdesigns: sich ergebend aus dem 2 (Farben: hell [pink], dunkel [dunkel blau]), Picariello et al. 1990) × 2 (Anzahl Farben: mehr [50% grau, 40% weniger helle (dunkle) Farbe, 10% (10%) in sehr heller (dunkler) Farbe, weniger [90% grau, 10% sehr heller (dunkler) Farbe] × 2 (Reflektion: matte, glänzende Oberfläche) Design für jede der 3 Produktsorten (Schuhe, Brille, Parfum), (within-Participants Design)	1) Bewertung des Produktgeschlechts der in randomisierter Reihenfolge gezeigten Produktdesigns (Schuhe, Brille, Parfumflakons)	**Produktgeschlecht:** siehe oben, Allison et al. 1980
3c) Produkt-material	N= 212, 37,7% weiblich, M_{Alter}= 46, SD_{Alter}= 15,44	8 Produktdesigns: sich ergebend aus dem 2 (Textur: fein, grob) × 2 (Oberfläche: sanft [d.h. für Schuhe: uneben, für Brillen und Parfumflakons: eben], hart [d.h. für Schuhe: eben, für Brillen und Parfumflakons: uneben] × 2 (Gewicht: schwer [d.h. für Schuhe: Leder, für Brillen: nicht transparentes Material, für Parfum: dickes Glass], leicht [d.h. für Schuhe: Wolle, für Brillen: transparentes Material, für Parfum: dünnes Glass]) Design (within-Participants-Faktoren) für jede der 3 Produktsorten (Schuhe, Brille, Parfum) (between-Participant-Faktor)	Nur Bewertung einer Produktsorte. 1) Bewertung des Produktgeschlechts der in randomisierter Reihenfolge gezeigten Produktdesigns (Schuhe, Brille, Parfumflakons).	**Produktgeschlecht:** siehe oben, Allison et al. 1980
4) Ästhetik, Funktiona-lität	N= 1.622, 42,8% weiblich, M_{Alter}= 44,92, SD_{Alter}= 12,88	Die gleichen Stimuli wie in Studie 3a), b) und c) wurden verwendet (d.h. insgesamt 24 (8 × 3) × 3 verschiedene Produktdesigns)	Randomisierte Zuordnung eines Produktdesigns jeder Produktsorte. 1) Bewertung des Produktgeschlechts der in randomisierter Reihenfolge gezeigten Produkte (Schuhe, Brille, Parfumflakons)	**Ästhetik:** 7-Punkte bipolare Skala: *schlecht/gut, unangenehm/angenehm, unsympathisch/sympathisch, nicht schmeichelhaft/schmeichelhaft, nicht stylisch/stylisch,* Cox/Cox 2002 (Ästhetik wurde nur mit den aufgeführten 5 von 6 Items gemessen) **Funktionalität:** 7-Punkte bipolare Skala: *nicht effektiv/effektiv, nicht hilfreich/hilfreich, nicht funktional/funktional, nicht notwendig/notwendig, nicht praktisch/praktisch,* Voss/Spangenberg/Grohmann 2003 **Emotionales Gefühl durch Produkt:** 9-Punkte bipolare Skala: *Es wirkt deprimierend/Es wirkt optimistisch; Es gibt mir ein trauriges Gefühl/ Es gibt mir ein positives Gefühl; Es hat mich in eine negative Stimmung versetzt/ Es hat mich in eine positive Stimmung versetzt,* Cohen/Andrade 2004 **Unabhängige Variable:** *Absoluter Differenzwert der Weiblichkeits- und Männlichkeitswerte der Studie a-c.*

Abbildung 5: Kernthesen, Handlungsempfehlungen und Zusammenfassung

Kernthesen	• Die Evolutionspsychologie (EP) besagt, dass das Geschlecht einer Person durch physische Eigenschaften symbolisiert wird und dass eine stark sichtbare Geschlechtlichkeit zu einer erhöhten Attraktivität führt. • Der in der Evolutionspsychologie begründete Mechanismus ist so tief im Kopf der Konsumenten verankert, dass er sich auf Marken und Produkte übertragen lässt, d. h., die aus der Evolutionspsychologie bekannten Merkmale der Weiblichkeit und Männlichkeit, rufen die gleiche geschlechtliche Wahrnehmung bei Marken und Produkten hervor. • Eine Übertragung der EP und Sozialpsychologie auf Marken und Produkte bedeuten des Weiteren, dass stark geschlechtlich designte Marken und Produkte einen höheren Marken- und Produktwert besitzen als androgyne oder undifferenzierte Marken und Produkte.
Handlungs-empfehlungen	• Um den Wert einer Marke und eines Produktes zu steigern, sollten Markenmanager eine sehr weibliche oder sehr männliche Gestaltung ihrer Marke und ihres Produkts durch eine konsistente Nutzung gleichgeschlechtlicher Marken- und Produktdesignelemente vornehmen. • Markenmanager, sollten die Wahrnehmung eines weiblichen (männlichen) Markengeschlechts durch ein schmales/zierliches (breites/solides) Markenlogo, einen Markennamen mit Vorderzungenvokalen (Hinterzungenvokalen), eine kurvige/sanfte (eckige/kantige) Markenschrift und helle (dunkle) Markenfarben hervorrufen. • Zur Wahrnehmung eines weiblichen (männlichen) Produktgeschlechts sollten Markenmanager die Form: schmale (breite) Proportionen, runde (eckige) Endungen, kurvige (gerade) Linien, die Farbe: helle (dunkle) Farben, mehrere (weniger) Farben, glänzende (matte) Reflexion und das Material: feine (grobe) Texturstruktur, leichtes (schweres) Gewicht, harte (weiche) Oberfläche nutzen.
Zusammenfassung	• Die Wahrnehmungsquelle und Wirkung des Marken- und Produktgeschlechts sind weitgehend unerforscht, jedoch von besonderem Interesse für eine erfolgreiche Marken- und Produktführung. • Dieser Beitrag verdeutlicht anhand durchgeführter empirischer Studien, dass das Design einer Marke (Logoform, Name, Schrift und Farbe) und eines Produkts (Form, Farbe und Material) das wahrgenommene Marken- und Produktgeschlecht beeinflusst. • Eine stark ausgeprägte Geschlechtlichkeit einer Marke und eines Produkts wird als Kriterium für ein positives Gesamterlebnis mit der Marke und dem Produkt erkannt.

3. Fazit

Dieser Beitrag verdeutlicht die positive Wirkung der klaren Gestaltung einer Marke und eines Produkts als sehr männlich oder sehr weiblich. Die Handlungsempfehlungen sind ein Leitfaden für Markenmanager und Produktdesigner, wie stark geschlechtliche Marken und Produkte kreiert und ein positives Marken- und Produkterlebnis gefördert werden können. Der Beitrag schließt sich einer jungen Reihe der Marketingforschung an, die in der EP Erklärungen für das Konsumentenverhalten findet, und bestärkt mit seinen Ergebnissen diesen Forschungsstrang. Weitere Untersuchungen in diesem Bereich bieten ein vielversprechendes Forschungsfeld, da Implikationen zur Gestaltung von positiv wahrgenommenen Marken- und Produktpersönlichkeiten abgeleitet werden können, die letztendlich auf den Wert der Marke und des Produkts einzahlen.

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