Shaping consumer behavior

An evolutionary study on how the shape of a brand logo influences preferences and brand personality perceptions.

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Abstract

Brand logos are an ever-present part of people's everyday lives. In today's constant brand clutter, a distinct brand logo is essential in order to differentiate from competitors and build a strong brand in consumers' minds. The shape is an essential part of the brand logo. The shape itself has been found across interdisciplinary research to signal certain characteristics and influence preferences (e.g., Bar & Neta, 2006; Schmitt & Simonson, 1997). Therefore, this study aimed to investigate whether the brand logo shape influences preferences and brand personality perceptions; and if the context of a luxury brand would amplify these theoretical assumptions. An evolutionary perspective was adopted to help unravel how the logo shape triggers humans' ultimate behaviors. Analyzing the experimental data collected through a 2x2 survey experiment, we suggest that brand logo shapes influence aesthetical preferences and brand personality perceptions. Specifically, we find that a round logo is preferred and is more aligned with attributes constituting a Sincere and Sophisticated brand personality. The brand with an angular logo was instead perceived as masculine and tough, relating to a Rugged brand personality. Females disfavored the angular logo compared to the round logo, while males were more indifferent. The study provides a fresh perspective by combining concepts of marketing, psychology, biology, branding, and design in a creative manner, which further contributes to interdisciplinary academia on how to build strong brands through logo design. Thus, this research contributes a novel, evolutionary perspective on logo shape and brand personality perceptions with implications for future research.

Keywords:
Evolutionary theory, Brand logo design, Logo shape, Consumer preferences, Brand personality perceptions

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1. Introduction

"Brand identity design. Who needs it? Every company on the planet" (Airey, 2010, p. X). In today's digitalized world, consumers are exposed to more brands, impressions, and other stimuli than ever as brands have become more accessible to consumers worldwide. In a world where consumers are constantly bombarded with brand stimuli, companies are forced to break through the noise to gain consumers' attention. Thus, it is evident that the need for a strong brand is more present than ever before.

Strong brands offer significant advantages in the marketplace, such as greater customer loyalty, improved perceptions of product performance, and increased marketing effectiveness (Keller, 2013; Rust et al., 2004). Hence, many companies strive to build strong brands by creating strong, favorable, and unique brand associations (Kotler & Keller, 2015). To break through the clutter in this highly competitive environment, knowledge and understanding of how different brand stimuli can influence consumer behavior are crucial.

"A logoless company is a faceless man" (Airey, 2010, p. 10). A brand logo is a critical asset in companies' communication efforts and is thus a major part of a brand's Omni-representation (Henderson et al., 2003). Logos bombard us every day. From dusk to dawn, from left to right, brand logos are an ever-present part of people's everyday lives (Airey, 2010). Logos are present in brand advertising, social media posts, product packaging, and in-stores. It is a ubiquitous communication tool used across almost all brand touchpoints. In most cases, the brand logo is the first impression or interaction with the brand (Cian et al., 2014; Kotler & Keller, 2015; Walsh et al., 2010). Therefore, a distinct logo is crucial for instant recognition in today's constant brand clutter.

While some companies spend fortunes developing the most suitable brand logo, others feel that logo designs are inconsequential. Despite the importance of developing a distinct logo, many companies underperform in selecting logos (Henderson & Cote, 1998). In fact, poor logo design can evoke negative evaluations, disturb brand recognition, and consequently hurt the brand's image (Henderson & Cote, 1998). Thus, considerable time and money are spent ineffectively. Designing a suitable logo can offer substantial benefits to the brand, such as facilitating recognition, creating positive attitudes, and differentiation among competitors (Cian et al., 2014; Henderson et al., 2003; Kotler & Keller, 2015). The logo also contributes to building consumers' brand image and further enhances the brand's value perceptions among stakeholders (Cian et al., 2014; Van Grinsven & Das, 2014).

Thus, logos are vital in brand recognition, creating associations, and product expectations - all essential to building the brand image (Henderson & Cote, 1998; Pittard et al., 2007; Walsh, 2005). Similarly, logos are essential to obtain consumers' attention, shape consumer perceptions, and stimulate emotional affection

(Henderson & Cote, 1998; Zhong et al., 2018). This indicates the power of brand logos and the link between perceptual visual elements of the logo and consumers' cognitive reactions to brands (Henderson & Cote, 1998; Zhong et al., 2018).

Brand logos can incorporate various design elements that can be used to create a logo, such as shapes, images, size, typefaces, or colors (Celhay et al., 2015; Hynes, 2009). These aesthetic elements form the brand's style and visual identity (Schmitt & Simonson, 1997). In the constant brand noise, consumers are less likely to take time to read the communicated message; thus, the visual aesthetics are considered essential (Airey, 2010).

"From the moment we wake up to the end of each working day, we are dazzled by what we see, hear, taste, smell, and feel" (Schmitt & Simonson, 1997, p. 3). Marketing aesthetics refer to the marketing of sensory experiences that contribute to forming the brand identity (Schmitt & Simonson, 1997). Attractive aesthetics affect marketing communication significantly and provide powerful ways to differentiate products and stimulate consumer behavior (Schmitt et al., 1995; Schmitt & Simonson, 1997). Aesthetics are thus a vital part of consumers' lives, appealing to them through disparate elements (Schmitt & Simonson, 1997). Thus, research argues that marketing aesthetics play an essential role in a strong brand, as it entails attractive visuals that represent the brand and appeal to the customers' sensory experiences (Schmitt & Simonson, 1997).

Schmitt and Simonson (1997) argue that shapes are essential for psychological responses. Within studies on aesthetic preference, the shape is considered one fundamental perceptual feature for individuals' visual associations and sensations (Krider et al., 2001). "The power of shapes in aesthetics strategy is overwhelming" (Schmitt & Simonson, 1997, p. 91). The shape element in a brand logo stimulates associations, sensorial perceptions, and consumer reactions (Bar & Neta, 2006; Krider et al., 2001; Machado et al., 2015; Schmitt & Simonson, 1997; Zhong et al., 2018). This indicates the powerfulness of the shape's aesthetics in a brand logo.

Research on brand logo design emphasizes that the visual elements influence consumers both consciously and subconsciously (Maimaran & Wheeler, 2008; Pittard et al., 2007; Zhong et al., 2018). While shapes appear to come in an infinite variety, research finds an increased interest in studying angularity's effect on consumer behavior (e.g., Bar & Neta, 2006; Landwehr et al., 2011). Bar and Neta (2006) suggest that shape is a determining factor in consumer preferences and further imply that the angularity of a shape stimulates underlying perceptions. The authors suggest that the preference for or resentment towards shapes is evolutionarily motivated. Bar and Neta (2006) argue that sharp and angular objects are associated with danger and thus trigger fear cues, whereas rounded shapes are evolutionarily not harmful to the individual. This theoretical assumption means that the consumer appeals to or avoids specific shapes. This is aligned with evolutionary theory, which suggests that aesthetic preferences are evolutionarily inherited, meaning that

aesthetic preferences are universally applicable and transcend culture (Dutton, 2005). “The very universality of art strongly suggests that it is connected with ancient psychological adaptations […] as pleasures, pains, and emotion - including experiences of attraction, revulsion, awe, fear, love, respect, and loathing - have adaptive relevance” (Dutton, 2005, p. 4). This suggests that the shape has evolutionary meaning, influencing today’s consumers’ subconscious behavior considerably through, for example, brand logos and product interfaces (e.g., Bar & Neta, 2006).

While the design process of a logo might seem complex and require a huge marketing budget to achieve the recognition rates of strong brands, the proper knowledge of how the logo shape impacts consumer behavior could facilitate this process. “Anyone can design a logo, but not everyone can design the right logo” (Airey, 2010, p. 22). What if adjusting the logo shape generates desired perceptions and increases preference?

Besides the brand logo, another crucial element in building a strong brand is the brand’s personality (Cian et al., 2014; Jiang et al., 2016; Kapferer, 2010). Brands with a distinct brand personality experience benefits such as increased brand preference, customer loyalty, and emotional relationships (Aaker, 1997; Fournier, 1998). Thus, the dimensions of brand personality are considered a powerful tool in shaping consumer behavior. Previous research suggests that different shapes signal specific attributes to the consumer (e.g., Bar & Neta, 2006; Schmitt & Simonson, 1997; Zhang et al., 2006). Among those attributes are human-like characteristics. Prior research implies that humans assign human-like attributes to non-human objects, such as shapes and other visual stimuli (Aaker, 1997). This indicates that it is possible that consumers subconsciously assign human-like features to different brand logo shapes. In fact, there are similarities found between attributes stimulated by shapes that align with Aaker’s (1997) definition of brand personalities. Prior research highlights that the brand logo influences perceptions of brand personality dimensions; however, to our knowledge, no studies are founded on evolutionary theory (e.g., Batra et al., 1993; Grohmann, 2008; Luffarelli et al., 2019; Kaur & Kaur, 2019).

By providing insights into the brand logo shape and its potential influence on preferences and perception of brand personality dimensions, managers would be able to contribute practical implications to the identity process by designing logos aligned with the desired brand personality. This further implies that the dimension of angularity versus roundedness in logos is vital to be considered by managers.

Consequently, we identify a research gap where this thesis aims to provide new insights into branding academia by investigating if the logo shape affects general preferences and perceptions of brand personality, thus influencing consumer behavior. This will be studied from an interdisciplinary perspective to be able to unravel consumers’ subconscious behavior. This paper will take departure from an evolutionary perspective (e.g., Bar

& Neta, 2006; Buss, 2019; Griskevicius & Kenrick, 2013; Saad, 2011) but also apply findings from other marketing, design, and psychology academia (e.g., Aaker, 1997; Jiang et al., 2016; Schmitt & Simonson, 1997; Zhang et al., 2006). The evolutionary perspective helps provide an understanding of consumers' biologically inherited behaviors. Thus, it can help explain whether the logo shape stimulates human fundamental motives that further determine modern consumer behavior (Bar & Neta, 2006; Buss, 2019; Griskevicius & Kenrick, 2013; Saad, 2011). Other interdisciplinary key papers instead provide findings upon which evolutionary conclusions are drawn.

More specifically, this thesis aims to investigate and answer the two-sectional research questions:

- How does human's evolutionary past shape their preference for rounded and angular logos in contemporary consumption?
    - What role does gender play in preferences?
- What effect do the roundness and angularity of brand logos have on brand personality perceptions?

The following paper is divided into nine chapters. First, to be able to answer the research questions, relevant existing literature will unfold in a literature review providing insights into brand logo design and shapes, evolutionary psychology and aesthetics, and brand personality. The literature reviewed stems from interdisciplinary academia. Second, the context of luxury brands is outlined. More specifically, this research aims to investigate the research questions by presenting a fictional suitcase brand in a luxury and non-luxury context. The methodology section then follows, where the research approach, design, and course of action are described and discussed. The following chapter reveals the empirical findings, divided into two sections: brand logo preference and brand personality perceptions, where the hypotheses are either accepted or rejected, followed by interpretation and analysis of the results. The research questions are then again addressed and answered. Finally, the conclusions are followed by a general discussion and implications that highlight how the findings contribute to academia and recommendations for future research and the limitations of this paper.

2. Literature Review

This chapter outlines the key aspects of prior literature that constitute the basis for this research. The literature review is divided into thematic sections and stems from interdisciplinary findings that contribute to the construction of hypotheses.

2.1 Brand Logos

This section reviews the literature regarding brand logos, divided into the importance of logos, design elements constituting the logo, and the brand logo in relation to shapes.

2.1.1 The Importance of Brand Logos

Brand logos can be referred to as the "graphic design that a company uses to identify itself" (Pittard et al., 2007, p. 458). It is considered the most important visual symbol for the brand as it carries the brand's visual identity (Kotler & Keller, 2015; Zhong et al., 2018). Constituting various brand elements, the brand logo is thus a prominent brand feature used in disparate communication activities (Walsh et al., 2010). The logo is often the first exposure of the brand, facilitating brand recognition, and can thus be used as a marker that stimulates memory associations (Kotler & Keller, 2015; Walsh et al., 2010). The visual stimuli from the logo can create instant recognition that breaks the competitive clutter (Henderson et al., 2003; Walsh, 2005). A brand logo is, therefore, an essential key asset in brand communication and an essential factor in creating brand identity and differentiation among competitors, thus resulting in increased brand equity (Cian et al., 2014; Henderson et al., 2003; Melewar & Saunders, 2000; Pittard et al., 2007; Van Grinsven & Das, 2014). Hence, the brand logo can be designed to make the brand more tangible (Kotler & Keller, 2015), facilitating customer-brand relationships and fostering brand loyalty (Fournier, 1998).

From a consumer perspective, consumers are often first exposed to the brand logo when encountering a product and thus play a vital part in the formation of associations and attitudes toward the brand (Cian et al., 2014; Luffarelli et al., 2019; Van Grinsven & Das, 2014; Zhong et al., 2018). Van Grinsven and Das (2014) further argue that increased exposure to a brand logo leads to increased brand awareness and, thus, more positive attitudes (Cian et al., 2014). A logo can also increase consumer engagement, affect memory and consumer evaluations (Cialdini, 2016; Cian et al., 2014; Henderson & Cote, 1998). The brand logo also carries both information and meaning, which is valuable for purchase decisions as it signals certain qualities about the product (Cian et al., 2014; Jiang et al., 2016). The brand logo can thus fuel consumers' expectations about actual product appearances (Henderson & Cote, 1998).

Brand prominence is a term that helps describe to what extent a product has visible markings, such as a brand logo, that help consumers recognize the brand (Han et al., 2010). In today's materialistic world, it is not only considered important what you wear but, more importantly, what brand you wear (Twitchell, 2001). The brand logo thus signals specific characteristics of the individual possessing the product and is evidence of the person's social standing (e.g., Han et al., 2010; Henderson et al., 2003). From a consumer perspective, the display of a logo not only signals product attributes and brand signals to others but also attributes to the beholder (Berthon et al., 2009; Husic & Cicic, 2009). Consequently, products with a distinct brand logo signal attributes one might want to display to gain high status or communicate meaning about themselves to reference groups (Han et al., 2010; Husic & Cicic, 2009). Wilcox and colleagues (2009) even imply that products without a logo are less likely to serve the social functions of self-expression and self-presentation. The brand logo is thus a helpful tool for marketers to obtain consumers' attention, shape consumer perceptions, and stimulate affection (Henderson & Cote, 1998; Zhong et al., 2018).

2.1.2 Brand Logo Design

Across design literature, researchers agree on brand logos as the condensed visual representation of a company. The brand logo consists of several design elements that form a brand logo, whose unique design is used as a mark to distinguish a brand. Studies within brand logo design emphasize that diverse design elements can influence consumers, consciously and subconsciously (e.g., Maimaran & Wheeler, 2008; Zhong et al., 2018). Elements such as colors, shapes, sizes, images, ratios, and typefaces have been found to influence brand perceptions, accompanied by actual purchase intention (Celhay & Trinquecoste, 2015; Hynes, 2009; Jiang et al., 2016; Lupton, 2010; Pittard et al., 2007; Van Rompay & Pruyn, 2011; Zhong et al., 2018). This indicates the power of brand logos and the link between perceptual visual elements of the logo and consumers' cognitive reactions to brands (Henderson & Cote, 1998; Zhong et al., 2018).

Logos are static visuals that constitute various graphic and typeface elements that compose a logo that leans either toward word-driven or image-driven (Cian et al., 2014; Pittard et al., 2007). The first mentioned entails that words and letters are visible, often in the form of brand names (Bresciani & Del Ponte, 2017; Cian et al., 2014; Pittard et al., 2007). The typeface is especially important when the logo primarily consists of words. The typeface signals information, which thus can be used to communicate specific attributes to others (Lupton, 2010).

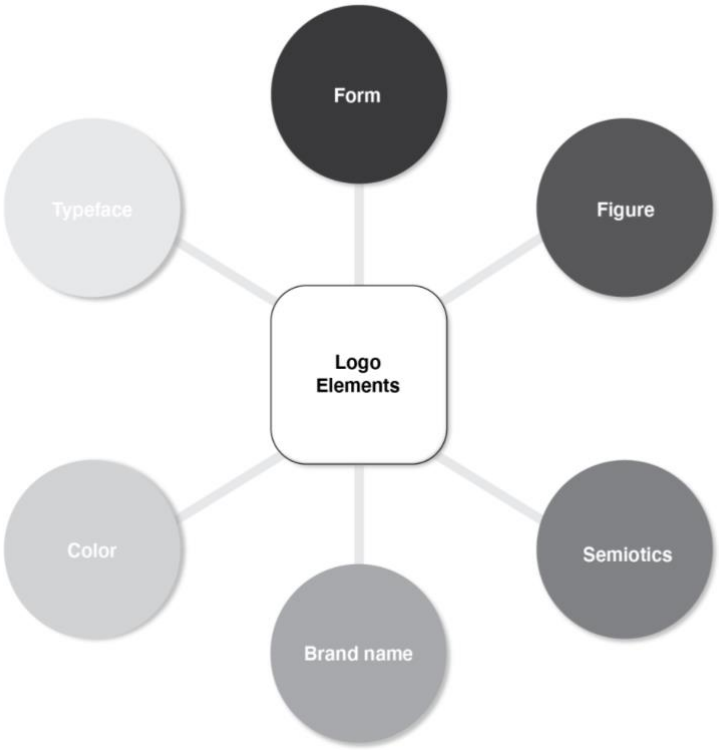
By image-driven, research implies that the logo consists of static visuals, such as illustrations, pictures, or shapes (Adir et al., 2012; Cian et al., 2014; Henderson & Cote, 1998; Pittard et al., 2007). The visual figure can either be representative of nature or completely abstract (Henderson & Cote, 1998). Illustrations can also be in the form of shapes. Adir et al. (2012) differentiate between geometrical shapes that are argued to convey

different meanings. Similarly, Schmitt and Simonson (1997) suggest that the logo's shape builds on four dimensions; size, proportion, symmetry, and angularity, which all can be used to create distinct marketing aesthetics.

Research further unravels the layers of what elements constitute a brand logo and argues that symmetry is an essential element in creating harmony and balance (Henderson & Cote, 1998). Similarly, brand elements such as complexity, depth, proportion, and size are also emphasized in literature (Henderson & Cote, 1998; Van Grinsven & Das, 2014; Luffarelli et al., 2019; Schmitt & Simonson, 1997).

Conclusively, the design elements that build the brand logo are immense. However, to make the research more tangible, the most occurring brand elements are summarized in Figure 1, emphasizing the different building blocks that form a brand logo.

Figure 1. Key Building Blocks of Brand Logo Design (Appendix A)



2.1.3 Brand Logos & Shapes

Logos are widely used in brand communications with little or no text, making the visual element even more crucial (Cian et al., 2014). As outlined above, design elements have been found to influence consumer

perceptions and purchase intentions (Celhay et al., 2015; Hynes, 2009; Jiang et al., 2016; Lupton, 2010; Pittard et al., 2007; Van Rompay & Pruyn, 2011; Zhong et al., 2018). Visual elements have also proven to impact many everyday activities and consumer behavior, from consumer choices to social judgments (e.g., Jiang et al., 2016; Munar et al., 2015). Across interdisciplinary studies on aesthetic preference, the shape is considered one fundamental perceptual feature for individuals' visual associations and sensations (Krider et al., 2001). Consequently, the brand logo shape has been linked to various associations, sensorial perceptions, and consumer reactions (Bar & Neta, 2006; Krider et al., 2001; Machado et al., 2015; Schmitt & Simonson, 1997; Zhong et al., 2018).

Research on brand logo shapes has also discovered that humans are naturally drawn to symmetric shapes (e.g., Buss, 2019), and thus also symmetric logos (Bettels & Wiedmann, 2019; Pittard et al., 2007). For instance, when the observer's self-concept was congruent with brand logo associations, the brand logo symmetry led to a spillover effect, generating an increased liking of the product design (Bettels & Wiedmann, 2019). Findings also show a preference and affective response for logos formed after what is commonly found in nature (i.e., biological features such as faces, animals, and landscapes), in contrast to abstract shapes and even cultural symbols (Machado et al., 2015). Additionally, Pittard et al. (2007) found a universal preference for a certain ratio in naturally shaped logos, namely the 'divine proportion,' meaning that a visual form is most aesthetically pleasing when aligned with the proportion.

Contrary, in studies of asymmetric logos, research shows that such logos are perceived as more exciting and arousing than symmetric logos, thus more beneficial for a company with a similar (Exciting) brand personality (Bettels & Wiedmann, 2019; Luffarelli et al., 2019). Bajaj and Bond (2017) suggest that asymmetry in brand logos evokes arousal in consumers, influencing brand impressions. However, using an asymmetric logo can be counterproductive to use it for other brand personalities, as the study showed that asymmetry makes the brand perceived as less Sincere, Competent, and Rugged. The use of asymmetric combinations of shapes and arrays of meaningless icons has also been shown to influence consumer purchases and have an underlying impact on consumer behavior (Maimaran & Wheeler, 2008).

Prior research has also examined preferences for logo size, colors, and rounded versus angular features (Bettels & Wiedmann, 2019; Han et al., 2010; Jiang et al., 2016). Jiang et al. (2016) found evidence for the logo shape's influence on consumers' perceptions of the product and brand attributes. The study found that using a rounded logo activated associations of softness, whereas an angular logo activated associations of hardness. Applied to a sofa, the authors could see that using a round logo resulted in consumers' perceiving the sofa as softer and more comfortable. In contrast, an angular logo instead emphasized the sofa's durability. Other research has also found evidence for the logo shape's impact on non-physical attributes (Zhong et al., 2018). Zhong et al.

(2018) examined the *brand elongation effect*, which indicates that strip-shaped logos prime the recipient to perceive the temporal properties of a brand or product as long compared to square-shaped logos when the temporal aspects of a product are of importance. Similarly, Jiang et al. (2016) found that a round logo and an angular logo stimulated the brand's perception as more service-minded versus competent, respectively.

In addition to Jiang et al.'s (2016) findings, numerous other scholars have investigated the rounded (i.e., circularity, curvature) and angular (i.e., sharp, rectangular, triangular, edgy) features of brand logos and their influence on consumer associations and judgments (e.g., Meiting & Hua, 2021). For instance, when studying the preference for rounded versus angular logos in the green industry, Meiting and Hua (2021) found a general preference for rounded logos. Moreover, in a study comparing preferences for angular versus rounded products, Bar and Neta (2006) found that humans prefer rounded features for hedonic products and angular features for utilitarian products, namely functional products. This also became evident in a study where the participants preferred a rounded corporate logo for a vase but instead preferred an angular corporate logo for a building (Fang & Mowen, 2005). Fang and Mowen (2005) suggest that congruence with the typical product shape is a determining factor of differences in preferences.

Based on what has been outlined above, research suggests that shapes influence the observer in many ways. Increasing research shows that the features of a shape, such as angularity, for instance, influence product expectations and brand perceptions (Jiang et al., 2016). This indicates that the roundness and angularity of a logo shape are powerful enough to influence consumer behavior. The design of rounded or angular objects seems to be frequently occurring in literature, however, not in the aspect of the brand logo. Despite the importance of brand logo design in marketing communication, empirical studies of logo design, especially in terms of a logo shape, are in branding journals scarce (Keller & Lehmann, 2006). Thus, the angularity and roundness of a brand logo is a vital area to unfold, considering the heavy brand meaning and importance of a distinguishingly designed brand logo and the strong impact shape has on visual perceptions and cognitive processes (Henderson & Cote, 1998; Prum, 2012; Zhong et al., 2018).

2.1.3.1 Angular & Rounded Shapes

"Angular forms are those that contain angles (triangles, squares, rectangles, etc.), while rounded forms have no sharp corners" (Schmitt & Simonson, 1997, p. 89). Both angularity and rounded forms involve multiple associations. For instance, angularity is often associated with masculinity, conflict, and dynamism, as well as sharp lines that often are perceived as masculine, sharp, and abrupt. At the same time, roundness and curved shapes often evoke harmony as well as softness and are often perceived as soft, feminine, and continuous (Schmitt & Simonson, 1997).

Several interdisciplinary scholars agree on the aesthetic preference for rounded design elements and that they convey emotional meaning (e.g., Bar & Neta, 2006, 2007; Carbon, 2010; Palumbo et al., 2015; Parise & Spence, 2012; Salgado-Montejo et al., 2014; Westerman et al., 2012). Previous research has linked rounder shapes to positive emotions (Salgado-Montejo et al., 2014). When participants in a study by Palumbo and Bertamini (2016) were forced to choose between two options, the curved shapes were approached to a greater extent. Rounded shapes have also been linked with softness, femininity, harmony, affection, relieving emotion, goodness, and friendliness (Aronoff, 2006; Blazhenkova & Kumar, 2018; Jiang et al., 2016; Lieven et al., 2015; Zhang et al., 2006). Contrary, angular shapes are instead linked with toughness, strength, masculinity, and exciting or surprising emotions (Blazhenkova & Kumar, 2018; Jiang et al., 2016; Zhang et al., 2006). In an IAT test study, Palumbo et al. (2015) concluded that curved shapes are associated with safe and positive concepts and female names. Meiting & Hua (2021) could also detect a preference for rounded logos in the green industry - an industry considered relatively feminine. Thus, the authors concluded that a correlation between femininity and roundedness exists. Studies have also shown that responses to shapes with smooth contours are faster than angular shapes (Bertamini et al., 2019).

The preference for rounded aesthetics has been found in several studies in various industries and is associated with pleasant emotions for products across categories (e.g., Leder & Carbon, 2005; Meiting & Hua, 2021; Westerman et al., 2012). In the packaging design industry, it was found that consumers preferred rounded designs compared to angular shapes, and the preference for rounded designs was prominent across different products (Westerman et al., 2012). The same study showed that the preference for rounded designs also correlated with purchase likelihood and higher aesthetic ratings (Westerman et al., 2012). Similar findings have been found in the automotive industry, where researchers found a general preference for rounded car interior and exterior shapes, which entailed aesthetic advantages (Carbon, 2010; Leder & Carbon, 2005). A straight design appeared innovative but relatively negative, whereas curved and less perceived innovative designs were seen as particularly attractive (Leder & Carbon, 2005).

The influence of shape goes beyond perceptions, as research shows that the angularity or roundness of a specific object can influence human senses (e.g., Blazhenkova & Kumar, 2018). Velasco et al. (2016a) found that packages and their featured shapes can convey a product's expected taste. Several studies within the food industry have presented conclusions that bitter and sour tastes (e.g., dark chocolate, caffeine) correlate with angular shapes, whereas rounder shapes correlate with sweeter tastes (e.g., Ngo et al., 2011, 2013; Salgado-Montejo et al., 2015; Velasco et al., 2015, 2016b; Wan et al., 2015). Additionally, Blazhenkova and Kumar (2018) found that the participants associated the shapes with different senses. For instance, the participants' associated angular shapes with a sour taste, loud sounds, red color, rough textures, and a spicy or citrus scent, whereas rounded shapes were associated with a sweet taste, quiet or calm sounds, green color, smooth texture,

and vanilla scent. This was also depicted in Ngo et al.'s (2011) study where milk chocolate, i.e., a sweeter taste, was rated as rounded compared to dark chocolate, i.e., a bitter taste, which was instead associated with angular shapes. Research has also found evidence supporting a correlation between shapes and scents (e.g., Hanson-Vaux et al., 2013). Sour and bitter scents like lemon and pepper were associated with angular shapes, while sweeter scents like vanilla and raspberry were associated with rounded shapes and more hedonic value (Blazhenkova & Kumar, 2018; Hanson-Vaux et al., 2013).

The influence of roundness and angularity has also been found to impact human behavior, even in physical settings (Zhu & Argo, 2013). In an experiment on various seating-shaped arrangements, the researchers saw that when the seats were arranged in the geometrical form of a circle, it primed a need to belong among the participants. An angular-shaped arrangement instead primed the need to be unique. Consequently, it was discovered that the participants were more inclined to attend to a message when primed with a message aligned with 'a need to belong' or 'uniqueness' depending on their physical setting (Zhu & Argo, 2013). The authors thus concluded that environmental cues could activate human fundamental needs and thus influence persuasion.

Table 1. Summary of Angularity and Roundness Literature

Shape	Findings	
Round, Curvature, Circular	**Preference, Attitude, Liking**	Overall preference for rounded shapes (e.g., Bar & Neta, 2006, 2007; Bertamini et al., 2015; Leder & Carbon, 2005; Carbon, 2010; Palumbo & Bertamini, 2016; Silvia & Barona, 2009; Westerman et al., 2012) Collectivistic cultural preference (Zhang et al. 2006) Positive concepts, liking (Palumbo et al., 2015; Vartanian et al., 2013)
	Associations, Emotions	Safe (Palumbo et al., 2015) Grace, beauty, attractiveness, perfection (Adir et al., 2012; Bar & Neta, 2006; Hogarth, 1753; Schmitt & Simonson, 1997; Silvia & Barona, 2009) Balance, harmony (Adir et al., 2012; Liu et al., 2018; Schmitt & Simonson, 1997; Zhang et al., 2006) Compromise, cooperating (Hess et al., 2013; Zhang et al., 2006) Feminine, female gender, female aesthetics, female names (Blazhenkova & Kumar, 2018; Etzi et al. 2016; Jiang et al., 2016; Meiting & Hua, 2021; Moss et al., 2006; Palumbo et al., 2015; Schmitt & Simonson, 1997; Van Rompay & Pruyn, 2011) Approachableness, friendliness, goodness (Aronoff et al., 1992; Larson et al., 2007; Zhang et al., 2006; Vallen et al., 2019) Warmth (Aronoff et al., 1992) Softness (e.g., soft-hearted, gentle, sympathetic, feels affection for), soft, comfortableness, consumers' judgment of customer-sensitivity (emotional involvement (Jiang et al., 2016; Liu et al., 2018; Schmitt & Simonson, 1997, Westerman et al., 2012) Considerate, warm perception, sensitive to consumer, fit leisure settings (Liu et al., 2018) Affiliative adjectives (Uher, 1991) Non-loneliness (Chen et al., 2020) Happy, happy-faces (Aronoff et al., 1992; Aronoff, 2006; Larson et al., 2011) Need to belong, closeness, comfort, respond more favorably to a

		family-oriented appeal (Zhu & Argo, 2013) Nurturing, human caregiving (Glocker et al., 2009) Pleasant, comfort, relief (Aronoff et al., 1988, 1992; Aronoff, 2006; Etzi et al., 2016; Palumbo et al., 2015) Relieved emotion, positive emotions (Blazhenkova & Kumar, 2018) Less activity, quieter affective states, love (Westerman et al., 2012) Weak, gentle, sad, quiet, lazy, mild (Lundholm, 1921) Childlike characteristics (Hellén & Sääksjärvi, 2013) Innovative, less aggressive (Gómez-Puerto et al., 2016) Higher willingness to buy, purchase likelihood, higher ratings of aesthetics (Gomez-Puerto et al., 2016; Westerman et al., 2012) Continuous, naturally symmetrical (Schmitt & Simonson, 1997)
	Sensorial Perceptions	Bouba, wide-vowel names (e.g., Blazhenkova & Kumar, 2018; Köhler, 1929; Ramachandran & Hubbard 2001, 2003) Quiet, calm sound (Blazhenkova & Kumar, 2018) Sweet taste (e.g., Blazhenkova & Kumar, 2018; Ngo et al., 2011, 2013; Salgado-Montejo et al., 2015; Velasco et al., 2015, 2016b; Wan et al., 2015) Sweet scent, vanilla, raspberry, (e.g., Blazhenkova & Kumar, 2018; Hanson-Vaux et al., 2013) Green color (Blazhenkova & Kumar, 2018) Smooth texture (Blazhenkova & Kumar, 2018)
Angular, Sharp, Edgy, Linear, V-form	**Preference, Attitude, Liking**	Overall disliking (Bar & Neta, 2006) Male preference (Moss & Colman, 2001) Individualistic cultural preference (Zhang et al., 2006) Negative concepts (Palumbo et al., 2015)
	Associations, Emotions	Danger, threat, aggressiveness, antagonistic (Aronoff et al., 1998; Bar & Neta, 2006, 2007; Bertamini et al., 2015; Larson et al., 2007, 2009; Palumbo et al., 2015; Uher, 1991) Robust, vigorous, dignified (Hevner, 1935) Potency-related concepts, Dynamism, power, strength, toughness, ruggedness (Adir et al., 2012; Heider & Simmel, 1944; Schmitt & Simonson, 1997; Van Rompay & Pruyn, 2011; Zhang et al., 2006) Energy, effectiveness, more active (Schmitt & Simonson, 1997; Westerman et al., 2012; Zhang et al., 2006) Sharp, abrupt, choppy, hardness, hard, harsh, cruel, agiating, furious, serious (Jiang et al., 2016; Lundholm, 1921; Schmitt & Simonson, 1997) Conflict, confrontation, competition, anger, angry faces, bad (Aronoff, 2006; Aronoff et al., 1992; Hess et al., 2013; Larson et al., 2007, 2011; Schmitt & Simonson, 1997; Zhang et al., 2006) Negative emotions (Blazhenkova & Kumar, 2018) Masculinity, male gender, male names, male aesthetics (Blazhenkova & Kumar, 2018; Moss et al., 2006; Palumbo et al., 2015; Van Rompay & Pruyn, 2011; Schmitt & Simonson, 1997) Stability, durability (Adir et al., 2012; Jiang et al., 2016) Clever, intelligence, extroverted (Milan et al., 2013) Excited or surprised emotion (Blazhenkova & Kumar, 2018) Competence (Liu et al., 2018; Zhang et al., 2006) Greater financial resources (Vallen et al., 2019) Individuality, need to be unique, loneliness (Chen et al., 2021; Zhang et al., 2006; Zhu & Argo, 2013)
	Sensorial Perceptions	Kiki, narrow-vowel names (e.g., Blazhenkova & Kumar, 2018; Köhler, 1921; Ramachandran & Hubbard 2001, 2003) Loud or dynamic sound (Blazhenkova & Kumar, 2018) Bitter or sour taste (e.g., Blazhenkova & Kumar, 2018; Ngo et al., 2011, 2013; Salgado-Montejo et al., 2015; Velasco et al., 2015, 2016b; Wan et al., 2015)

		Bitter, sour, and spicy scents, citrus, pepper, (e.g., Blazhenkova & Kumar, 2018; Hanson-Vaux et al., 2013) Red color (Blazhenkova & Kumar, 2018) Rough texture (Blazhenkova & Kumar, 2018)

Based on what has been outlined above, it is apparent that research has provided evidence on the influence of shapes on consumer behavior. Research within different disciplines provides findings and adds foundation to the literature on how consumers are affected by angularity or roundness. Literature shows that rounded and angular shapes differ in associations (Table 1). Although these findings can be interpreted as culturally founded, research provides additional explanations for why these perceptions might occur.

Consumer behavior and purchase intentions are subconsciously influenced by humans' adaptive inherited behaviors (Griskevicius & Kenrick, 2013; Saad, 2011). Research provides evidence that consumers' decision processes vary depending on which evolutionary motive is activated (Griskevicius & Kenrick, 2013; Saad, 2011). Thus, the evolutionary perspective can help understand consumers' biologically inherited behaviors (Bar & Neta, 2006; Buss, 2019).

The preference for curved shapes has been examined in interdisciplinary research, for instance, as a cultural phenomenon and linked to the mere exposure effect (Bornstein & D'Agostino, 1994). Recent studies, however, support the idea that the human preference for curved contours, and negative emotions toward sharpness, are biologically inherited (e.g., Bar & Neta, 2006; Buss, 2019; Gómez-Puerto et al., 2016). To our knowledge, research provides limited evidence of how the logo shape in terms of angularity and roundness affects consumer behavior, and especially preferences, from an evolutionary perspective. Evolutionary theory can thus help explain the underlying forces that drive individuals' preferences and behaviors due to a particular logo shape, thus constituting a relevant perspective and depth to this research. Hence, a research gap has been identified to which this thesis will contribute.

2.2 Evolutionary Aesthetics

As outlined above, a brand logo is built on key design elements, which are found to stimulate perceptions, influence preferences, and trigger consumer behavior. Evolutionary aesthetics is a subcategory of evolutionary psychology that suggests universally applicable visual preferences. Therefore, before introducing evolutionary theory, evolutionary aesthetics will constitute the preface to the evolutionary perspective.

2.2.1 Universal Aesthetical Preferences

Art is defined as "the expression or application of human creative skill and imagination, typically in a visual form such as painting or sculpture, producing works to be appreciated primarily for their beauty or emotional power" (Oxford University Press, n.d.-a, para. 8). Throughout history, humans have expressed themselves through art in different formats (Dutton, 2005). Many scholars agree that art is culturally dependent and conditioned, as cultures determine the uniformity of aesthetic taste (Dutton, 2005). Although what is considered beautiful seems subjective, as "it is in the eyes of the beholder," it travels easily across cultures (Dutton, 2005, 2009). Historically, art has been admired in distant lands and even in distant centuries without ever visiting those lands or historical times (Zaidel, 2010). Thus, what is created in Japan is hypothetically also appreciated in Peru, and what was created centuries ago still influences modern art (TED, 2010; Zaidel, 2010).

Darwin first coined the term *evolutionary aesthetics,* which has in modern times transformed into a theoretical approach that infers that humans' tastes and preferences for aesthetics arise from an evolutionary process and evolved adaptive functions (e.g., Davies, 2012; Dissanayake, 2001; Dutton, 2005; Luczaj, 2015; Portera & Bartalesi, 2016; Thornhill, 1997, 2003). This means that aesthetic preferences are rooted in the theory of natural and sexual selection (Dutton, 2005; Thornhill, 1997, 2003). Researchers agree that art owes its existence to evolution, meaning that there exist universal preferences for art and aesthetic pleasures that transcend culture (Chatterjee, 2013; Coss, 2003; Dissanayake, 2001; Dutton, 2005, 2009; Ruso et al., 2003; Zaidel et al., 2013). Dissanayake (2001) even coined the term 'homos aestheticus,' indicating that art is an actual realization of our human nature. On the other hand, Dutton (TED, 2010) attempts to reconstruct Darwinian theory to explain these universal values. Thus, Dutton (2005; TED, 2010) demonstrates that to understand human aesthetic preferences, one must look back to our prehistoric ancestors and their environment and the social situations they had to adapt to.

According to scholars, the experience of beauty, with its emotional intensity and pleasure, belongs to evolved human psychology and is a component in a whole series of Darwinian adaptations (Dutton, 2005; Thornhill, 1997). This implies that the experience of beauty is one component of how evolution encourages humans to make the most adaptive decisions for survival and reproduction (TED, 2010). The aesthetic pleasure of specific landscapes, i.e., the *savanna hypothesis* (see Appendix B), works of art, human beings, preferred mate body ratios, color preferences, and shapes tend to be similar across cultures, although people do not have it geographically close (Bar & Neta, 2006; Buss, 2005, 2019; Coss, 2003; Dutton, 2005, 2009; Grammer et al., 2003; Orians & Heer-wagen, 1992; Portera & Bartalesi, 2016). Thus, the authors argue that this similar visual experience stems from human evolution and the ancestors' need for survival and reproductive success (Buss, 2005, 2019; Portera & Bartalesi, 2016). This implies that humans have an 'art instinct' (Dutton, 2009).

Scholars within archeology indicate that one of the earliest types of artworks is considered to be old cave paintings (TED, 2010; Zaidel et al., 2013). However, archeologists have found artistic skills in the form of shell necklaces and body painting even before that (TED, 2010; Zaidel, 2010). The most ascent artwork can be linked back to the Pleistocene period, millions of years ago, even before humans could communicate through language (Barkow et al., 1992; TED, 2010). This is in the archeological finding of the Acheulean hand ax, considered an ancient form of artwork where human ancestors carved the stones into aesthetically pleasing symmetrical teardrop-or leaf-shaped ovals (Kohn, 1999; TED, 2010). The hand-carved stones signaled fitness-relevant desirable qualities of the crafter, such as advanced skills and further increased status among those who possessed one (Dutton, 2005; Kohn, 1999).

Several studies have examined evolutionary aesthetic preferences in modern human behavior. Dutton (2005; TED, 2010) suggests that artwork such as movies, music, paintings, and other artistic skills is created to express and stimulate intense emotions. He implies that the modern preference for a big engagement ring with an oval-shaped diamond does not exclusively stem from cultural influence but is a developed preference that stems from distant ancestors who loved the oval shape, i.e., the Acheulean ax (TED, 2010).

Another common finding is that people prefer shiny and sparkly objects as glossiness connotes water (Coss, 2003; Coss & Moore, 1990; Meert et al., 2014; Silvia et al., 2018). Similarly, preference for rounded features in products is suggested to stem from what is naturally found in nature. At the same time, angular shapes convey a sense of threat and thus trigger negative avoidance responses (Bar & Neta, 2006). Preferences have also been found with regard to symmetry (e.g., Buss, 2019; Chatterjee, 2013), curvature features (Cotter et al., 2017; Gómez-Puerto et al., 2016; Palumbo & Bertamini, 2016), and markers of health and fertility in human faces (Buss, 2019; Chatterjee, 2013; Rhodes, 2006). Various natural elements have further been linked to positive outcomes such as well-being and pleasure (e.g., Ulrich, 1983, 1984).

Humans' powerful reactions to aesthetic expressions are an emergent consequence of sensory perception, cognitive evaluation, and choice (Prum, 2012). Aesthetic experiences are assumed to have evolved by preexisting neural systems with innovations that occurred throughout the human lineage, giving rise to symbolic expression through many different forms of material culture (Zaidel et al., 2013). Therefore, the preference or dislike of particular objects and shapes can thus be explained from an evolutionary perspective.

2.3 The Evolutionary Lens

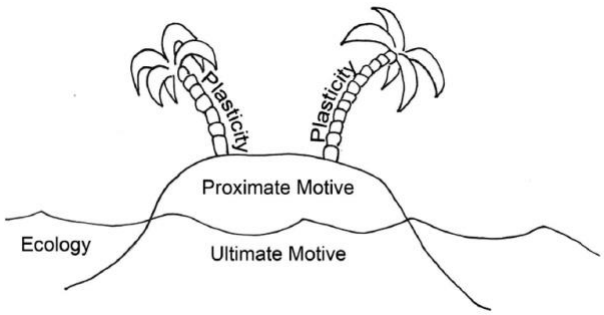
The evolutionary theory accounts for the evolved human mind and how it expresses itself in modern human behavior (Buss, 2019; Griskevicius & Kenrick, 2013; Saad, 2011, 2013). It predicts and accounts for the

existence and structure of human phenomena such as cooperation, aggression, sexual desire, love for kin and family, and the formation of in-groups, among other human phenomena that occur similarly across cultures (Buss, 2019; Tooby & DeVore, 1987). Evolutionary psychology can be used to study general consumer behavior and preferences (Saad, 2007, 2011, 2013). Applying an evolutionary lens can thus help explain what effect the logo shape has on consumers' subconscious processes (Griskevicius & Kenrick, 2013; Saad, 2007, 2011, 2013). Similarly, the logo shape's influence on brand personality perceptions will be explored through an evolutionary perspective.

2.3.1 Understanding Evolutionary Motives

The ocean and islands model, Figure 2, aims to explain all essential factors in order to predict and understand different consumer behaviors in varying contexts (Kock et al., 2020). The model is divided into four components: *plasticities, proximate motives, ultimate motives*, and *ecology* (Kock et al., 2020). The model will be used as a framework to bring forth evolutionary psychology more comprehensible.

Figure 2. The Ocean and Islands Model (Kock et al., 2020)



Plasticities refer to observable behavior (Kock et al., 2020). For example, a woman purchasing chocolate, a man deciding on a luxury bag, or a woman buying a beauty brand with a round logo. These observable consumer behaviors are translated into different plasticities, driven by certain motives (Kock et al., 2020). The first-to-come-to-hand explainable motives are the *proximate* motives, which are the intuitive and directly observable explanations of a specific behavior (Kock et al., 2020). These motives are examined in traditional marketing research and are commonly used to explain various consumer behaviors (e.g., Arnould et al., 2005; Dunn et al., 2011; Kotler & Keller, 2015; McCracken, 1986; Szmigin & Piacentini, 2018; Underhill, 1999). To exemplify, the woman who purchased the chocolate was probably driven by hunger, the man who decided on a luxury bag was driven by the likelihood of gaining credit from his surroundings, and the woman who purchased the beauty brand with a round logo might have been because it was more visually appealing.

The model further presents what is underneath the island's tip, a metaphor for the *ultimate* motives (Kock et al., 2020). These motives transcend cultural explanations and are viewed as underlying activators that trigger the proximate motives and thus also plasticities. By adding the ultimate motives as an adapting function to the

framework, the authors try to add an evolutionary explanation to consumer behavior (Kock et al., 2020). This is to understand the causes of certain behaviors and what adaptive problems the behaviors will solve (Kock et al., 2020). For example, the woman purchased chocolate due to the proximate motive of hunger. However, the ultimate motives state that humans were rewarded for eating high in fat and sugar food, which secured survival (e.g., Buss, 2019; Dutton, 2005; Griskevicius & Kenrick, 2013; Saad, 2011).

Similarly, the man bought a luxury bag due to the proximate motive of gaining status. However, the ultimate motive explains that gaining status was a crucial aspect of survival and reproduction of offspring, as a more dominant role in the social hierarchy secured food and a mating partner (Buss, 2019; Saad, 2011). Lastly, the plasticity of purchasing a beauty product with a round logo might be due to visual appeal. However, exposure to the round brand logo might be explained by survival mechanisms, as rounded shapes were less harmful to the individual and conveyed a sense of safety. Thus, exposure to the round logo activated the ultimate motives and steered the purchase decision. Therefore, the ultimate motives are seen as underlying triggers for the proximate motives and actual behavior (Kock et al., 2020). Lastly, the model depicts that the ultimate motives are surrounded by socio-ecological factors that further explain how the surrounding environment, i.e., *ecology*, activates the ultimate motives and drives specific behavior (Kock et al., 2020; Sng et al., 2018). See Appendix C.

To fully understand and predict how the consumer behaves in a particular context; it is necessary to understand what ultimate motive is activated (Kock et al., 2020). The ultimate motives are linked to humans' unconscious processes and can be explained from a biological, i.e., evolutionary perspective (Kock et al., 2020). Thus, certain observable behaviors stem from the inherited motives that our ancestors developed to survive (Griskevicius & Kenrick, 2013). In contrast to the proximate motives generally analyzed in consumer behavior research (e.g., striving to feel pleasure, happiness, and satisfaction; Dunn et al., 2011), evolutionary psychology stems from the ultimate motives (Griskevicius & Kenrick, 2013; Kock et al., 2020). This means that humans' adaptive inherited behavior subconsciously influences consumer behavior and purchase decisions (e.g., Griskevicius & Kenrick, 2013; Saad, 2011). The model, therefore, aims to illustrate how evolutionary psychology still influences modern behavior (Kock et al., 2020).

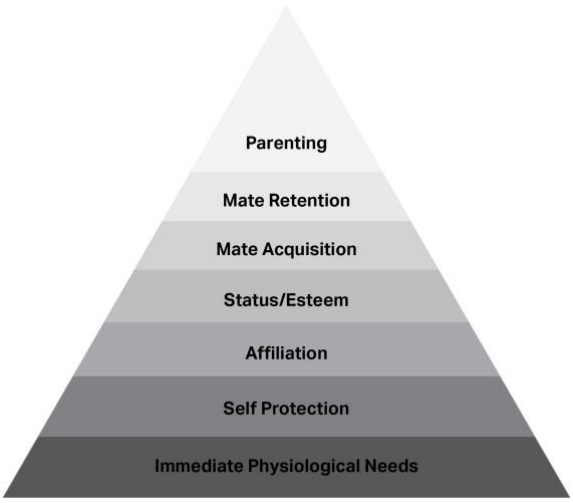
2.3.2 Human Fundamental Motives

The ultimate motives are central to evolutionary psychology (Griskevicius & Kenrick, 2013). Buss (2019) argues that evolutionary psychology is an interactionist framework, meaning that it is founded on the belief that human behavior is a consequence of (1) evolved adaptations and (2) environmental cues that trigger the development and activation of these adaptations (Buss, 2019; Dutton, 2005). Thus, it encompasses environmental influence and is not solely determined by genetics (Buss, 2019).

Pinker (2003), however, argues that "in the study of humans, there are major spheres of human experience beauty, motherhood, kinship, morality, cooperation, sexuality, violence - in which evolutionary psychology provides the only coherent theory" (p. 135). This means that the evolutionary perspective is sometimes the utter explanation for various human behaviors. In recent decades, the evolutionary discipline has become more prevalent in research, and the science of evolutionary psychology has since emerged (Buss, 2019). Thus, the theory of evolutionary psychology now comprises findings from assorted disciplines of the mind that express themselves through different modern behaviors (Buss, 2019; Saad, 2011).

Many researchers argue that modern behavior can be better understood by studying links to the ancestral past (Griskevicius & Kenrick, 2013). In evolutionary research, these adaptive motives can be linked to seven fundamental motives: *evading physical harm, avoiding disease, making friends, attaining status, acquiring a mate, keeping a mate,* and *caring for family* (Griskevicius & Kenrick, 2013). These motives provide an understanding of how humans' ancestral adapted behavior still influences modern human behavior. Depending on what motive is activated, it is possible to predict a person's preferences, behavior, and decision process (Griskevicius & Kenrick, 2013; Saad, 2011).

Figure 3. Hierarchy of Fundamental Human Motives (Durante & Griskevicius, 2016)



As illustrated in Figure 3, the fundamental motives are presented in a framework highlighting the evolutionary challenges our ancestors had to adapt to in order to solve. The activation of a particular motive system is triggered by environmental cues related to a specific evolutionary challenge. Further, it determines what the individual should be attentive to, their memory, cognition, and preferences (Durante & Griskevicius, 2016).

This framework can thus help explain and demonstrate how, why, and when the consumers' preferences and behaviors vary depending on what adaptive challenge is aimed at solving.

Durante and Griskevicius (2016) further argue that a "fundamental motive can be activated or primed by external or internal cues indicating threats or opportunities related to a specific evolutionary challenge" (p. 27). The activation of a specific motive system can result in a person preferring and seeking products that facilitate achieving the given ultimate need (Griskevicius & Kenrick, 2013; Saad, 2011). Internal cues relate to, for instance, hormonal fluctuations such as men's level of testosterone or women's ovulatory phase (Durante & Griskevicius, 2016; Griskevicius & Kenrick, 2013; Saad, 2011). External cues imply that the fundamental motives can be stimulated and activated through an interaction with an external threat or opportunity from the surrounding environment, i.e., ecology (Durante & Griskevicius, 2016). This implies that the brand logo constitutes an external cue and applying these motives will provide valuable insights into whether and why the logo shape interacts with preferences and perceptions of the brand.

The motives that will be applied in this study are *evading physical harm, affiliation, attaining status, acquiring a mate,* and *kin care.* For additional explanations of all motives, read Appendix D.

2.3.2.1 Motive of Evading Physical Harm

The fundamental need for survival is considered humans' most crucial motive (Buss, 2019; Griskevicius & Kenrick, 2013). Although reproduction is critical for the evolutionary process of natural selection, humans must survive to secure their offspring (Buss, 2019). The threat of environmental survival, or as Darwin put it, "the hostile forces of nature" (p. 145), activates the motivation of avoiding physical harm, an intrinsic survival behavior (Buss, 2019). The hostile forces include, e.g., extremes of climate and weather, food and water shortages, diseases, predators, or hostile members of the same species (Buss, 2019). All living species are descendants of ancestors who conquered these hostile forces and adaptive problems of survival (Buss, 2019).

The self-protection system is automatically activated by triggers signaling physical danger, such as threatening objects or situations, e.g., angry faces, poisonous animals, heights, strange people, sharp stones, or simply the dark (Buss, 2019; Griskevicius & Kenrick, 2013; Schaller et al., 2003). Whenever exposed to environmental cues that signal danger, this will elicit the emotion of fear (Buss, 2019; Schaller et al., 2003). *Fear* is defined as "the usually unpleasant feeling that arises as a normal response to realistic danger" (Marks, 1987, p. 5), which helps humans avoid the threat and take rapid action against danger. Bar & Neta (2006) suggest that sharp-angled objects, from an evolutionary perspective, trigger emotions of fear and consequently activate behavioral responses to be able to face or escape the danger. Thus, fear has an obvious survival value (Buss, 2019).

Research also shows sex differences in developing fears and phobias (Buss, 2019). Although males, evolutionary-wise, have been more exposed to threats, females report a greater fear of events that might harm them (Fetchenhauer & Buunk, 2005). The authors imply that these differences in fear development stem from sexual selection, meaning that risk-taking strategies were beneficial to men in obtaining status, gaining resources, and succeeding with mating (Fetchenhauer & Buunk, 2005). Thus, risky, and frightening situations and the reward they provide have conditioned males to seek these situations to a greater extent than females (Buss, 2019; Fetchenhauer & Buunk, 2005). Findings even show that human children are more afraid of male strangers, indicating that the male gender, from an evolutionary perspective, has been considered more dangerous (Heerwagen & Orians, 2002). However, for females, the strategy of being cautious instead protected their offspring (Buss, 2019; Campbell, 2013).

Still, in the modern world, fear cues enhance performance (Buss, 2019). Consumers are not as exposed to physically dangerous situations in today's modern society. As a result, people tend to take fewer risks (Lerner & Keltner, 2001), prefer the status quo (Jost & Hunyady, 2005), and be averse to losses (Li et al., 2012). Research has also shown that people today are generally more reluctant to face a wide width-to-height ratio (fWHR) as the wideness signals dominance and aggression and thus elicits fear (Geniole et al., 2015; Maeng & Aggarwal, 2018).

2.3.2.2 Motive of Affiliation

Humans are social animals (Griskevicius & Kenrick, 2013). Through evolution, humans have always lived in groups and social constellations to increase the profitability of survival (Griskevicius & Kenrick, 2013). One aspect of why forming coalitions was crucial for survival was the sharing of resources, which prevented starvation and thus also death (Buss, 2019; Griskevicius & Kenrick, 2013). Single individuals were much less likely to succeed in hunting large animals, so forming coalitions helped secure food and resources (Buss, 2019). Hunting also attempts to explain why humans are unique among primates in having long-term, extensive reciprocal relationships of altruism and social exchange (Tooby & DeVore, 1987).

Similarly, hunting can be linked to the division of labor between the sexes (Buss, 2019). Males' more muscular bodies, especially their upper bodies, were more suited for throwing spears or handling weapons in hunting contexts. Thus, this attempts to explain men's strong coalitions, reciprocal alliances, social exchange among friends, sexual differences in the division of labor, and the development of stone tools (Buss, 2019).

Similarly, friends and allies also provided shelter (Buss, 2019). Having allies increased protection from other human clans or animal species and being alone drastically reduced the chances of survival (Buss, 2019). Thus,

being a part of a cooperative coalition provided some security against attacks from other groups and helped achieve goals (Buss, 2019). Therefore, forming alliances is an evolved specialized psychological adaptation that promotes having allies as people experience intense psychological pain at the threat of being excluded from a valued group (Buss, 2019).

The affiliation system is triggered by friendship cues, such as new friendships, being a part of a group, or the threat of social rejection, and activates the need to fit in and to belong (Griskevicius & Kenrick, 2013). The motive promotes the reinforcement and maintenance of existing friendships and drives the motive to make new allies (Griskevicius & Kenrick, 2013). In today's modern world, having friends is equally important, and humans invest heavily in creating new friendships and maintaining relationships. Thus, people still experience pleasure by being members of a group (Buss, 2019). Research also shows that when the affiliation system is triggered, people tend to spend money on others, on products that make the consumers closer to and help them fit in with their in-group, and rely more on word-of-mouth (Griskevicius & Kenrick, 2013; Mead et al., 2011; Ward & Broniarczyk, 2011).

2.3.2.3 Motive of Attaining Status

From an evolutionary lens, humans do not only desire to affiliate with other human beings, but they also seek status in their group (Buss, 2019). The motive of status is strongly associated with dominance and is thus correlated with "survival of the fittest," a well-known phrase from Darwinism (Buss, 2019). This is due to dominance as a crucial aspect in surviving during ancestral times, and the respect of others included lots of benefits (Buss, 2019; Griskevicius & Kenrick, 2013). All human groups are designed with a hierarchical structure, especially male groups (Buss, 2019). A dominance hierarchy implies that higher-ranking individuals within a group secure better access to critical resources that contribute to survival or reproduction (Cummins, 1998). The fact that the phenomena of hierarchies are considered a universal concept indicates that status is an adaptive problem for solutions to advance and strategies to cope with subordination (Buss, 2019).

Status hierarchies are not static, meaning that individuals continually must compete for an elevated position and thus sometimes infringe on the dominance of a dominant male (Buss, 2019). One route to achieving status is through dominance, overpowering others, and forcing defense (Buss, 2019; Griskevicius & Kenrick, 2013). De Waal (1982) noted that a dominant male increased sexual access to females, making this a powerful adaptive rationale for the evolution of dominance-striving mechanisms. Gaining a solid position within a group secures survival-related resources, such as increased sexual opportunities (Buss, 2019; Sapolsky, 2005) and the security of obtaining food (Sapolsky, 2005). A strong, dominant alpha male could claim the best spot at the water hole, claim food, and attract the most desirable mate (Sapolsky, 2005). Contrastingly, failure to provide food for the group could instead lead the male to lose status in the hierarchy (Buss, 2019).

Hawkes (1991) proposes the *show-off hypothesis*, suggesting that the female gender prefers males that show off their resources. By showing off resources, e.g., giving what is left to 'neighbors,' the females could benefit and receive a portion of it. Thus, the hypothesis implies that women in shortage gave hunters favorable treatment to their advantage, e.g., offering sexual favors, siding in arguments, and taking extra care of children to secure food (Hawkes, 1991). Thus, males who engaged in hunting and showed off their pray benefited in various ways, including sexual access to women, which increased their likelihood of reproduction and better childcare from neighbors (Buss, 2019). Hawkes's (1991) hypothesis thus argues that men not only hunted to provide their own families with food but to gain the status that came with sharing their catch with others (Buss, 2019). Buss (2019) also argues that women value qualities in men linked to the acquisition of resources, such as social status, intelligence, competence, and women tend to be more drawn to men who appear to have resources.

Dominant facial attributes (fWHR) work as a cue to dominant behavior and the perception of dominance in other individuals (Lefevre et al., 2013, 2014). The association between a dominant face structure and behavior may be caused by testosterone, thus correlating with masculinity (Lefevre et al., 2013). Specific facial attributes, such as a prominent chin, muscular face, heavy brow ridges, and broad face, communicate information about social dominance and position in the status hierarchy (Keating, 1985). From an evolutionary perspective, the more dominant a male appears to be, the better his position in the group hierarchy (Buss, 2019). Thus, appearing dominant was a survival-relevant mechanism to secure food and increase the likelihood of reproduction (Buss, 2019).

The dominant signals of wider faces are prevalent in product design (e.g., Landwehr et al., 2011; Maeng & Aggarwal, 2018). Intending to be perceived as more powerful, consumers preferred wider interfaces on their products, such as watches and cars. This is because wider faces are perceived as more aggressive and dominant, thus signaling increased status to others (Maeng & Aggarwal, 2018). Similarly, the physical body size is an essential factor of dominance, as greater physiques increase the chances of winning a battle (Buss, 2019). Research has even found that non-physical attributes can generate an enhanced status through characteristics such as competence, knowledge, generous displays, and social skills (Buss, 2019). Overly confident people can also raise their status, as the group selects leaders based on perception and not actual competence (Griskevicius & Kenrick, 2013).

Dominant traits have been maintained beneficial in today's society, as people with higher status levels are considered to have more social influence, material resources, higher self-esteem, and are healthier (Griskevicius & Kenrick, 2013; Marmot, 2004). Status is also shown to be a dangerously powerful force, as

studies show that people are more prone to committing suicide due to sex-linked 'defeats' in evolutionarily relevant domains, which, specifically for men, is linked to loss of occupational status (Saad, 2007). Thus, this highlights that men are more motivated to strive for status than women and that status has a high impact on one's health (Buss, 2019; Marmot, 2004).

Finally, status motives are activated by threats or opportunities to gain status through cues such as competition, dominance, prestige, awe, and envy (Griskevicius & Kenrick, 2013). When one's power is threatened, people are more prone to prefer products linked to status (Rucker & Galinsky, 2008) and be more aware of the status the products signal (Dubois et al., 2012). The activation of the status motive thus increases aggressive behavior, which increases the likelihood of people purchasing larger and more imposing products (Dubois et al., 2012; Griskevicius et al., 2009). The motive can also be triggered by prestige, such as highly regarded people or products, which leads people to seek more prestigious products (Griskevicius & Kenrick, 2013; Ivanic et al., 2011; Rucker & Galinsky, 2008).

2.3.2.3.1 Costly Signaling & Status

Costly signaling is a phenomenon found among all species (Saad, 2007). Living species can express their strength, health, intentions, status, and so on simply through their physical attributes or behaviors (BliegeBird & Smith, 2005; Voland, 2003). Thus, this provides the receiver with important information about the sender (BliegeBird & Smith, 2005). The term was first coined by Veblen (1899) and stems from signaling theory, which describes behaviors when two parties have access to different information and how signaling can reduce information asymmetry (Connelly et al., 2011).

The concept of costly signaling is fundamentally related to mating strategies and can provide insight into consumer behavior (e.g., Sundie et al., 2011). Costly signaling proposes that animals and humans send signals about their survival-relevant fitness, i.e., desirable qualities and characteristics, through costly displays to prove the worthiness of the mate (BliegeBird & Smith, 2005; Saad, 2007; Sundie et al., 2011), or as an attractive coalitional ally (Buss, 2019). The theory is often associated with the theory of the peacock's tail (Dutton, 2005; Sundie et al., 2011; Voland, 2003), which exemplifies how costly signaling is used in the animal kingdom. The *peacock's tail theory* says that the showing-off of males' large, colorful tails encounters a risk-seeking behavior that indicates survival-relevant fitness (Cronin, 1991; Sundie et al., 2011; Zahavi & Zahavi, 1997). This means that the peacock affords a large tail because it is strong and dominant enough to manage to flee from predators or counter parasites (Sundie et al., 2011; Voland, 2003; Zahavi & Zahavi, 1997). Therefore, the peacocks with the largest, most complex, and most symmetrical tails attract the most desirable females (Dutton, 2005; Sundie et al., 2011; Voland, 2003). Thus, the benefit of growing a large tail has a positive payoff for males that can afford it.

However, costly signaling is not limited to the animal kingdom (e.g., Buss, 2019; Saad, 2011). The same principle applies to humans, i.e., *Crazy Bastard Hypothesis*, where males who willingly were exposed to dangerous situations were regarded as larger, stronger, more robust, aggressive, braver, and courageous, which consequently led to an increased status within the group (Chagnon, 1983; Hill & Hurtado, 1996). Especially younger, unmarried men were more inclined to engage in risky forms of aggression to enhance their social status (Wilson & Daly, 1985). Fighting with enemies is costly behavior for the individual; although winning, there exists a risk of being injured, losing energy, and so on (Buss, 2019). Males who took physical risks strengthened others' perception of their physical formidability and information passed on to others through social reputation (Buss, 2019). A strong social reputation translates to increased status and dominance. Thus, the relevance of social reputation also accounts for why we bestow prestige and status to those who take risks and succeed, as it increases the predictions of future success in similar situations and them possessing a better social reputation (Zahavi & Zahavi, 1997).

In today's modern world, wasteful, i.e., costly behavior, functions as a reliable signal of desirable individual qualities (Saad, 2007). For the costly signal to be reliable, the signal must be readily observable, hard to imitate (Goranova et al., 2007), and associated with unobservable but desirable individual qualities, e.g., good genes, health, and wealth (Saad, 2007; Sundie et al., 2011). Today, costly signaling can be used in aspects of nonconformity, altruism, prosocial signaling, and conspicuous consumption, among others (Bellezza et al., 2013; Buss, 2019; Saad, 2011; Sundie et al., 2011), and only those in excellent condition can afford to display costly acts (Buss, 2019).

2.3.2.4 Motive of Acquiring a Mate

Mate acquisition is considered the most crucial aspect of human survival, as the reproduction of our genes secures the lives of future generations (Buss, 2019). The mate acquisition system motivates humans to acquire a mate in order to reproduce their offspring (Griskevicius & Kenrick, 2013). The motive is triggered by attractive and desirable members of the opposite sex or by romantic and sexual cues (Griskevicius & Kenrick, 2013). When this motive is activated, people tend to feel a need to be unique, thus standing out from the crowd and seeking attention for themselves to inform and display to others their desirability as a mating partner (Griskevicius & Kenrick, 2013).

The urge to stand out from others to acquire a mate is equally desired by both men and women. However, the two genders tend to draw attention to themselves in different ways (Griskevicius & Kenrick, 2013). The motive of seeking a mate is closely aligned with the theory of sexual selection and is, in its nature, demonstrated through costly signaling (Buss, 2019). Thus, the male uses risky signals to express an increased level of dominance and survival fitness to attract the most desirable mate (Buss, 2019). Some mates are more desired

and thus preferred over others (Buss, 2019). In ancestral times, hunting food for kin, avoiding enemies, and staying warm, were crucial for survival (Buss, 2019). Thus, human ancestors had to be selective in choosing a mate that delivered on the resources promised, as choosing the right mate secured not only the reproduction of genes but also the survival of offspring (Buss, 2019).

As discussed, the search for a mate expresses itself differently depending on gender (Griskevicius & Kenrick, 2013). For men, activation of this specific motive system increases consumption of luxury goods and high-status products (Griskevicius et al., 2007; Janssens et al., 2011; Sundie et al., 2011). Especially when a male-dominated sex ratio exists (e.g., Griskevicius et al., 2013; Saad & Vongas, 2009), meaning that men must compete against other men for reproductive reasons. Men have also been shown to become more risk-taking (Li et al., 2012), socially dominant (Campbell et al., 2003), heroic (Griskevicius et al., 2007), independent (Griskevicius et al., 2006), seek uniqueness in product choices (Griskevicius et al., 2006), and value short-term rewards higher than long-term benefits (Van den Bergh et al., 2008) thus becoming more impulsive (Wilson & Daly, 2004). Activation of this motive also increased male nonconformity and creativity (Bellezza et al., 2013; Griskevicius & Kenrick, 2013).

For women, this motive is expressed differently, and instead, more effort is put into marketing their appearance and thus consuming more products to show off their beauty and youth (Griskevicius & Kenrick, 2013; Kenrick & Keefe, 1992; Nunes et al., 2011; Wiederman, 1993), especially in the fertile phase of the female menstrual cycle (Saad & Stenstrom, 2012). Activating the motive increase females' public altruism (Griskevicius & Kenrick, 2013), and women tend to become more cooperative and helpful (Griskevicius et al., 2006, 2007). However, women who seek a short-term mate are to a greater extent attracted by men investing in costly signaling than women with long-term mating motives (Sundie et al., 2011). Studies also show that both men and women tend to seek variety in their product decisions and prefer uniqueness (Griskevicius et al., 2013).

2.3.2.4.1 Parental Investment Theory

The *parental investment theory* (Trivers, 1972) is theorized to be the driving force behind sexual selection and can help explain differences in consumer behavior between sexes (Buss, 2019). Thus, it provides insights into mating decisions and intrasexual competition. The theory implies that different sexes contribute unequally (Buss, 2019; Trivers, 1972). The sex that invests more resources in caring for its offspring will become more selective in choosing a mating partner. In comparison, the sex that invests fewer resources will instead be less choosy in a mating partner and become more competitive with members of its own sex to gain access to valuable, high-investing sex (Buss, 2019; Trivers, 1972).

Generally, among most primates, it is argued that the male sex has a lower parental investment in their offspring, meaning that they invest less time and energy in reproduction, e.g., the time they invest in sexual

intercourse (Buss, 2019; Trivers, 1972). Simultaneously, it is argued that females have a higher parental investment as they invest substantially more energy and time in their offspring, e.g., nine months of pregnancy and nurturing of the child (Trivers, 1972). Applying the theory thus indicates that the female sex tends to be more selective and discriminating in finding a mate. In contrast, the male sex is more prone to become competitive against other males to attract a sexual partner (Buss, 2019).

As a result of sexual selection being a powerful tool in terms of survival rate and reproduction success, modern humans have inherited a specific set of mate preferences (Buss, 2019). For the female sex, one crucial aspect was to ensure that the mate invested long-term in the offspring since this increased the chances of the survival of the offspring (Trivers, 1972). Thus, females who preferred males that were reliable and willing to commit increased the chances for the offspring to survive, thrive, and multiply (Buss, 2019). Males who provided resources, e.g., protected the females and offspring, and devoted time, energy, and effort to the family would thus be a great asset as they would contribute to parental care (Buss, 2019; Trivers, 1972).

2.3.2.5 Motive of Caring for Children

As previously outlined, humans have a strong drive to reproduce. Thus, it is in humans' interest to care for kin who will carry and pass on human genes to secure future generations (Griskevicius & Kenrick, 2013). The main problem of parenting is to help their offspring survive and grow to the point where they self can reproduce (Buss, 2019). Thus, both parents' investments are needed to increase this likelihood (Griskevicius & Kenrick, 2013). In ancestral times, it is argued that there was a higher likelihood of children more frequently dying without the investment of two parents (Hill & Hurtado, 1996). Buss (2019) provides an example of children without an investing father suffering a 10% higher death rate than children with a present father. An evolutionary explanation for this is that children did not learn the vital skills for survival and mating problems (Buss, 2019). This is also present in modern society, where parents spend immense amounts of time, energy, and financial resources caring for their families and raising children (Griskevicius & Kenrick, 2013).

The kin system is activated by family cues, such as family members, and by vulnerable people in need, such as children (Griskevicius & Kenrick, 2013). The system can also be triggered by similarities between people, such as fictive family terminology like 'brotherhood,' 'sisterhood,' and 'family,' but also by common goals and living together. This motive can further elicit emotions of compassion, pity, and cuteness (Griskevicius & Kenrick, 2013). When activated, it stimulates nurturing behavior so that people in need receive proper attention and care. Thus, it unleashes an unselfish behavior of helping others (Burnstein et al., 1994; Glocker et al., 2009; Griskevicius & Kenrick, 2013; Sherman et al., 2009). Similarly, it results in a higher willingness to provide social and financial support (Kivett, 1985; Smith et al., 1987), charity giving (Griskevicius & Kenrick, 2013), and physical protection (Daly & Wilson, 1988).

In modern consumption, anthropomorphic products show a tendency to elicit the motive of kin care (Griskevicius & Kenrick, 2013; Hellén & Sääksjärvi, 2013). Research shows that the kin care system can be triggered by cute products, resulting in positive consumer responses, which many companies rely on to allure consumers (Hellén & Sääksjärvi, 2013). Research has even found that the kin care system is triggered by the cute faces of humans and animals (Griskevicius & Kenrick, 2013). Researchers found that humans prefer people with baby-like features, e.g., rounded faces and big eyes and that higher ratings on babyface correlated with honesty, kindness, and warmth (Berry & McArthur, 1985; Gorn et al., 2008). Rounder faces are also prone to be more liked and are generally perceived as more attractive than angular faces (Zebrowitz, 1997).

2.4 Evolution & Logo Shape

Applying an evolutionary lens of aesthetic preferences to logo design makes it possible to draw parallels between logo shape, i.e., angularity versus roundedness, and evolutionary explanations. Thus, this chapter aims to formulate relevant hypotheses to answer the theoretical assumptions and, consequently, also the formulated research questions.

2.4.1 Preference for Rounded Logos (H1)

Based on what has been outlined, rounded features are associated with attributes such as softness, harmony, relieving emotion, approachableness, friendliness, weakness, gentleness, mildness, femininity, and the female gender (Blazhenkova & Kumar, 2018; Jiang et al., 2016; Lieven et al., 2015; Zhang et al., 2006). Most of these attributes are linked to positive emotions (Laros & Steenkamp, 2005). Applying an evolutionary lens, people have an inherited preference and liking for roundedness (e.g., Bar & Neta, 2006; 2007; Carbon, 2010). Bar & Neta (2006) found a general preference for objects with rounded contours attributed to an adaptive fear response. From an evolutionary perspective, people were more exposed to rounded objects that occurred naturally in nature, such as children's faces and fruits. These objects indicated no danger to the individual; thus, humans developed a general preference for rounded contours (Bar & Neta, 2006; Buss, 2019; Pittard et al., 2007).

The preference for rounded shapes was found in a study of children, which showed that both girls and boys preferred rounded shapes in toys (Jadva et al., 2010). Similarly, researchers also found evidence that great apes and humans share common preferences for curved contours over sharp-angled shapes suggesting that humans' visual preferences for curved objects evolved from earlier primate species' visual preferences (Munar et al., 2015). Carbon (2010) further argues that preferences for curved objects are biologically motivated. This supports the view of inherited preferences for rounded shapes.

Angular objects are argued to convey a sense of threat and thus activate negative triggers, which lead to negative emotions and dislike (Bar & Neta, 2006). The authors suggest that contrastingly to rounded shapes, angular objects are associated with dangerous objects such as snakes' teeth, sharp rocks, poisonous plants, and weapons that elicit emotions of fear. This indicates that the shape can activate different fear cues and thus strongly influence consumers' attitudes towards that object (Bar & Neta, 2006). In a study, two different images of a gun were developed, one with sharp and one with smooth contours (Guthrie & Wiener, 1966). The findings showed that the sharpness of the image was more determined by the perceptions of threat and negative concepts than the presence of an actual gun. These findings imply that humans tend to like objects less if they are constructed of angular shapes or sharp lines (Bar & Neta, 2006; Guthrie & Wiener, 1966).

When fear cues are elicited in the human mind, the inherited motive to *survive* is activated (e.g., Buss, 2019; Griskevicius & Kenrick, 2013). Although reproduction is critical for the evolutionary process of natural selection, humans must survive to secure their offspring (Buss, 2019). Humans have thus developed an adaptive behavior to evade physical harm (Buss, 2019; Griskevicius & Kenrick, 2013). Munar et al. (2015) imply that a preference for rounded contours over sharp contours is assumed to have played an adaptive role in human evolution, meaning that humans favored the avoidance of potentially harmful objects and instead sought safety (Munar et al., 2015).

Linked to the motive of *survival*, humans are evolutionarily designed to search for food high in calories and fat (Appendix D; Griskevicius & Kenrick, 2013; Saad, 2011). The participants in several modern studies associated rounded features with sweetness and other positive adjectives (e.g., Blahenkova & Kumar, 2018; Hanson-Vaux et al., 2013; Ngo et al., 2011). Studies also indicate that rounded features correlate with better-perceived taste (Fenko et al., 2016). Hence, one can argue that rounded logos stimulate the motive of survival, rewarding the human brain for gaining food high in calories. Thus, it indicates that rounded logos in similar ways would reward the human brain by preferring rounded shapes over angular ones.

Caring for family is a powerful motive for both males and females, and there exist biological explanations for detecting and liking typical childlike features (Griskevicius & Kenrick, 2013; Hellén & Sääksjärvi, 2013). Rounded shapes underlie positive facial expressions of emotions and convey semantic meaning without the need for thorough processing of the stimuli (Griskevicius & Kenrick, 2013; Zhang et al., 2006). Research has found that the system is triggered by cute faces of humans and animals and associations of childlike characteristics, which in turn evoke positive emotions (Griskevicius & Kenrick, 2013; Hellén & Sääksjärvi, 2013). Similarly, findings show that humans have a preference for people with baby-like features, e.g., rounded

faces and big eyes and that higher ratings of rounded babyfaces are correlated with honesty, kindness, and warmth (Berry & McArthur, 1985; Gorn et al., 2008; Hellén & Sääksjärvi, 2013).

Moreover, childlike features, such as smooth and round shapes lacking sharp lines and edges, are also found in products. Research shows that such products, and childlike anthropomorphism, trigger the evolutionary system and caretaking instincts, resulting in positive consumer responses (Glocker et al., 2009; Hellén & Sääksjärvi, 2013). Sprengelmeyer et al. (2009) conclude that this is found mainly among females, as female reproductive hormones predict sensitivity to childlike features.

Similarly, research suggests that people can communicate certain things about themselves using childlike signals such as nurturing and kindness, which is especially attractive to men (Baumeister, 2010; Hellén & Sääksjärvi, 2013). Hellén & Sääksjärvi (2013) thus indicate that such qualities signal that they are good mothers and partners and can therefore be used to signal an ideal image in the form of a warm mother, a nurturer, or a loving mate. This implies that when exposed to rounded features, one's kin care system can be activated, and thus the childcaring instincts will stimulate the preference for rounded features (Hellén & Sääksjärvi, 2013).

Rounded features have, in many studies, also been linked to stronger perceptions of femininity (e.g., Blazhenkova & Kumar, 2018; Lieven et al., 2015; Meiting & Hua, 2021). A female's physical beauty and femininity serve as important indicators of youth and fertility (Buss, 2019; Saad, 2011). Thus, femininity is, in turn, often associated with beauty, a factor that men place much greater importance on in mating contexts (Saad, 2011). The preference for fertile females meant a higher likelihood of successful reproduction (Saad, 2011). Similarly, curves and rounded shapes are perceived as more warm and comforting and give a sense of sensuality and love (Jiang et al., 2016). This is also supported by Wen et al. (2020), who argue that female faces are associated with warmth and thus more inclined to liking. Lieven et al. (2015) also found that a rounded brand logo enhances the perception of femininity.

From an evolutionary perspective, having allies is crucial for survival (Buss, 2019). A round physical setting primed the participants' need to belong, so a message that targeted this need is thought to be well-receptive (Zhu & Argo, 2013). Round features have also been linked with attributes such as harmony and friendliness, which stimulates the affiliation system and thus activates the need to belong and fit in with the in-group (Griskevicius & Kenrick, 2013; Zhang et al., 2006). Aligned with the motive of *affiliation*, Moss (1995) and Moss et al. (2006) found that a mirroring effect on designs exists, meaning that females were more inclined to prefer designs characterized by feminine attributes such as rounder features. According to Buss (2019), women are much more likely to construe friends as kin than men, who are more inclined to choose friends based on

nonkin coalitions. One can thus argue that each gender, especially women, prefers features associated with its in-group, i.e., individuals similar to them. Hence, the preference for roundness is linked to *affiliation* and anew argued to originate from humans' fundamental motive of *survival*.

These findings indicate that both genders, to possibly varying degrees, are evolutionarily programmed to have a general preference and liking for rounded logos. Although the preference for roundness in shapes has a proximate explanation across literature, the evolutionary perspectives allow for ultimate explanations. Based on what is outlined, the hypothesis is formulated in Table 2.

Table 2. H1

H1: Consumers generally prefer rounded logos over angular logos

2.4.2 Male Preference for Angular Logos (H2)

Although a general preference for rounded shapes exists, the vast majority of products on markets are rectangular (Raghubir & Greenleaf, 2006). Several studies have investigated how the angularity of a product influences aesthetic evaluation and purchase likelihood (e.g., Creusen et al., 2005), and these are generally associated with more active and negative states, such as agitation, anger, and threat (Westerman et al., 2012). As rounder shapes appeared more natural and promoted safety, humans were instead rewarded for avoiding the dangers associated with angular shapes (Buss, 2019). Then why are so many products in our modern society dominated by angular features?

"Angularity is one of the oldest variables in the psychology of aesthetics" (Silvia & Barona, 2009, p. 25). As discussed above, angular shapes are associated with hard, harsh, and cruel adjectives and tend to induce connotations with traits that express energy, toughness, and strength (Jiang et al., 2006; Zhang et al., 2006). Angular features are considered more attractive when consumers seek individuality and toughness (Zhang et al., 2006).

Further, Blazhenkova and Kumar (2018) found that angular shapes are associated with the male gender and masculinity. Similar research found that an angular brand logo enhances perceptions of brand masculinity (Lieven et al., 2015). Masculinity refers to manly attributes, habits, and traits that society has dedicated to the male gender. This implies that attributes such as strength, vigor, power, toughness, ruggedness, activity, muscularity, and drive are found across definitions (Oxford University Press, n.d.-b). Hence, similarities in attributes and associations are found between angularity and masculinity (e.g., Blazhenkova & Kumar, 2018; Moss & Colman, 2001). It has also been shown that rounded or angular shapes and curvy or straight lines

generally enhance the consumers' perception of the product's femininity or masculinity (Lieven et al., 2015; Schmitt & Simonson, 1997; van Tilburg et al., 2015). The use of angularity as a masculine description has also been used in icons in various kinship charts to define genders (e.g., Schott, 2005). The male gender has throughout history been described by the use of a triangle or rectangle shape (△□), whereas a circle (○) illustrates the female gender (e.g., Schott, 2005). This indicates a link in visual perception and associations between angularity and masculinity.

There is a growing body of research documenting sex differences in design preferences and graphic tendencies and relating these to evolutionary factors. Moss et al. (2007) depicts that males, evolutionary-wise, went further away from home searching for mates or commissioned to gather food, meaning that they had to be constantly vigilant and ready to defend themselves against rivals. The authors argue that this might have resulted in spatial abilities that have developed to differ between men and women (Moss et al., 2007). In their research, they studied sex differences in designs. The male participants preferred vertical lines, angles, technical, three-dimensional, built-up structures, formal typography, and absence of details. In contrast, women preferred rounded lines and structures, blunt lines, non-technical, and more color dominant designs (Moss, 1995; Moss et al., 2006, 2007).

In their study, Moss et al. (2006) also found that each gender has a marked preference for the aesthetic of their own gender, meaning that men are drawn to more linear and angular aesthetics. In contrast, women are more inclined to prefer rounded features. The authors call this the mirroring principle and highlight the importance of delivering the empathy of the principle to attract the rightful target markets (Moss, 1995; Moss et al., 2006). Moss (1995) indicates that straight, angular lines are expected to have greater appeal to men than women and would be well adapted to markets where the target market is mainly male. Similar concerns are emphasized by Meiting & Hua (2021), where the authors argue that it can be counterproductive to use a rounded logo in a feminine market for a target group consisting of heterosexual males. In another quasi-experiment, Moss & Colman (2001) tested consumer choices and preferences of shape in relation to business cards. The study showed a significant preference for cards designed by their own sex (Moss & Colman, 2001). The men's preferences were aligned with more linear and functional work, with fewer rounder shapes, whereas the women were more interested in rounder shapes and aesthetics (Moss & Colman, 2001).

As previously outlined, there was no difference between the sexes in children's shape preferences for toys (Jadva et al., 2010). However, research indicates that men's hormonal testosterone levels drastically increase during puberty, which reveals itself in behaviors such as aggression and increased risk-taking behavior (Buss, 2019; Duke et al., 2014). Testosterone is argued to be closely connected with dominance and status and beneficial in various survival-relevant contexts (Buss, 2019). In the context of competition in tasks, Carré and

McCormick (2008) found that the higher the testosterone levels, the more the participants wanted to engage in competition. The authors discussed testosterone's role as a predictor of the dopaminergic reward system and its effect on status-seeking behavior. This was also shown in a study conducted by Saad & Vongas (2009), where they linked increased testosterone levels to responses triggered by acts of conspicuous consumption. Men's testosterone levels were observed in relation to driving a luxury sports car versus an old family car. After the men drove the luxury sports car, they had an increased testosterone level, whereas after driving the old family car, the levels decreased (Saad & Vongas, 2009). This indicates a link between status-enhancing behavior and testosterone levels.

Moreover, from an evolutionary perspective, testosterone is thought to mediate a trade-off between paternal effort and mating effort, indicating that higher testosterone levels give a reproductive advantage of increased mating success (Peters et al., 2008). This was also shown in Saad & Vongas's (2009) study, where they saw that the levels of testosterone increased when the men's social status was challenged by a male rival's wealth display in the presence of a female. Thus, it threatened the men's social status and triggered their testosterone levels to increase (Saad & Vongas, 2009). Thus, it is possible that males' preferences for angular objects evolve with hormonal maturity.

In an angular seating arrangement, the researchers could prime the participants with the need to be unique (Zhu & Argo, 2013). The need to be unique is linked to the fundamental motive of *mate acquisition*, stimulating a need to be unique and seek attention for themselves (e.g., Buss, 2019; Griskevicius & Kenrick, 2013). Aligned with the parental investment theory, women tend to be more sexually selective in their mate choices and seek a mate with the most survival-relevant fitness qualities, such as dominance, competence, and strength, who can provide resources and care for offspring (Sundie et al., 2011; Trivers, 1972). Thus, standing out from the crowd could potentially lead to increased mating success for men (Buss, 2019). The desire for a mate with the most desirable qualities can thus be linked to similar values describing angularity, e.g., hardness, strength, toughness, and power (Jiang et al., 2016; Zhang et al., 2006). This means that an angular shape potentially signals values of masculinity and traits of dominance, which are important attributes to succeeding in mating (e.g., Blazhenkova & Kumar, 2018; Jiang et al., 2016; Zhang et al., 2006).

Costly signaling is another form of sexual signaling that can increase the likelihood of mating success through risk-taking behaviors to promote their survival-relevant fitness (Buss, 2019; Lee, 2001; Saad, 2007; Sundie et al., 2011). Risk-seeking behavior is evolutionarily beneficial to men in terms of obtaining status, gaining resources, and mating success (Buss, 2019). Males who exposed themselves to danger were regarded as braver and more courageous, elevating their status within their groups (Buss, 2019).

Further, it is argued that possessing a product with an angular-shaped logo might subconsciously appear risky as it triggers fear cues (Bar & Neta, 2006). In particular, women, who experience a stronger fear of physical harm, might observe this as extraordinarily risky. For men, the fear cues are slightly lower from an evolutionary point of view since they have used angular objects to gain resources, dominance, and status, which might explain a certain appeal to angular shapes (Campbell, 2013). Based on the fact that angularity signals traits of dominance, toughness, and strength, triggering fear cues, an angular logo might appear costly and thus increase the degree of mating success. This is because males who are dominant and confident in their ability to defend against threats can afford to wear an angular shape, although risky.

The use of dangerous signaling might also signal strength to others, which could confer status advantages (Bloom, 2010). Cues of the threat of danger or aggression might be enough to secure resources from others and can also be used to prevent loss of status and honor from being victimized (Buss, 2019). A decline in status was considered a great danger for ancestors, not only in terms of reproduction but also from a survival perspective (Buss, 2019). Regarding angular objects, they play a central role in survival-related situations (Bar & Neta, 2006). Edgy objects such as weapons, knives, or other sharp things, were evolutionarily used in hunting for food and to conquer enemies (Bar & Neta, 2006) in both of which success would benefit the individual and lead to increased social status and a more dominant position within the group hierarchy (Buss, 2019). Thus, it can be argued that angular shapes will influence perceptions such as dominance, masculinity, strength, toughness, hardness, ruggedness, power, and status, which consequently explicitly signal traits equivalent to a dominant alpha.

According to Buss (2019), Males have evolved a stronger motivation for status striving than women. Therefore, it is argued that the male gender is more inclined to prefer angular-shaped logos as it subconsciously stimulates the ultimate motives where status is a central aspect of survival and reproduction, i.e., *evading physical harm and mate acquisition* and *attaining status*. This means that it sends signals associated with a dominant alpha, which from an evolutionary perspective leads to greater access to key resources contributing to survival, reproduction, as well as a better standing in the status hierarchy. This thus argues for the angular-shaped logos link to survival-relevant benefits (Buss, 2019).

Angular shapes have also been linked to the color red, which has been researched to have a considerable impact on levels of aggression and dominance. Thus, red, and angular shapes are associated with similar values (e.g., Blazhenkova & Kumar, 2018; Jiang et al., 2016). The effect of red is apparent in studies on modern consumer behavior (e.g., Bagchi & Cheema, 2013; Hill & Barton, 2005; Puccinelli et al., 2013). Similarly, Dubois et al. (2012) suggest that larger sizes signal higher status ranking and dominance. Thus, the link between visual elements associated with aggression and dominance and evolutionary theory has already been confirmed.

Aligned with these findings, angular shapes are theorized to influence visual perceptions and, in turn, consumer choices and preferences.

Based on what is outlined, angular shapes are expected to have greater appeal to men than women. From an evolutionary perspective, this is because men have a higher desire to enhance the signal of their dominant status to succeed with mating and gain a higher position in the social hierarchy within the group (Buss, 2019). Hence, the hypothesis aims to explain the male preference for angular shapes and is formulated in Table 3.

Table 3. H2

H2: Males have a stronger preference for angular logos than females

2.5 Brand Personality

Based on what has been previously outlined, a logo constitutes great value to the brand and its equity (e.g., Cian et al., 2014). The previous sections depict how the shape as a visual design element influences consumer preference. Additionally, research suggests another key element contributing to a strong brand, namely that the brand possesses a distinctive and favorable brand personality (Aaker, 1997; Keller, 1993). Researchers argue that brands possess human-like characteristics that form a brand personality (Aaker, 1997; Belk, 1988). Thus, the construct of brand personality is based on the premise that a set of human characteristics associated with a brand synergistically form a personified brand based on consumers' projection of human-like attributes onto a brand (Aaker, 1997). Aaker (1997) distinguishes between five types of brand personality: *Competence*, *Sophistication*, *Ruggedness*, *Sincerity*, and *Excitement*, which each build on a set of certain human-like characteristics. These are summarized in Table 4.

Table 4. Brand Personality Types (Aaker, 1997)

Type of Personality	Facet Names	Characteristics
Competence	Reliable, Intelligent, Successful	Reliable, Hard-working, Secure, Intelligent, Technical, Corporate, Successful, Leader, Confident
Sophistication	Upper class, Charming	Upper class, Glamorous, Good-looking, Charming, Feminine, Smooth
Ruggedness	Outdoorsy, Tough	Outdoorsy, Masculine, Western, Tough, Rugged
Sincerity	Down-to-earth, Honest, Wholesome, Cheerful	Down-to-earth, Family-oriented, Small-town, Honest, Sincere, Real, Wholesome, Original, Cheerful, Sentimental, Friendly
Excitement	Daring, Spirited, Imaginative, Up-to-date	Daring, Trendy, Exciting, Spirited, Cool, Young, Imaginative, Unique, Up-to-date, Independent, Contemporary

Aaker's (1997) brand personality dimensions are used throughout research to understand better why consumers anthropomorphize brands, meaning why consumers assign human qualities to non-human objects. Efforts in marketing have encouraged consumers to view brands in human form, and consumers today might perceive human-like features in both products and brands (Aggarwal & McGill, 2007; Tremoulet & Feldman, 2000; Yoon et al., 2006). Aaker (1997) refers to this imbuement of personality traits into brands as animism, while other research refers to it as anthropomorphism (Puzakova et al., 2009). This indicates that the creation of a brand personality is made through the personification and anthropomorphizing of a brand, perceiving them as human characters (Aaker & Fournier, 1995; Allen & Olson, 1995). Fournier (1998) even argues that brands and consumers can build human-like relationships, similar to how they interact with other humans, based on emotion, behavior, and soul. To build a strong consumer-brand relationship, Fournier (1998) suggests that the brand should have multiple human-like qualities, similar to a complete human. Therefore, to view the brand as a complete person involves assigning human characteristics to it (Aaker & Fournier, 1995).

2.5.1 Brand Personality & Logo Shape

Research shows that brand personality traits can be assigned to a brand in rather indirect ways, such as through brand name, price, symbol, or brand logo (Aaker, 1997). Plummer (1985) argues that perceptions of brand personality traits can be formed and influenced through every brand touchpoint. Brand elements, such as brand logos, have been seen to play an important role in the development and modification of brand personality perceptions (Batra et al., 1993; Grohmann, 2008; Lieven et al., 2015). This indicates that the brand logo, a key aspect of visual identity, can influence consumers' brand perceptions (e.g., Grohmann, 2008; Henderson et al., 2003, 2004; van der Lans et al., 2009).

Researchers have found that, e.g., type font, color, logo shape, brand name, color saturation, and hue make consumers assign certain personality traits to the brand and can thus be used in the brand logo to communicate certain brand personality dimensions effectively (e.g., Grohmann et al., 2013; Labrecque & Milne, 2012; Lieven et al., 2015; Luffarelli et al., 2019; Ridgway & Myers, 2013). Lieven et al. (2015) suggest that logo shape influences the perceived brand gender, a subdivision of brand personality. The authors argue that physical characteristics (e.g., muscularity, shoulder-width, waist-to-hip ratio) influence perceptions of masculinity and femininity. Angularity and roundness have been found to play an important role in shaping these perceptions, as angular logos influenced brand masculinity and rounded logos enhanced femininity perceptions (Lieven et al., 2015; Schmitt & Simonson, 1997). Similarly, research has shown that meaningless visual stimuli from shapes can be perceived as having gender, intention, and personality (Heider & Simmel, 1944). Grohmann (2016) also indicates that the type font impacts brand gender perceptions, where script fonts are associated with femininity and display fonts with masculinity traits. Similar studies also found that, e.g., logo dynamism, incompleteness, and roundness can influence the brand's perception as more modern,

innovative, and customer-sensitive (Cian et al., 2014; Hagtvedt, 2011; Jiang et al., 2016; Leder & Carbon, 2005). This indicates that the visual elements of the logo are powerful components that can signal certain characteristics of the brand to the consumer.

Further, Luffarelli et al.'s (2019) research provides evidence of an existing link between the logo shape and brand personality, and that certain combinations can have an impact on brand equity. The study measured the degree of asymmetric and symmetric features in the logo and how those were congruent with distinct brand personalities. The findings showed that asymmetrical logos activated more arousing stimuli and increased the perception of being aligned with an Exciting brand personality (Bajaj & Bond, 2017; Bettels & Wiedmann, 2019; Luffarelli et al., 2019). Contrastingly, an asymmetric logo was suggested to be counterproductive for other brand personalities, as it made consumers perceive the brand as less Sincere, Competent, and Rugged (Luffarelli et al., 2019). These findings indicate that the logo shape is influential enough to impact the brand's personality perceptions.

In previous chapters, it has been argued that the logo shape, i.e., the visual elements of roundness and angularity, conveys certain attributes and characteristics (e.g., Blazhenkova & Kumar, 2018; Jiang et al., 2016) that are hypothesized to stimulate the consumers' ultimate motives and thus, also influence the preference for a particular logo. Some of these attributes are associated with roundness and angularity, aligning with Aaker's (1997) distinction of brand personalities, which hold similar attributes. Thus, it is argued that an angular versus round logo might enhance the perceptions of certain brand personalities. This suggests that if the attributes conveyed infer the same meaning and stimulate similar associations between a particular brand logo shape and brand personality, it can generate a strengthened perception of a brand personality dimension.

Table 5. Brand Personality, Shape Associations & Evolutionary Motives

Type of Personality	Linked Characteristics (Aaker, 1997)	Corresponding Rounded Associations	Corresponding Angular Associations	Corresponding Evolutionary Motives
Competence	Reliable Hard-working Secure Intelligent Technical Corporate Successful Leader Confident	Secure, i.e., **safety** (Munar et al., 2015)	**Technical**, i.e., order (Moss et al., 2007; Moss, 1995) **Intelligent**, i.e., Rationality, competence (Blazhenkova & Kumar, 2018; Griskevicius & Kenrick, 2013; Milan et al., 2013) **Leader** i.e., power, strength (Blazhenkova & Kumar, 2018; Zhang et al., 2006) **Reliability** i.e., durability, stability (Adir et al., 2012; Jiang et al., 2016)	**Evading physical harm** Secure Leader Technical Intelligent **Attaining status** Leader Intelligent **Mate acquisition** Leader Secure Intelligent
Sophistication	Upper class Glamorous Good-looking Charming Feminine Smooth	**Glamorous** i.e., graceful, beauty, perfection (Adir et al., 2012; Bar & Neta, 2006; Hogarth, 1753; Schmitt & Simonson, 1997; Silvia & Barona, 2009) **Good-looking** i.e., attractive (Bar & Neta, 2006; Leder & Carbon, 2005) **Feminine** (Schmitt &		**Evading physical harm** Smooth **Mate acquisition** Good-looking Feminine **Kin care** Smooth

		Simonson, 1997; Blazhenkova & Kumar, 2018) **Smooth** (Blazhenkova & Kumar, 2018)		
Ruggedness	Outdoorsy Masculine Western Tough Rugged		**Masculine** (Blazhenkova & Kumar, 2018) **Tough** & **Rugged**, i.e., rough, durable (Blazhenkova & Kumar, 2018; Jiang et al., 2016)	**Evading physical harm** Masculine Tough Rugged **Attaining Status** Masculine Tough **Mate acquisition** Masculine Tough
Sincerity	Down-to-earth Family-oriented Small-town Honest Sincere Real Wholesome Original Cheerful Sentimental Friendly	**Friendly** & **Sincere** (Aronoff, 2016; Blazhenkova & Kumar, 2018; Bar & Neta, 2016) **Family-oriented** i.e., Comforting (Jiang et al., 2016; Zhu & Argo, 2013) **Honest** (Berry & McArthur, 1985; Gorn et al., 2008)		**Affiliation** Friendly Sincere Family-oriented **Kin care** Family-oriented Friendly Sincere Honesty
Excitement	Daring Trendy Exciting Spirited Cool Young Imaginative Unique Up-to-date Independent Contemporary	**Young,** i.e., youth (Buss, 2019; Hellén & Sääksjärvi, 2013)	**Exciting** (Blazhenkova & Kumar, 2018) **Unique** (Zhu & Argu, 2013; Saad, 2011; Buss, 2019) **Daring,** i.e., tough, aggressive (Buss, 2019; Zhang et al., 2006) **Independent** (Zhang et al., 2006)	**Mate acquisition** Daring Young Exciting Unique **Attaining status** Daring Unique Independent

In an attempt to understand the interplay between the brand logo shape and brand personality perceptions more thoroughly, Table 5 compares characteristics defining the brand personality dimensions with attributes linked to the two shapes. This mapping chart shows similarities between certain brand personality characteristics and attributes associated with roundness and angularity. These similarities are further matched with relevant fundamental motives founded in evolutionary theory. This is to gain a greater understanding of the underlying mechanisms of the assumed interplay between these brand elements.

While previous studies have primarily studied logo design elements such as color, typography, and other graphical complexities, little research has given attention to the logo's impact on consumers' perception of the brand personality. Extending brand logo design research into brand personality, we aim to fill an existing gap in literature and provide insights into the interplay between the brand logo shape and brand personality perceptions. Gaining knowledge within the field can help marketers convey the appropriate brand personality traits, directly as well as indirectly to the desired target group.

2.5.2 The Logo Shape's Influence on Brand Personality Perceptions

The human-like characteristics that the brand personality facets are founded on are in many ways similar to associations with angular and rounded shapes. Table 5 thus lays a foundation for the following hypotheses on the potential impact of a logo's shape on brand personality perceptions.

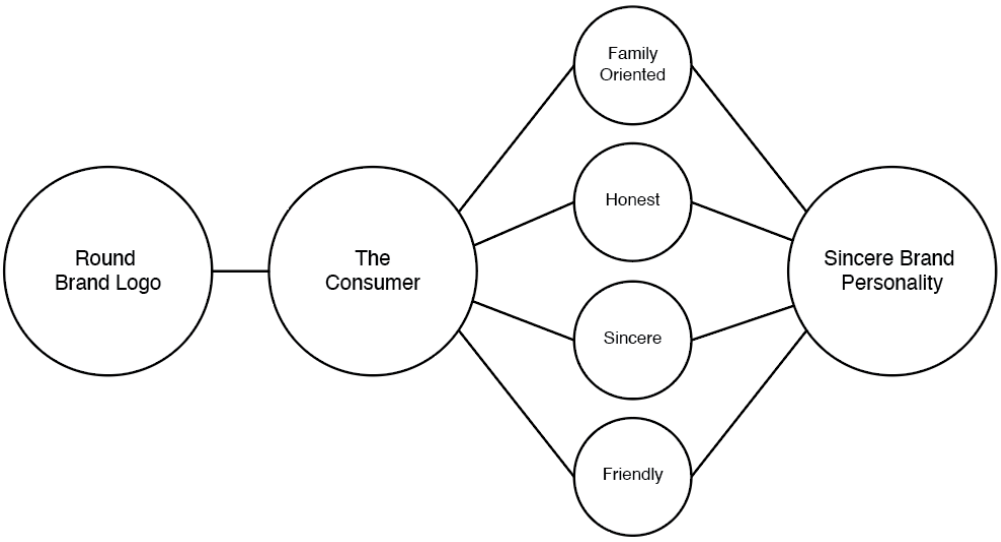
2.5.2.1 Round Logo's Effect on Sincerity (H3)

Prior research has found that a round, natural-looking logo positively impacts perceptions of brand Sincerity (Grohmann, 2008). Similarly, a round logo has been found to impact customer service perceptions as being more service-minded and kind (Jiang et al., 2016). The Sincere brand personality comes across as warm and accepting, which values trust and high morals (Aaker, 1997; Maehle et al., 2011). As outlined in previous chapters (Table 1) and summarized in Table 5, round features are associated with attributes similar to those that determine a Sincere brand personality (e.g., Adir et al., 2012; Aronoff, 2006; Blazhenkova & Kumar, 2018; Buss, 2019; Jiang et al., 2016; Zhang et al., 2006). Consequently, this means that the attributes of *sincerity, honesty, family orientation* and *friendliness* are congruent between roundness and the Sincere brand personality. Thus, it is assumed that the traits that round logos signal relate to a Sincere brand personality.

Friendly and belongingness cues activate the fundamental need for *affiliation* (section 2.3.2.2) and trigger people to feel a need to belong and seek friendships (Griskevicius & Kenrick, 2013). Having allies increased the likelihood of survival as it provided shelter and a sense of safety (Buss, 2019). Thus, if exposed to a rounded logo that generates friendly signals, people will assumably seek characteristics aligned with achieving the goal of gaining new friendships. Since the Sincere brand personality possesses characteristics such as friendliness and sincerity, it will hypothetically result in the consumer associating the brand with a more Sincere brand personality.

Further, friendliness is also linked to the motive of *kin care*, indicating that rounder shapes, such as childlike facial features, signal attributes such as kindness, honesty, and warmth (Berry & McArthur, 1985; Gorn et al., 2008; Hellén & Sääksjärvi, 2013). This motive also aligns with being family oriented (Griskevicius & Kenrick, 2013) and is activated by 'family' cues, resulting in more nurturing and caring behavior for others (Griskevicius & Kenrick, 2013; Larson et al., 2011). Hence, it is argued that a rounded logo can activate the motive of kin care, thus increasing the likelihood of associating the brand with more friendly, honest, and family-oriented values.

Figure 4. Illustration of H3



Therefore, if rounded features are perceived as *friendly*, *sincere*, *honest,* and *family-oriented* (e.g., Blazhenkova & Kumar, 2018; Buss, 2019; Hellén & Sääksjärvi, 2013), they should also be perceived as more congruent with brands that possess human-like characteristics relating to Sincerity. Thus, if a consumer is exposed to a round logo, the perception of a Sincere brand personality should be enhanced (Figure 4). Therefore, the third hypothesis is formulated as follows in Table 6.

Table 6. H3

H3: Compared to brands with angular logos, brands with rounded logos are perceived to have a more Sincere brand personality
H3a: Compared to brands with angular logos, brands with rounded logos are perceived as more family-oriented H3b: Compared to brands with angular logos, brands with rounded logos are perceived as more honest H3c: Compared to brands with angular logos, brands with rounded logos are perceived as more sincere H3d: Compared to brands with angular logos, brands with rounded logos are perceived as more friendly

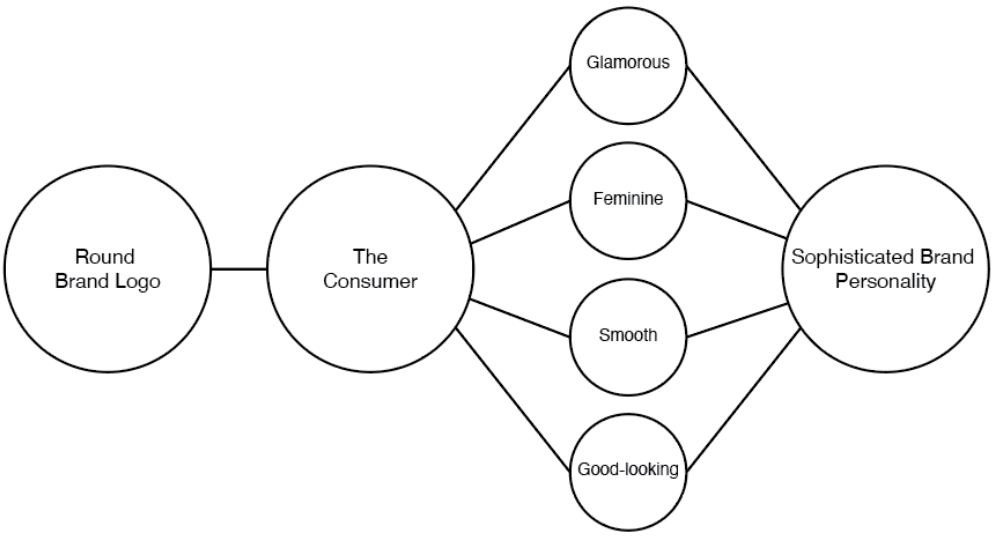
2.5.2.2 Round Logo's Effect on Sophistication (H4)

Prior research on brand logos has found that round features in a logo evoke perceptions of Sophistication (Bajaj & Bond, 2018; Grohmann, 2008). A Sophisticated brand personality is characterized by attributes such as *upper class, glamorous, good-looking, charming, feminine,* and *smooth* (Aaker, 1997). Similar to the discussions above, research shows that the attributes of *smooth*, *feminine*, *good-looking,* and *glamorous* are equivalently associated with rounded shapes (e.g., Blazhenkova & Kumar, 2018; Gorn et al., 2008; Hellén & Sääksjärvi, 2013; Jiang et al., 2016). This indicates that these attributes are congruent between a Sophisticated brand personality and round features, see Table 5.

In research, rounded features are seen as more appealing, i.e., *good-looking* and *glamorous* (e.g., Bar & Neta, 2006; Silvia & Barona, 2009), which both have a proximate and an ultimate explanation. The ultimate explanation is that rounded objects do not convey danger to the consumer, as they are associated with smoother and softer textures, which instead provide a sense of safety (Bar & Neta, 2006; Buss, 2019). Lieven et al. (2015) argue that visual preferences and what humans find attractive are deeply rooted in human cognitive processing. They argue that what humans find attractive primarily stems from the motive of *mate acquisition* and the assessment of attraction of the mate, which occurs first through the visual channel (Buss, 1994; Lieven et al., 2015). Lieven et al. (2015) argue that the ideal female was healthy, fertile, and available, manifesting in traits such as a curvy and fragile female. Thus, rounded shapes signal desirable visual cues that may be recognized in non-human brand logos as feminine and the perception of a feminine brand (Blazhenkova & Kumar, 2018; Lieven et al., 2015). Similar effects were found among males. Hence, it can be inferred that the shape of the logo thus imitates the visual appearance of the ideal female or male which helps consumers perceive the brand personality, i.e., brand gender, through cues shaped by evolution (Lieven et al., 2015).

In evolutionary research, femininity is considered a powerful cue to attractiveness as it evokes associations with elegance and beauty (Buss, 2019; Gangestad & Scheyd, 2005; Maehle et al., 2011). This is because it conveys associations with more petite facial attributes such as thinner jaws, smaller chin, fuller lips, and larger eyes (Buss, 2019). Buss (2019) indicates that facial femininity is likely a marker of reproductive value. Since the Sophisticated brand personality is characterized by femininity, the same principles should be present, meaning that since a round logo stimulates perceptions of femininity, the consumer should perceive the brand as aligned with a Sophisticated brand personality. Research has also shown that rounded contours are perceived as softer and smoother, probably due to round shapes being perceived as less harmful (Schmitt & Simonson, 1997). These findings imply that perceptions of smoothness will be enhanced when exposed to a round logo.

Figure 5. Illustration of H4



This suggests that consumers exposed to the round logo will perceive the brand as more aligned with a Sophisticated brand personality (Figure 5). Therefore, the fourth hypothesis is formulated as follows in Table 7.

Table 7. H4

H4: Compared to brands with angular logos, brands with rounded logos are perceived to have a more Sophisticated brand personality
H4a: Compared to brands with angular logos, brands with rounded logos are perceived as more glamorous H4b: Compared to brands with angular logos, brands with rounded logos are perceived as more feminine H4c: Compared to brands with angular logos, brands with rounded logos are perceived as more smooth H4d: Compared to brands with angular logos, brands with rounded logos are perceived as more good-looking

Summarily, the round logo is hypothesized to enhance perceptions of a Sincere and Sophisticated brand personality, see Table 8.

Table 8. Brand Personality Characteristics & Round Shape Attributes

Brand Personality	Brand Personality Characteristics	Logo Shape	Brand Personality Characteristics & Corresponding Rounded Associations
Sincerity	Down-to-earth Family-oriented Small-town Honest Sincere Real Wholesome Original Cheerful Sentimental Friendly	**Rounded**	**Friendly** (Blazhenkova & Kumar, 2018; Bar & Neta, 2016) **Family-oriented,** i.e., Comforting (Jiang et al., 2016) **Honest** (Berry & McArthur, 1985; Gorn et al., 2008) **Sincere**, i.e., goodness (Aronoff, 2006).
Sophistication	Upper-class Glamorous	**Rounded**	**Glamorous,** i.e., graceful, beauty, perfection (Adir et al., 2012; Bar & Neta, 2006; Hogarth, 1753; Schmitt & Simonson, 1997;

	Good-looking Charming Feminine Smooth		Silvia & Barona, 2009) **Good-looking,** i.e., attractive (Leder & Carbon, 2005; Bar & Neta, 2016) **Feminine** (Schmitt & Simonson, 1997; Blazhenkova & Kumar, 2018) **Smooth** (Blazhenkova & Kumar, 2018)

2.5.2.3 Angular Logo's Effect on Ruggedness & Competence (H5, H6)

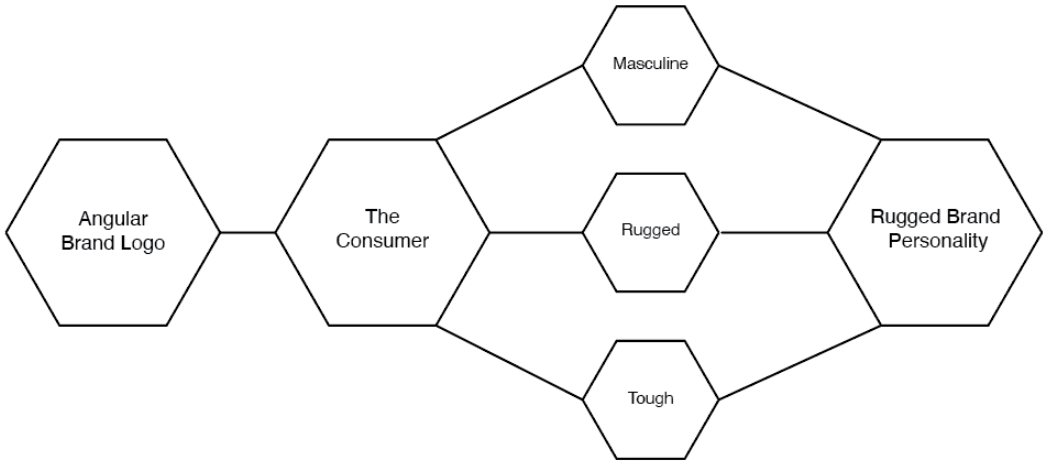
Contrastingly to the section above, angularity contributed to increased perceptions of Ruggedness and Competence (Grohmann, 2008).

A Rugged brand personality is viewed as tough and adventurous, where masculinity and strength are glamorized (Aaker, 1997); thus, it is the opposite of Sophistication as it lacks a feminine touch (Maehle, 2011). As outlined in previous chapters, angular features are perceived as more powerful, with more dominant traits, see Table 1 (Bar & Neta, 2006; Laros & Steenkamp, 2005; Zhang et al., 2006). This means that *tough*, *masculine*, and *rugged* attributes are congruent between angularity perceptions and a Rugged brand personality.

Throughout research, angular shapes and vertical lines have been linked to masculinity (Blazhenkova & Kumar, 2018; Jiang et al., 2016; Moss et al., 2007; Zhang et al., 2006). Moss et al. (2007) indicate that this has an evolutionary explanation for *evading physical harm*, as males evolutionary-wise went further away from home in search of mates or commissioned to gather food, meaning that they had to be constantly vigilant and ready to defend themselves against rivals. The authors argue that this might have resulted in spatial abilities that have developed a masculine aesthetic (Moss et al., 2007). Research also shows that a tougher, more dominant male leader with perceived competence, had an evolutionary advantage in securing food and attracting a mate, linked to the motives of *attaining status* and *acquiring a mate* (Buss, 2019; Griskevicius & Kenrick, 2013).

The ideal male was protective, able-bodied, and equipped with the ability to take care of offspring, which manifested itself in traits such as a strong and powerful male (Lieven et al., 2015). Angular shapes are argued to signal desirable visual cues that may be recognized in non-human brand logos as masculine, and thus the perception of a brand as masculine (Blazhenkova & Kumar, 2018; Lieven et al., 2015). Thus, it can be inferred that the shape of a logo imitates the visual appearance of the ideal male, which helps consumers perceive the brand gender through cues that have been shaped by evolution (Lieven et al., 2015). Similarly, angular shapes are found to signal attributes of toughness, ruggedness, strength, hardness, power, and so on. (Jiang et al., 2016; Zhang et al., 2006). Research has even found that when consumers seek toughness, angular features are considered more attractive (Zhang et al., 2006), indicating a link between toughness and angularity.

Figure 6. Illustration of H5



Thus, if angular features are perceived as *masculine, tough,* and *rugged* (Blazhenkova & Kumar, 2018), they should also be perceived as more congruent with brands that possess human-like characteristics relating to a brand personality of Ruggedness. This implies that if the consumer is exposed to an angular logo, the perception of a Rugged brand personality should be enhanced (Figure 6). Therefore, the fifth hypothesis is formulated as follows in Table 9.

Table 9. H5

H5: Compared to brands with rounded logos, brands with angular logos are perceived to have a more Rugged brand personality
H5a: Compared to brands with rounded logos, brands with angular logos are perceived as more masculine H5b: Compared to brands with rounded logos, brands with angular logos are perceived as more rugged H5c: Compared to brands with rounded logos, brands with angular logos are perceived as more tough

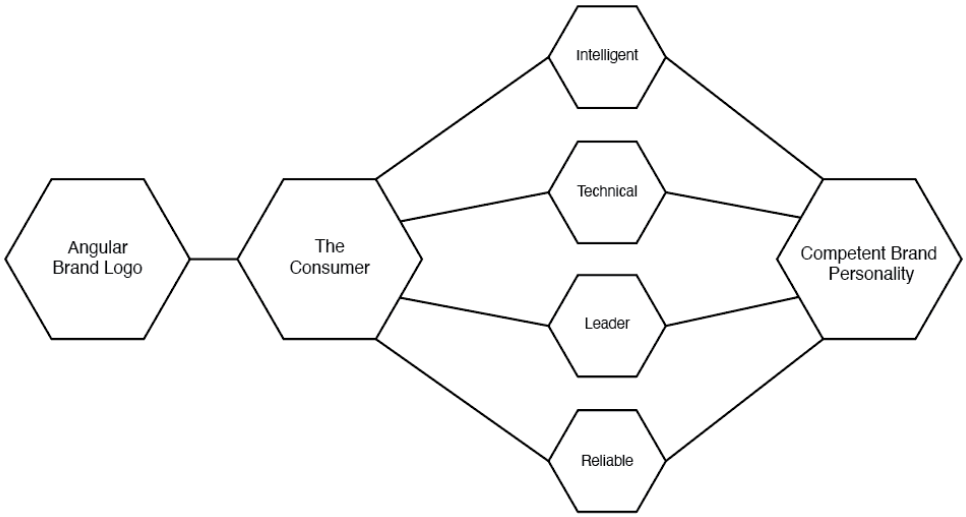
Simultaneously, research shows that an angular logo stimulates power (Zhang et al., 2006). Aligned with evolutionary principles, the most powerful leader with a high social position in the status hierarchy gained survival-relevant benefits (Buss, 2019). The alpha male provided allies with resources, such as food and shelter, contributing to security (Buss, 2019).

Males high in status were also considered competent, meaning that the male had attractive abilities and skills to lead, recruit allies, gather food, etc. (Chapais, 2015). Moreover, those viewed as dominant with high status, possessing relevant competence and skills, were considered high in intelligence (Buss, 2019; Van Vugt, 2006). Buss (2019) argues that leaders are characterized by not only physical formidability but also qualities such as competence, knowledge, and intelligence. Possessing leadership qualities thus increases the skills and ability to coordinate a group, which would lead to more beneficial outcomes, both in terms of reciprocal exchange within the group but also in concurrence with other groups. Thus, the leadership role would generate prestige,

respect, and resources on which followers would rely (Buss, 2019). Intelligence was also a characteristic that both females and males placed great value on (Buss, 2019; Regan, 1998).

Blazhenkova and Kumar (2018) depict that angular shapes such as squares and rectangles represent order, mathematics, rationality, and formality. Research also shows that angular features, e.g., in squares, are associated with stability, reliability, and technological traits (e.g., Jiang et al., 2016; Moss et al., 2007). Frutiger (1989/1998) suggests that angular-shaped squares represent a boundary property, indicating that the shape itself has boundaried elements in the metaphor of floor and walls. Squared shapes have also been linked to associations with a visual 'order' (Moss et al., 2007). Angular shapes have also been linked to brand stability and product reliability (Adir et al., 2012; Jiang et al., 2016).

Figure 7. Illustration of H6



Suppose angular features stimulate attributes associated with *leadership, intelligence, reliability,* and *technical skills*. In that case, they should be perceived as more congruent with brands that possess human-like characteristics relating to a Competent brand personality. This implies that if the consumer is exposed to an angular logo, the perception of a Competent brand personality will be enhanced (Figure 7). Therefore, the sixth hypothesis is formulated as follows in Table 10.

Table 10. H6

H6: Compared to brands with rounded logos, brands with angular logos are perceived to have a more Competent brand personality
H6a: Compared to brands with rounded logos, brands with angular logos are perceived as more intelligent H6b: Compared to brands with rounded logos, brands with angular logos are perceived as more technical H6c: Compared to brands with rounded logos, brands with angular logos are perceived as more aligned with a leader H6d: Compared to brands with rounded logos, brands with angular logos are perceived as more reliable

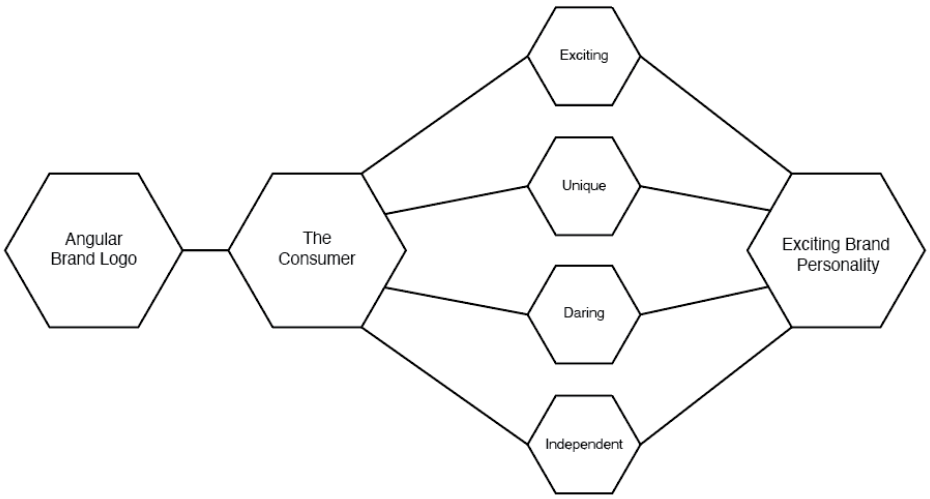
2.5.2.4 Angular Logo's Effect on Excitement (H7)

An Exciting brand personality is inferred as an attention-getting, extrovert, social, and energetic brand associated with exciting moments and events (Aaker, 1997; Cai & Mo, 2019; Maehle et al., 2011). Prior research on an Exciting brand personality has found that it can influence different aspects of consumer behavior and evoke arousal emotions (Luffarelli et al., 2019). Research has found a correlation between a large-sized logo and an Exciting brand personality, which combined leads to higher processing fluency and more favorable brand evaluations (Cai & Mo, 2019). Similar findings have been linked to angularity, which generates higher perceptions of excitement (Bajaj & Bond, 2018). According to Blazhenkova and Kumar (2018), angular shapes enhance associations with exciting emotions. This indicates that the emotion of excitement corresponds to both an angular shape and an Exciting brand personality.

Zhu and Argo (2013) found that an angular seating arrangement primed the participants with a need to be unique. Similarly, when individuality was sought, angular features were considered more attractive (Zhang et al., 2006). This means that the attributes of uniqueness and independence are congruent traits between angularity and an Exciting brand personality.

As outlined in previous discussions, angular shapes are linked to potency-related attributes, which can be linked to daring traits (Zhang et al., 2006). Angular objects, specifically sharp shapes such as triangles, not only elicit perceptions of excitement but also danger, as they visualize a haptic illusion of pain and thus trigger fear (Aronoff, 2006; Bar & Neta, 2006; Larson et al., 2011; Luffarelli et al., 2019). It can thus be argued that possessing angular objects is associated with danger and potentially increases power as such objects are imagined to be a course of action to increase status through dangerous signaling. Dangerous signaling can be viewed as a daring form of costly signaling, as it signals confidence and relevant skills desired to gain status and attract a mate. Thus, when a brand possesses an angular logo that signal attributes related to daring, it is theorized that people are more inclined to view the brand as Exciting.

Figure 8. Illustration of H7



Given the potential fit in the semantic meaning between an angular-shaped logo and an Exciting brand personality, it is assumed that there are resembling associations between the two brand elements. Thus, if angular features are perceived as *exciting*, *unique*, *daring*, and *independent*, the consumer is argued to perceive the brand as having an Exciting brand personality (Figure 8). Therefore, the seventh hypothesis is formulated as follows in Table 11.

Table 11. H7

H7: Compared to brands with rounded logos, brands with angular logos are perceived to have a more Exciting brand personality
H7a: Compared to brands with rounded logos, brands with angular logos are perceived as more exciting H7b: Compared to brands with rounded logos, brands with angular logos are perceived as more unique H7c: Compared to brands with rounded logos, brands with angular logos are perceived as more daring H7d: Compared to brands with rounded logos, brands with angular logos are perceived as more independent

Summarily, the angular logo is hypothesized to enhance perceptions of an Exciting, Rugged and Competent brand personality, see Table 12.

Table 12. Brand Personality Characteristics & Angular Shape Attributes

Brand Personality	Brand Personality Characteristics	Logo Shape	Brand Personality Characteristics & Corresponding Angular Associations
Ruggedness	Outdoorsy Masculine Western Tough Rugged	**Angular**	**Masculine** (Blazhenkova & Kumar, 2018) **Tough** & **Rugged**,(i.e., rough, durable) (Blazhenkova & Kumar, 2018; Jiang et al., 2016)
Competence	Reliable Hard-Working Secure Intelliget Technical Corporate Successful Leader Confident	**Angular**	**Technical**, i.e., order (Moss et al., 2007; Moss, 1995) **Intelligent**, i.e., Rationality, competence (Blazhenkova & Kumar, 2018; Griskevicius & Kenrick, 2013 **Leader,** i.e., power, strength (Blazhenkova & Kumar, 2018) **Reliable,** i.e., durability, stability (Jiang et al., 2016; Adir et al., 2012
Excitement	Daring Trendy Exciting Spirited Cool Young Imaginative Unique Up-to-date Independent Contemporary	**Angular**	**Exciting** (Blazhenkova & Kumar, 2018) **Unique** (Zhu & Argu, 2013; Saad, 2011; Buss, 2019) **Daring** i.e., tough, aggressive (Buss, 2019; Blazhenkova & Kumar, 2018) **Independent** (Zhang et al., 2006)

In summary, it is hypothesized that the logo shape will directly impact the consumers' perception of the brand personality. Specifically, it is theorized that rounded logos will enhance the brand's perception being aligned with a Sophisticated or Sincere brand personality. Similarly, it is theorized that angular logos signal certain attributes that will influence the perception of the brand logo being more aligned with a Rugged, Competent, or Exciting brand personality. Prior work provides important insights into brand personality and logo design. However, few studies address the interplay between these two brand elements. Therefore, the hypotheses formed aim to fill this gap within the literature by providing insights into the effect of logo shape on brand personality perceptions.

3. Context

This chapter will outline and discuss the context of the study, namely the context of luxury brands. The chapter will bring forth the reasons why the luxury context is deemed relevant to our study and culminate in more hypotheses. Before the hypotheses are presented, the luxury context needs further explanation and understanding.

3.1 Luxury Brands

According to Berthon and colleagues (2009), luxury is more than just material characteristics or a set of attributes. Instead, it can be thought of as a concept encompassing several contexts, namely, a mixture of social, individual, and material contexts and their roles in these three spheres (Berthon et al., 2009). For centuries, consumers have satisfied themselves with luxury goods (Husic & Cicic, 2009). Hence, it is a market with a steady growth rate for multiple reasons. For instance, globalization and the resulting wealth-creation, international travel expansion, and emerging affluent market segments are believed to be the main growth drivers (Chow et al., 2001; Statista Consumer Market Outlook, 2021).

Yeoman (2011) argues that a revolution has taken place where people worldwide have become wealthier, meaning that consumers increasingly engage in luxury consumption (Husic & Cicic, 2009). Traditionally, scholars argue that uniqueness, scarcity, and rarity constitute the meaning of luxury, as luxury brands have often been out of reach (Berthon et al., 2009; Dubois & Paternault, 1995; Yeoman, 2011). However, the increased wealth and number of brands create a challenge for luxury brands with the potential risk of being perceived as too accessible by appealing to the masses, resulting in losing their exclusive appeal (Yeoman, 2011). Thus, luxury brands face the challenge of expanding into the mass market as it entails balancing two conflicting goals: maintaining exclusivity while still growing revenues (Yeoman, 2011). Hence, the need for differentiation among competitors becomes increasingly important; therefore, the degree of a logo's visibility and congruent personality are argued to be especially important (Kotler & Keller, 2015).

The degree of visibility for the logo's appearance is notably vital for luxury brands (Kotler & Keller, 2015), especially since aesthetics is one dimension in which luxury brands can differentiate themselves (Berthon et al., 2009). Findings show that when a luxury handbag had a visible logo, the purchase intent was higher for the social-adjustive participants than for the value-expressive ones (Wilcox et al., 2009). Despite an authentic or counterfeit brand, the researchers even found that the demand was determined by how well the brand fulfilled one's social goals. Hence, the consumer would base a purchase decision mainly on the appearance and visibility of the luxury brand (Phau et al., 2009). Concludingly luxury brands are argued to entail a higher social and symbolic value as they are recognized and admired by others, compared to non-luxury brands, which

emphasizes the heavy importance of a luxury brand's logo (Berthon et al., 2009; Stokburger-Sauer & Teichmann, 2013).

3.2 Luxury & Evolution (H8 & H9)

Researchers across disciplines agree on luxury consumption as a signal of information to others (Wang & Griskevicius, 2013). Signaling was critical in evolutionary studies in order to send information about one's health, status, strength, and other conditions that could increase survival and reproductive success (Buss, 2019). Luxury consumption is thus linked to various ultimate motives in which signaling has been necessary (e.g., Mead et al., 2011; Rucker & Galinsky, 2008; Sundie et al., 2011; Wang & Griskevicius, 2013).

In evolutionary theory, it is crucial to signal one's standing in the social hierarchy to gain resources and attract the most desirable females (Buss, 2019). Today, although subconsciously, people consume a wide range of products to alleviate their standing in the mating market and signal their social status (Saad, 2011). Saad (2011) argues that the most common product category to mediate its social status is luxury goods and points out that engaging in conspicuous consumption aims to signal one's abundant resources.

Further, Saad (2011) argues that luxury consumption is shaped by sexual selection and can thus be linked to evolutionary theory. He argues that humans' sexual nature guides modern consumers in their purchase decisions and preferences. Morse et al. (2015) further imply that luxury consumption can be explained through the parental investment theory, as men theoretically should be more motivated to attain higher levels of status and take more risks to do so in order to compete with other men for female attention successfully. Aligned with this, prior research has shown the effect of hormonal fluctuations as an influential factor in consumer choices (Saad, 2011). For instance, Saad and Vongas (2009) found evidence that their testosterone levels drastically increased when men drove a luxury sports car. Especially when competing against other men and when a woman was present (Saad & Vongas, 2009). Further, Saad and Vongas (2009) implied that this effect was found due to driving a luxury car being a form of sexual signaling. Therefore, displaying luxury products can today be translated into a form of costly signaling to signal desirable traits for reproductive benefits and gaining status (Saad, 2007).

In today's modern society, money is an important resource to signal wealth and thereby gain status in a group. Therefore, conspicuous consumption translates into wasteful consumption, which functions as a reliable signal of the desirable quality of financial fitness (Saad, 2011). Thus, luxury signaling works as a mating cue. When exposed to mating cues, consumers are more likely to spend money on luxury products (Griskevicius et al., 2007).

Women are believed to have developed the adaptive behavior of preferring a high-status mate as it solves the problems of acquiring resources. Thus, in general, women prioritize men's social status and view men who possess high-status and luxury items as attractive partners (Dunn & Hill, 2014; Dunn & Searle, 2010; Li, 2007). Thus, men exposed to such cues are more attentive to status goods and use displaying resources as a tactic of attraction (Saad, 2011). Therefore, men are more prone to choose luxury and expensive brands, flash money, brag about their success and achievements, and drive expensive cars (Buss, 1988; Janssens et al., 2011; Schmitt & Buss, 1996; Sundie et al., 2011). This is to successfully compete with other males for female attention (Saad, 2011).

Similarly, men in contexts with other men who display their conspicuous signals are likely to be mating rivals and aim to derogate their competitors by inferring that the rival is poor, lazy, and likely to fail in their profession (Buss & Dedden, 1990; Schmitt & Buss, 1996). Research even implies that men experience the emotion of envy more frequently than other men who are perceived to be higher in the status hierarchy and possess greater financial resources (DelPriore et al., 2012). Based on this, men are also more prone to show off their status and financial resources to other men and potential mating partners (Haselton et al., 2005). On the other hand, females tend to indulge in luxury consumption to protect their mates from female competition (Griskevicius & Kenrick, 2013). Thus, luxury consumption is prominent in both intrasexual competition and intersexual interplay.

Luxury consumption is also prominent in emerging markets and during economic recessions when people have an increased need to signal status to others to disassociate themselves from their reference group and people from lower societal classes (Nunes et al., 2011). Thus, people consume luxury goods to compensate for a potential decrease in status (Nunes et al., 2011). Buss (2019) implies that compensatory consumption in the form of luxury goods is a consequence of status anxiety. This means that the human functions in a way to motivate efforts to avoid a decrease in perceived status. When experiencing a loss in status, people tend to undergo the emotion of shame, which indicates that others within their social group devalue that person. As a result, the individual will perceive themselves as small, inferior, or contemptible (Buss, 2019). Thus, consequently, people engage in compensatory consumption to answer these status-decreasing threats (Buss, 2019; Saad, 2011).

The drive to gain and signal status to others is commonly found in luxury consumption research (e.g., Berthon et al., 2009; Han et al., 2010; Husic & Cicic, 2009; Nelissen & Meijers, 2011). Nelissen and Meijers (2011) found that luxury brand logos are associated with status and wealth. Compared to identical clothes without a label, consumers who wore clothes with a visible luxury brand's logo were more preferred and gained more financial benefits. They also found that those benefits were not observed when logos could no longer be an

indicator of wealth and status (Nelissen & Meijers, 2011). The logo is thus used as a tool to communicate certain attributes about oneself and distinguish oneself from others.

Han et al. (2010) also found that the need for status impacted the preference for logo size, as people who had a higher need for status preferred larger-sized logos to signal their status. The authors refer to this as 'loud signaling', indicating that people with a higher need for status have a stronger urge to display their status goods for others to visibly notice. Individuals who had less need to display their status were more attracted to a smaller logo or no logo (Han et al., 2010). Moreover, people who have a high need for status are more prone to show off their luxury items rather than items that could be misinterpreted as cheap (Han et al., 2010). This is because it is a costly signal to display financial fitness. From an evolutionary perspective, it increases one's status and success with reproduction (Buss, 2019; Saad, 2011), which is not fulfilled through cheap perceptions. Research also shows that people tend to become less price-sensitive when a status motive is activated, as cheaper products might signal lower status (Griskevicius & Kenrick, 2013).

Based on what is outlined, luxury consumption is commonly researched across disciplines. From an evolutionary perspective, the motives that drive the need for luxury consumption are deeply rooted in the principles of status and mating (Saad, 2011). As previously outlined, it is assumed that there exists a general preference for rounded logos. However, it is also assumed from an evolutionary perspective that the luxury context will amplify the general preference for the rounded logos due to the luxury context stimulating the need for status. Given this, it is believed that the general preference for rounded logos is stronger in the luxury context compared to the non-luxury context. Thus, the eighth hypothesis is formulated in Table 13.

Table 13. H8

H8: Consumers' preference for rounded logos is amplified by a luxury context compared to a non-luxury context

As previously stated, males have a greater need to display status and engage in status-enhancing consumption activities than females (Buss, 2019). A higher status gained greater resources and was more attractive to a mating partner (Buss, 2019; Saad, 2011). As hypothesized, it is argued that males, to a greater extent, have a preference for angular logos than females. This is because, from an evolutionary perspective, the angular shape signals desirable qualities found to be attractive in a male partner, such as power, strength, and toughness (Jiang et al., 2016; Zhang et al., 2006). Thus, by using a luxury product with an angular logo, the male can signal the most attractive qualities as well as the fact that they have money (Saad, 2011).

Similarly, the use of an angular logo was argued to be a form of costly signaling that proves mate value, as it indicates that the male can afford to engage in risky behavior (Sundie et al., 2011). Scholars agree that angular

shapes convey a sense of threat and thus activate fear cues (e.g., Bar & Neta, 2006). Using an angular logo can thus signal that the male exposes himself to danger, which is perceived as brave and courageous (Buss, 2019). It is thus argued that displaying an angular logo might, subconsciously, appear risky. Thus, it is considered a form of dangerous signaling that conveys a sense of strength, power, and dominance to others, leading to status advantages (e.g., Bloom, 2010). To compete with other males, you had to be the strongest and most dominant to succeed (Buss, 2019). Therefore, using an angular logo on luxury items sends signals about one's qualities to both females and other males. Since luxury consumption is a pure form of costly signaling, it is thus also likely that the preference for angular shapes will be increased among men. Especially since luxury goods, to a greater extent, stimulate the fundamental motives related to status and mating (Griskevicius & Kenrick, 2013; Saad, 2011). Thus, the ninth hypothesis is formulated in Table 14.

Table 14. H9

H9: Males' preference for angular logos is amplified by a luxury context compared to a non-luxury context

3.3 Luxury & Brand Personality

As previously outlined, the major drivers for purchasing luxury products are argued to be enhanced status and the symbolic meaning attached to the brand. Scholars argue that a brand's symbolic meaning is often linked to its brand personality (Sung et al., 2014; Vigneron & Johnson, 2004). Brand personality is deemed an essential concept for luxury brand managers, as such knowledge provides an understanding of the consumption pattern of luxury brands (Sung et al., 2014). Understanding consumers' luxury brand personality perceptions can predict behavioral and attitudinal responses toward the brand (Sung et al., 2014). Hence, examining luxury brand personality dimensions is a crucial starting point in understanding associated consumer behavior (Sung et al., 2014).

Tong et al. (2018) found that luxury fashion brands perceived as competent are also associated with expertise and reliability, similar to Aaker's (1997) definition of Competent brand personality. Similarly, Sung and colleagues (2014) suggest that luxury brands are perceived along six different personality dimensions: Sincerity, Excitement, Sophistication, Professionalism, Attractiveness, and Materialism (Sung et al., 2014), where the three former dimensions appeared to have similar meanings to the dimensions identified by Aaker (1997). Additionally, Professionalism is argued to still be connected to the brand's being reliable and intelligent, which is argued to be in line with Aaker's (1997) definition of the trait of Competence. This indicates that luxury brands are often aligned with a Competent brand personality.

Heine (2009) also suggests that luxury brands have five disparate personality traits: Modernity, Eccentricity, Opulence, Elitism, and Strength. Eccentricity was described with associations found in Aaker's (1997) trait of Excitement and Elitism with Sophistication. Heine et al. (2018) later built on Heine's (2009) research, combining the concepts of brand personality and brand anthropomorphization to introduce the notion of personality-driven brand management in the context of luxury brands. Heine et al. (2018) also state that although sophisticated and glamorous traits may not be beneficial for brand differentiation, they are still the traits shared by most luxury brands. Similarly, they suggest that all luxury brands are prestige brands, indicating personality traits aligned with confidence, sophistication, capability, and efficiency (Fournier & Alvarez, 2012; Heine et al., 2018).

Thus, according to prior research, it is evident that luxury brands have been associated with certain brand personality traits initially defined by Aaker (1997). While Aaker (1997) defined and introduced the brand personality framework consisting of five different traits, scholars have expanded this research into disparate industries. However, the personality scale presented by Aaker (1997) is considered the first reliable, robust, and valid scale to measure brand personality that has been widely used across research (George & Anandkumar, 2012). Research elaborating on Aaker's (1997) framework often finds the same personality traits, such as Sung and colleagues (2014) study. Hence, Aaker's (1997) brand personality scale is the most widely used and most well-developed scale. Therefore, it is deemed most valid and reasonable to use as a foundation in this thesis (Maehle et al., 2011).

3.3.1 The Logo Shape's Influence on a Luxury Brand Personality (H10 & H11)

The Sophisticated dimension consists of attributes one finds to be desired, such as elegance, upper class, glamorous, and is often perceived as feminine in nature (Aaker, 1997; Maehle et al., 2011). Brands perceived as very Sophisticated are usually also described as exclusive and glamorous, strongly associated with elegant aesthetics, and often used by consumers to impress others (Maehle et al., 2011). Thus, general characteristics of Sophisticated brands are argued to reflect a sophisticated and wealthy lifestyle, indicating higher price and higher quality, which means that they are exclusive and high class. This, thus, provides the brand with benefits by being highly symbolic and related to social signaling associated with the usage of the brand (Maehle et al., 2011). Hence, it can be determined that luxury brands are often associated with the personality dimension of Sophistication, as brands perceived as unsophisticated are often characterized by lousy quality and appear cheaper (Maehle et al., 2011). This is further supported by Pinto et al. (2019), who argue that sophistication is a brand personality trait closely related to luxury.

As previously outlined, rounded features are associated with similar attributes to those that determine the Sophisticated brand personality. Moreover, a Sophisticated brand personality is commonly associated with luxury brands. Therefore, it is assumed that the rounded logo, in a luxury context, will amplify the perceptions of a Sophisticated brand personality. Because the motives behind luxury consumption often lie in self-enhancement such as prestige and status, it is also assumed that there exist evolutionary explanations for why the perceptions might be amplified, as hypothesized in Table 15.

Table 15. H10

H10: The rounded logo's effect on consumer perceptions of a Sophisticated brand personality is amplified by a luxury context
H10a: The rounded logo's effect on consumer perceptions of the brand as feminine is amplified by a luxury context H10b: The rounded logo's effect on consumer perceptions of the brand as smooth is amplified by a luxury context H10c: The rounded logo's effect on consumer perceptions of the brand as good-looking is amplified by a luxury context

Moreover, Competence was also found to be the dimension that had the most substantial effect on purchase behavior (Eisend & Stokburger-Sauer, 2013). Similarly, in Maehle et al.'s (2011) study, participants often linked Competent brands with high-quality associations. In their study, a Competent brand was often associated with functional benefits, e.g., the capacity for problem-solving, compared to Sophisticated brands, which were more about symbolic benefits and value. Additionally, a Competent brand has also been linked with expertise and reliability (Maehle et al., 2011; Tong et al., 2018).

Furthermore, literature suggests two ways for humans to achieve status: dominance and prestige (Cheng et al., 2013). The first involves fear and physical intimidation, while the second involves attraction and competence. However, Chapais (2015) expanded this model and argued that only one way to the top exists: competence. This is because dominance is argued to involve competence, which also confers prestige (Chapais, 2015). Thus, both prestige and dominance require competence, meaning that competence is argued to be the underlying crucial domain for all paths leading to status (Buss, 2019). These adjectives are also aligned with the descriptors of a luxury brand.

As previously outlined, people with a higher need for status compensate through luxury consumption (Saad, 2011; Rucker & Galinsky, 2008). In modern societies, displaying high levels of competence through tasks valued by groups is one way for individuals to acquire prestige (Anderson & Kilduff, 2009, as cited in Buss, 2019). Knowledge, generous displays, intelligence, and social skills to enlist allies are also predictive of income and status (Buss, 2019).

As angular features are hypothesized to be associated with a Competent brand personality, and luxury brands often relate to a more Competent personality, it can further be hypothesized that the context of luxury brands

will enhance this perception. Therefore, based on what has been outlined above, the following hypothesis has been deduced in Table 16.

Table 16. H11

H11: The angular logo's effect on consumer perceptions of a Competent brand personality is amplified by a luxury context
H11a: The angular logo's effect on consumer perceptions of the brand as intelligent is amplified by a luxury context H11b: The angular logo's effect on consumer perceptions of the brand as technical is amplified by a luxury context H11c: The angular logo's effect on consumer perceptions of the brand as a leader is amplified by a luxury context H11d: The angular logo's effect on consumer perceptions of the brand as reliable is amplified by a luxury context

3.4 Luxury Brand of Choice

A suitcase brand will form the basis for the luxury context. The use of a suitcase brand is founded on several pillars. Firstly, the product category of travel suitcases is considered gender-neutral, i.e., unisex products (Ryu, 2020). Using a gender-neutral product reduces the risk of potential biases that might be culturally linked to different product categories or based on gender. This simplifies the data analysis process and strengthens the validity of applying an evolutionary explanation to potential findings, which would rely less on a product category's femininity or masculinity. Secondly, a suitcase is usually essential when traveling, meaning that it is a necessary product regardless of gender or age. Based on this, it is a relevant product category relatable to many consumers. Thirdly, a suitcase can both be associated with lifestyle, functionality, or luxury, thus making it a universal product category. A suitcase in a luxury context can be considered a costly signal according to the three qualities that a product needs to fulfill to be seen as a costly signal, i.e., easily observable, hard to imitate, and signal desirable qualities (wealth). Although counterfeit brands can imitate a luxury suitcase, it is a product that is argued to partly be displayed for the purpose of status. Thus, it emphasizes the brand in a luxury context and can trigger evolutionary motives.

Additionally, a luxury suitcase brand is considered to entail both utilitarian and hedonic benefits and values. While some researchers argue that a suitcase itself is mainly a utilitarian product (e.g., Crowley et al., 1992; Wang et al., 2019), the core competency of a luxury brand is argued to compose not only social values but also hedonic ones, linked with emotional attachment and relationships (Kapferer & Bastien, 2009). When it comes to luxury, hedonism takes precedence over utilitarianism. This is because luxury is about pleasure and a multi-sensory experience rather than functionality (Kapferer & Bastien, 2009). Additionally, it can be argued that a suitcase is strongly associated with the entire journey, which entails hedonic values. Thus, it is crucial to consider this when developing the study to ensure that the brand description reflects values of utilitarianism and hedonism. This is to minimize biases in terms of the hedonic or utilitarian benefits. Thus a suitcase brand is believed to constitute the best condition for the research question to be investigated and answered.

4. Methodology

The following chapter addresses the research design and methods used for testing the developed hypotheses. The chapter also outlines the methodological considerations and research strategy, as well as data collection and analysis. Thus, the development of the experimental study and data collection method will be outlined, as well as the testing instruments and analysis techniques used.

4.1 Research Approach

The area of whether the logo shape influences consumer preferences and potentially influences brand personality perceptions stems from interdisciplinary streams of knowledge. Through this thesis, the objective is to establish clarity and explain consumer behavior from an evolutionary perspective. Thus, the thesis departs from existing literature and prior theories, resulting in formulated hypotheses. Hence, it follows deductive reasoning, meaning that the hypotheses drive the process of data collection (Bryman & Bell, 2011; Saunders et al., 2016). After that, the data collection will produce findings leading to the rejection or confirmation of deduced hypotheses (Bryman & Bell, 2011; Saunders et al., 2016). The confirmation or rejection of the hypotheses will thus uncover if similar results to other studies are generated or if a new theory must be developed (Saunders et al., 2016). Saunders et al. (2016) also imply that not all hypotheses are required to stem from existing theories. Hypotheses can also be deduced from data collected from observations and reflections of the world before formulating hypotheses. Due to the combination of theories that form the proposed hypotheses, the hypotheses are partly founded on reflections and observations to open the possibility for new theory development and suggestions for future research (Saunders et al., 2016).

4.2 Methodological Approach

In line with deductive reasoning, the methodological approach to data collection is a mono-method quantitative research design in the form of an experimental survey (Bryman & Bell, 2011; Saunders et al., 2012). A quantitative strategy examines relationships between variables measured numerically, thus referring to the quantification of the data collection and analysis (Bell et al., 2019; Saunders et al., 2012). The use of a quantitative approach allows for larger samples that can be statistically tested and thus also allows for generalizations to be made (Bryman & Bell, 2011). Hence, it is also possible to validate relationships and causality between variables, making it feasible to test hypotheses.

Quantitative research methods are often conducted for experimental or descriptive designs (Lowhorn, 2013). Experimental designs, often in the form of surveys, evaluate the outcome to establish causality within a credible

confidence range (Lowhorn, 2013). A good research approach within experimental research allows for tests, measures, and comparisons to be performed as objectively as possible (Pruzan, 2016). In experimental designs, the objective is to measure specific quantities predicted by the hypotheses (Pruzan, 2016). These predicted values must be considered in conjunction with experimental measurements and statistical analysis. Thus, by adopting a quantitative research method in the form of an experimental design, it is possible to efficiently test hypotheses and answer the research question by performing relevant statistical tests (Pruzan, 2016).

Historically, quantitative methods have been emphasized heavier and credited with more legitimacy and validity than qualitative methods (Guba & Lincoln, 1994). It is important to maximize the study's validity in an experimental design, as experiments aim to gain results that can be generalized beyond the experimental context (Pruzan, 2016). However, Bryman and Bell (2011) argue that one major disadvantage and risk with a quantitative method is the risk of sampling error, implying that the results or findings cannot generalize to the entire population. This chapter thus aims to maintain transparency in how the measurement and data analysis were developed to increase the study's validity further.

Worth mentioning is that a quantitative approach is less likely to contribute to bias. This is especially important in experimental settings, as unbiased estimations and comparisons between conditions should be prioritized (Pruzan, 2016). Although disadvantages to quantitative research exist, it is deemed the most suitable method to investigate our research questions.

4.3 Research Strategy

The research strategy unfolds the plan of action to pave the way to answer the research question (Saunders et al., 2012). In line with the quantitative research method and in order to be able to collect the data needed for the research question to be investigated, the research strategy will be conducted through an experimental design.

4.3.1 Experimental Design

An experiment is a "research strategy whose purpose is to study the probability of a change in an independent variable causing a change in another, dependent variable" (McBurney & White, 2007, p. 670). It is a research strategy that owes a lot to the natural sciences but is also used widely in psychology and social science studies (Saunders et al., 2012). All experiments strive to determine whether a treatment produced a difference in a specific outcome rather than to explain why the difference occurred (McBurney & White, 2007). Thus, experiments are used to identify causal relationships. Therefore, the formed hypotheses are used as predictions since our study aims to anticipate whether a relationship between the variables exists (Saunders et al., 2012).

In order to be able to answer the research question, at least one variable must be manipulated to determine whether or not it influences the other variable (Bryman & Bell, 2011). Due to the nature of this experimental study, manipulators were developed to stimulate a predicted outcome.

4.3.1.1 Design of Experiment

This study aims to answer whether the logo shape interacts to affect underlying preferences as well as perceptions of brand personality. The study also aims to investigate whether the context of luxury amplifies these preferences and perceptions. Therefore, this study consists of two dimensions: *logo shape* (angular/rounded) and *context* (luxury/non-luxury), considered the manipulators of this study, which further determine the design of this experiment. Regarding brand logo preferences, the study aims to get insights into potential gender differences.

The experiment is a 2x2 matrix that constitutes four different conditions, thus forming the base for manipulation of the independent variable (Bryman & Bell, 2011). Because two different dimensions were tested, no control group was required. Therefore, the study consisted of four experimental groups that tested on one of four conditions in a self-completion survey (see Figure 9. Randomly assigning the participants to any of these four conditions enabled the detection of any difference between the groups and the minimization of potential biases (Bryman & Bell, 2011).

Figure 9. Conditions of the Experiment

	Round	Angular
Luxury	I. Round, Luxury	II. Round, Non-luxury
Non-luxury	III. Angular, Luxury	IIII. Angular, Non-luxury

The self-completion survey was developed in four versions whose design was determined by one of the four conditions. The surveys differed in terms of two aspects: *brand description* (luxury/non-luxury) and *brand logo shape* (angular/rounded). These were within their dimension kept as identical as possible to ensure that the manipulation was executed accurately in order for comparisons of results and generalizations to be made.

4.3.2 Logo Design: Pre-test

The logo has a central role in the study as a manipulator of logo preferences and brand personality associations. Thus, it had to be designed accordingly to ensure that the final logos fulfilled the requirements of rounded versus angular shapes. Therefore, a pre-test survey was conducted on a set of 13 logos (Appendix E).

4.3.2.1 Kiki-Bouba Effect

Blazhenkova and Kumar (2018) conducted research studying perceptions of human senses in conjunction with angular versus rounded shapes. Therefore, they provided the participants with images of the different shapes. In their experimental procedure of designing the shapes, they adopted the 'kiki-bouba' effect, which stems from findings that angular shapes are associated with narrow-vowel sounds, e.g., 'kiki,' whereas rounded shapes instead are associated with wide-vowel sounds, e.g., 'bouba' (e.g., Blazhenkova & Kumar, 2018; Köhler, 1929). The effect was also shown the other way around by Ramachandran and Hubbard (2001). They found that 98% of the participants consistently associated the word 'kiki' with spiky, angular shapes and the word 'bouba' with curved, cloud-like shapes. The effect is present cross-culturally and in different age groups (Blazhenkova & Kumar, 2018; Ngo et al., 2013). Hence, the 'kiki-bouba' phenomena were applied in the design process, where half of the logos were designed aligned with 'bouba' and thus had rounded and cloud-like features. In contrast, the other half was aligned with 'kiki' and thus had angular and sharp features.

4.3.2.2 Pre-Test Survey

The logos needed to be designed as similar as possible to manipulate the data correctly, meaning equal in size, complexity, and professionality, yet one angular and one round. It was also crucial that the logos were not associated with any cultural icons, symbols, or other events that directly derive from something familiar, strongly positive or negative, for those participating in the study.

To minimize potential biases and other cultural associations to the two finalized logos, a pre-test survey was conducted, see Appendix F. The purpose of the pre-test was to objectively decide which logo to use in the finalized experiment and if any associations were connected to the logos. Twenty-one participants in closed settings completed the pre-test in an online survey. The participants were also informed not to participate in the final survey due to the risk of biases of logo preference.

The pre-test consisted of statements where the participants indicated their opinions on a 5-point Likert scale of 'strongly disagree' to 'strongly agree' in a matrix table. The participants were, for example, asked about the perceived roundness and angularity of the logo, whether simple or complex and simply if they liked the logo. Identical statements were asked for all 13 logos. The logos were presented in a blended order of angular logos and rounded logos to minimize comparisons between the versions of the same logo and comparisons between

similar logo shapes. Due to previous findings of larger logos stimulating emotions of excitement (Cai & Mo, 2019), the logos were also presented in the same size and format to avoid additional biases.

The results were analyzed by comparing means and reported associations (Appendix F). This provided an objective overview of the logos, resulting in the two finalized logos in Figure 10, which were deemed most suitable and relevant for the true experiment. The logos did not differ much in perceived complexity, and neither had any noteworthy associations mentioned. Most importantly, one was strongly associated with angularity and the other with roundness.

Figure 10. The Logos Used in the Experiment

4.3.3 Survey Development

The experiment was executed through a self-completion survey, where the groups were manipulated and randomly assigned to participants. A survey was deemed most suitable for the experimental data collection as it allows easy comparison and is often perceived as authoritative by people, easy to explain and understand (Saunders et al., 2012). Surveys allow for efficient distribution as it is possible to spread online and thus gain a wider reach. It is a form of data collection that generates findings that can represent a larger population at a lower cost and in an effective manner (Saunders et al., 2012). From an evolutionary perspective, this strengthens the external validity, as the geographical and demographical spread of the sample thus reduces the risk of cultural and generational biases (Pruzan, 2016). However, a survey-based experiment also entails a risk of uncommitted answers, false information, and that the respondent has participated in the survey multiple times, which is more difficult to control (Lundahl & Skärvad, 1999). However, despite these aspects, the decision to provide an online survey-based experiment had benefits for the study.

A survey allows for structured questions, which is beneficial in an experimental design as it can test for statistically significant differences between means (Bryman & Bell, 2011; Pruzan, 2016). Structured questions are also thought to reduce researcher bias because the questions asked are the same for all participants. The survey consisted of structured closed-ended questions, from which the respondents had predetermined

limitations of seven alternatives (a 7-point Likert scale) to choose (McBurney & White, 2007). Closed-ended questions, however, entail some disadvantages. For instance, the respondents might not agree with the limited alternatives of closed-ended questions, and the limitations of alternatives also tend to put words in the respondent's mouth (McBurney & White, 2007). Despite the disadvantages, closed-ended questions were still deemed most efficient in terms of resources and were more useful and suitable for larger samples, which was desirable in this study (McBurney & White, 2007).

The survey comprised four blocks: *general demographic information, brand personality perceptions, logo appeal,* and *overall brand attitude,* where the latter section was not analyzed in the study. See the complete survey in Appendix G.

4.3.3.1 General Introduction

The survey began with a short introduction and instructions on the participants' tasks. Further, three general and potentially mediating demographic factors were asked: gender, age, and average gross income level per month. Although they are not hypothesized to be a mediating factor in this study, the decision to ask several questions about the demographics prevents the respondent from understanding what the experiment aims to look for. This is to minimize potential respondent bias, meaning that they answer questions based on what they think the researchers want them to answer (Gregg & Klymowsky, 2013). However, the other demographics also provide the possibility to test other factors if further explanations are sought.

4.3.3.2 Brand Description

No name is used to describe the brand throughout the survey. Instead, it is referred to as either a luxury or lifestyle brand (Appendix G). This is because using an already existing name or word, i.e., the kiki-bouba effect could potentially affect or frame participants to be more inclined to perceive the logo with more angular or rounded features (e.g., Blazhenkova & Kumar, 2018).

The brand was presented in two different contexts: luxury versus lifestyle, providing suitcases. This is to determine whether the luxury context impacts consumer behavior in relation to logo preferences and brand personality perceptions. One challenge in presenting the context was to describe the brand as neutral as possible yet inform the respondent of the context. Likewise, the descriptions needed not to differ substantially yet provided the notion of a luxury versus non-luxury brand. Thus, specific keywords and expressions were adjusted to contribute and fit the context. Additionally, both descriptions were formulated broadly in terms of brand personality, including all of the five dimensions identified by Aaker (1997), meaning that they attempt to not lean toward one particular brand personality. Similarly, the description expresses both utilitarian and hedonistic benefits to be as neutral as possible.

The brand description also differed in the price range (€50-150 versus €800-1600), which was determined through market analysis of potential competitors. Thus, the brand was positioned in the consumers' minds to contribute to the notion of the context. Hence, existing brands in the same product category were used as inspiration for developing the brand description.

To ensure that the description distinguished between a luxury context and a non-luxury context, ten close contacts were provided with one of the two descriptions to give feedback on their initial perceptions of the brand being of luxury or non-luxury character. The results validated that the descriptions were distinct enough to be used in the study.

4.3.3.3 Questionnaire

The first part aimed to measure whether the perception of a particular brand personality was dependent on the visual stimulation of a specific logo shape. Thus, the respondents were presented with a matrix in which they graded perceived brand perceptions aligned with Aaker's (1997) scale of brand personality characteristics. A 7-point Likert scale determined the response to each question, which is a suitable rating scale because it measures the respondents' direction of opinion and their magnitude (McBurney & White, 2007).

Previous research has used Aaker's (1997) 42-item personality scale (e.g., Grohmann, 2008). However, others have used a chosen set of different traits to ease the measuring process. To avoid the participant losing interest and providing uncommitted answers, a set of 21 items were tested that in previous chapters had been linked with either angularity or roundness. The respondents thus had to provide their personal ratings on their opinions of how well the 21 items described the brand they had been exposed to. The ratings appeared in the same fixed order for all items and participants. These 21 items were later reduced to 19 due to somewhat poor theory compliance.

The second part of the questionnaire aimed to cover the respondents' visual preferences for the logo. The respondents were asked to indicate on a 7-point Likert scale to what extent they liked and preferred the logo. Thus, this section explored whether the preference for either an angular or rounded logo differed within the same context through four different questions that referred to the appearance of the brand logo. The ratings appeared in the same fixed order for all items and participants. The analysis dropped the attitude variable due to the somewhat intangible definition.

The third and the last section intended to study the overall attitude and liking for the brand after presenting both the brand description (i.e., context) and the brand logo (i.e., shape). This aimed to study whether a congruency between a specific brand personality and a particular logo shape led to positive brand evaluations.

This section was not included in the analysis due to the complexity of the data analysis that required more dedicated time and written space, which this thesis does not allow for. All scales used are summarized in Table 17.

Table 17. Scale Used in the Survey

Research Area	Type of Scale	Source
Visual Preference (Preferences, Attitudes, Liking, Appeal)	1-7 Likert scale (very unfavorable-very favorable; extremely negative-extremely positive, strongly dislike-strongly like, very ugly-very beautiful).	e.g., Kock et al., (2019)
Brand Personality (42-item BPS, 29 selected)	1-7 Likert scale (descriptive - non-descriptive, i.e., strongly disagree-strongly agree).	e.g., Grohmann (2008); Sung et al., (2014); Aaker (1997)
Brand Evaluation (Brand liking, Brand attitude)	1-7 Likert scale (strongly dislike-strongly like; extremely negative-extremely positive.	e.g., Van Rompay et al., (2009)

4.4 Data Collection

The data were collected through a survey tool called Qualtrics. The questionnaire was programmed with a randomizer tool, which facilitated the data collection process by dividing the groups into four conditions without involvement from the researchers. Thus, selection biases were minimized.

The survey was distributed to people within our personal networks and further spread in close and distant networks on social media channels (Facebook, Instagram, LinkedIn). It was shared both through our personal profiles and also within relevant networks. It was also encouraged to spread and share the survey with others in order to reach second-tier networks through a snowball effect (Bryman & Bell, 2011). The sample thus included close contacts, i.e., friends and family, to more distant contacts, such as colleagues, university classmates, and other business network groups. 338 people initiated the survey, while 215 finalized the questionnaire. The final sample size was thus 215 responses, divided between the four conditions, see Table 18.

Table 18. Allocation of Participants

Condition	Respondents	Split by Gender
I	53	M: 21 F: 32
II	57	M: 18 F: 39

III	52	M: 30 F: 22
IIII	53	M: 22 F: 30 O: 1

The study aimed for a minimum of 200 respondents, with 50 in each condition since that is argued to be a 'critical' sample size and is thus considered acceptable for the purpose of this study (Hair et al., 2009). Overall, 57% of the respondents were women and thus constituted the variable group of females, while 42% of the respondents were men, thus constituting the variable group of males. One respondent answered 'other' and was thus not included in the research where gender differences were studied. See the full description of the data sample in Appendix H.

Although the groups were randomly assigned to one condition each; the sampling process is considered a non-probability sample, more specifically, convenience sampling and snowball sampling (Bryman & Bell, 2011). A probability sampling method would be preferred due to the statistical benefit of absolute randomization; however, much research actually stems from non-probability samples (Gray, 2013). Although the questionnaire was distributed online and thus had the potential to reach many different people, the survey most likely reached those in similar networks as us. The risk of sampling error thus occurred; however, the survey did achieve a relatively even distribution regarding gender, which is the categorical variable used in the hypotheses. In terms of income level and age, the data includes extreme values and is thus considered somewhat skewed. However, adopting a probability sample would be too extensive for this study from a time aspect and the costs involved in guaranteeing a representative sample. The alternative is thus not completely open to this study (Gray, 2013).

Although it is unlikely that the sample would be fully representative, the evolutionary theme of this study did not demand a spread in demographics. From an evolutionary lens, this is because the theoretical assumptions would apply to all consumers regardless of age, nationality, and level of income, meaning that the terms for participating in the survey entailed no requirements. However, the gender aspect was an important part of the study; therefore, it was closely overviewed not to differ substantially. Therefore, distribution through online channels was the most efficient way to reach the desired number of respondents.

4.5 Data Analysis Techniques

The software IBM SPSS was used to analyze the collected data. Therefore, this section aims to outline the analysis techniques and statistical tools used in the study.

4.5.1 Grouping of Variables

In SPSS, we rearranged the data into latent variables. All answers were summarized to the rearranged variable 'condition,' dividing the answers into the four conditions used in the survey. These four conditions were further divided into two aggregated variables: round and angular. The context was not taken into account since they treat the preference for rounded versus angular logo regardless of context, see Table 19. Thus, for H1-H7, group 1 represents the respondents who participated in an experiment where the rounded logo was tested, while group 2 represents the respondents exposed to the angular logo. However, for H8-H11, the context of luxury is hypothesized to play a part in the outcome, meaning that the four conditions were not aggregated.

Table 19. Rearranged Variables

Rearranged Variable	Including Variables
Condition	Condition 1 (Round, Luxury), 2 (Round, Non-luxury), 3 (Angular, Luxury), 4 (Angular, Non-luxury)
Round versus Angular	Round (Condition 1+2), Angular (Condition 3+4)

Moreover, when investigating the preference for the logo shape, the following variables were looked at: *Liking*, *Preference*, and *Visual appeal*. These three variables were further aggregated to a new variable of *Overall logo preference*, which thus is the average mean of the three variables. Similar data rearrangement was completed for the variables testing brand personality perceptions, which summarized all respondents' answers into the latent variables by calculating an overall mean from those combined, see Table 20. This was done in SPSS through 'transform' → 'compute variables.'

Table 20. Latent Variables & Cronbach's Alpha

Latent Variable	Including Variables	Cronbach's Alpha*
Overall Logo Preference	Liking, Preference, Visual appeal	0.911
Sincere Brand Personality	Friendly, Sincere, Honest, Family-oriented	0.767
Sophisticated Brand Personality	Glamorous, Feminine, Smooth, Good-looking	0.623
Rugged Brand Personality	Masculine, Rugged, Tough	0.734
Competent Brand Personality	Intelligent, Technical, Reliable, Leader	0.781
Exciting Brand Personality	Exciting, Unique, Daring, Independent	0.713

**Below 0.7 considered a poor internal consistency*

Cronbach's Alpha, α (or coefficient alpha), was conducted to test the reliability or internal consistency of the latent variables; see Appendix I (Cronbach, 1951). The test measures to what extent the variables that constitute the latent variable are correlated, indicating how closely related the items are as a group. As a rule of thumb, a value above the threshold (0.7) is considered acceptable internal consistency, and a value below 0.7 indicates

that the set of items is not as closely related (Fields, 2018). The *Sophisticated brand personality* variable had a value below 0.7, which means that the items must be analyzed separately. Hence, sub-hypotheses were added. However, Fields (2018) states that values below 0.7 are expected in psychological research because of the diversity of variables measured. Nunnally (1978) even argues that in the development of new research, 0.5 will suffice. Although this latent variable has questionable reliability, the latent variable was still used due to the early stages of this research area. However, the results are critically assessed, and the items will individually be tested for significant differences.

Cronbach's Alpha is, however, sensitive to the number of items used in a test. A larger versus a smaller number of items can thus be reflected in Cronbach's Alpha. A smaller number can thus occur due to an insufficient number of questions on the test (Fields, 2018; Nunnally, 1978). Since only a 3-item scale was used for the *Sophisticated brand personality* variable, this small number of items can thus affect the reliability score. This suggests that the reliability of the latent variable might have been disrupted by the few items used in the scale.

4.5.2 Statistical Significance

In experimental designs with a quantitative research method, the research is based on a null hypothesis and an alternative hypothesis (Pruzan, 2016). The null hypothesis is the prediction if the alternative hypothesis is not true. Therefore, the alternative hypothesis manipulates the independent variable. Two types of errors can occur when testing these hypotheses. The first error refers to the situation in which the null hypothesis is rejected but is, in fact, true. In contrast, the second error occurs when the null hypothesis is accepted although false. Thus, an important aspect of testing for hypotheses is minimizing the risk of these errors occurring (Pruzan, 2016). The researchers must then determine an acceptable level of risk that the conclusion might be wrong. This is defined by the level of significance, i.e., the level of confidence in the test results (Pruzan, 2016). Statistical significance entails how unlikely the differences observed would be in a random sample from a single population. If such differences are very unlikely, the differences among means are statistically significant (Fitz-Gibbon et al., 1987).

The significance (Sig.) is expressed in statistical testing through a probability value (p-value) between 1 and 0. The p-value describes how likely the analyzed data would have occurred randomly by chance, meaning that the null hypothesis is true (McLeod, 2019). The alternative hypothesis asserts that the independent variable influenced the dependent variable, thereby supporting the investigated theory (McLeod, 2019). The significance level is thus the p-value for which the hypothesis is considered statistically significant, where the typical values to use are the confidence intervals of <0.1 (10%, $t \geq 1.64$), <0.05 (5%, $t \geq 1.96$), and <0.01 (1%, $t \geq 2.58$). These values correspond to the probability of observing such values by chance and entail the risk level the researchers accept that the null hypothesis is correct (Field, 2018). The smaller the p-value, the stronger

the evidence for the alternative hypothesis to be accepted. Although a 95% confidence level is the most common significance level to use, this analysis uses all three levels to get an indication of the strength of the relationship due to the small sample size of this study. However, the analysis will be based on a p-value of 5%. A p-value of 0.05 or less means that the data is statistically significant, and the hypothesis can be accepted as it only entails a 5% risk that the null hypothesis is correct (Field, 2018). The confidence interval of 99%, i.e., lower error rates, is often used in larger sample sizes (Labovitz, 1968). Thus, this level is only observed and not a criterion for the acceptance of hypotheses in this study. However, it is vital to note that a statistically significant result does not prove that the hypothesis is correct as it entails 100% certainty. Therefore, rather than providing evidence, the results provide support for the hypothesis (McLeod, 2019).

For some hypotheses in the study, the sample size is divided by eight factors, generating groups between 20 and 30 people. This infers that the data sample is somewhat diluted. Based on this, the analysis will not exclude that a p-level of 10% shows a weak significant difference, namely a trend, but due to the sample size will not reach the 5% or 1% confidence level. Combined with the fact that this research investigates a limited research area, a 10% level can contribute to detecting trends and further gain insights and inspiration for future research. This is considered important as the research area of brand aesthetics from an evolutionary perspective is an area in need of further research.

4.5.3 Statistical Techniques - Independent t-test

SPSS was used to conduct independent t-tests in order to analyze the data and contribute with statistical findings to either accept or reject the hypotheses. The independent t-test compares means (M) between two independent groups to determine whether statistical evidence exists that the means between the grouping variables are significantly different (Field, 2018). Therefore, the independent t-test is conducted in studies that compare two means from separate conditions (Field, 2018).

In SPSS, the independent t-test provides a table that tests both Levene's Test for Equality of Variances as well as t-test for Equality of Means. Levene's test measures whether variances are different for the variable groups, which thus decides if equal variance can be assumed or not (Field, 2018). The general rule for Levene's test is that a significance level higher than 0.05 (5%) indicates that the variance between the two tested conditions is relatively equal. Therefore, the top row of values for 't' is analyzed, meaning that the Sig. (2-tailed) column in the 'Equal variances assumed' is used (Brace et al., 2006). However, if Levene's test is lower than 0.05 (5%), there is no equality of variance. Thus, the bottom row of values for 't,' i.e., the Sig. (2-tailed) column 'Equal variances not assumed' is used to analyze the findings (Brace et al., 2006). Levene's test is dependent on the sample size; thus, as the sample size of this study is relatively small, the t-test for Equality of means will be used to analyze the findings. The Sig. (2-tailed) column indicates the p-value for two-tailed tests. Thus, this

number is compared to the used significance levels of this study to determine whether a hypothesis should be accepted or rejected. Similarly, the t-value and standard deviation will be presented in the analysis (Appendix J).

The independent t-test in SPSS also provides a table with useful descriptive statistics, showing the means of all testing variables. The mean is the average of the data's observations and is the center of the distribution, i.e., the central tendency (Barde & Barde, 2012). Regardless of whether the level of significance indicates a significant difference in means between preferences, the analysis is similarly conducted through manual comparisons of means. Due to the four conditions, each condition includes a relatively small sample size. Therefore, what might not be a significant difference can still differ in means, which thus were calculated and compared. See Appendix J. If the difference in means between the groups was greater than or equal to 10%, the difference was considered large enough to be considered a statistical difference. Differences under 10% are not taken into consideration.

This indicates that this study is not limited to Sig. (2-tailed) differences since the manipulations in the experiment have caused the differences in the results. Therefore, the analysis includes comparisons of means to study the potential causal effects caused by manipulations.

4.6 Validity & Reliability

Validity and reliability are central to experimental research designs, as it is important to be able to rationally believe the results (Pruzan, 2016). Validity implicates the trustworthiness of the study's results and determines whether the study measured what was intended to be measured (Lundahl & Skärvad, 1999). The concept of validity in relation to experiments is divided into internal and external validity (Pruzan, 2016). Internal validity infers that the conclusion of a relationship between a dependent and an independent variable implies a causal relationship and refers to two types of internal validity: statistical conclusion validity and causal validity (Pruzan, 2016). Statistical conclusion validity refers to the statistical justification, e.g., independent t-test, of the relationship between the dependent and independent variables. The causal validity instead refers to whether the results are consistent and statistically related to existing knowledge, such as similar empirical results (Pruzan, 2016).

External validity is instead concerned with whether the researchers can generalize the results beyond the experimental context (Pruzan, 2016). This means that the observed relationship between the independent and dependent variables is assumed to exist regardless of the experimental context, time, or other variables (Pruzan, 2016). External generalizability thus infers that the results covet to become universally applicable, and thus

also implies that the findings should be possible to replicate in another study (Pruzan, 2016). The importance of statistical analyses also applies to external validity.

Two hundred fifteen (215) participated in the survey, consisting of 123 women, 91 men, and one other. This means that the statistical margin of error can be relatively high (Körner & Wahlgren, 2015). To increase the study's validity, the number of respondents should be higher, thus decreasing the statistical margin of error. However, due to this thesis's limited time and space, the number of people participating in the study is viewed as acceptable.

The study's reliability is a criterion that refers to the stability and consistency of the experimental results (Pruzan, 2016). Higher reliability thus infers that in scenarios where the study is replicated, regardless of the method of measurement, consistent results are obtained (Puzan, 2016). Thus, reliability means the absence of random measurement errors. The results of an experimental study that scores high on reliability are therefore not affected when performed by someone else or if the contextual circumstances change (Lundahl & Skärvad, 1999). To ensure reliability, the study is structured through similar standardized conditions. The questionnaires are structured in an identical framework for all four tested conditions; however, minor changes were made in regards to logo shape and brand description. Although the survey was spread naturally in many different channels to efficiently reach a demographic spread, our networks are permeated by people with similar demographics. Thus, when imitating the study, one must be aware of the selection process to recreate the study proportionally with similar demographics. This would presumably generate higher reliability of the study.

Different aspects can lead to a study's inconsistency (Pruzan, 2016). One is that the experiment is poorly controlled, as this can generate variations in the results of the replicated experiment. Another is biasing, namely sampling bias and experimenter bias, which are important to minimize to increase the study's reliability (Pruzan, 2016). Likewise, it was important to minimize our personal bias and subjectivity of the study throughout the entire experimental design. Otherwise, these can generalize faulty results or lead to falsely accepted hypotheses (Pruzan, 2016). These aspects were vital to consider, not only when designing and conducting the study but also during the analysis process.

5. Empirical Findings & Analysis

This chapter analyzes the collected data and discusses conclusions regarding the acceptance or rejection of the formulated hypotheses. As previously outlined, the analysis section builds on four conditions based on the dimensions of round versus angular logo and luxury versus non-luxury context.

5.1 Structure of Analysis

A total of 11 main hypotheses were tested, including additional sub-hypotheses. The first seven hypotheses aimed to investigate whether differences exist in logo preference in regards to roundness or angularity, whether men, in comparison to women, are more prone to prefer angular logos, and if the associations conveyed by roundness and angularity will enhance perceptions of a brand personality that stimulates similar values. Hypotheses 8-11 test the same variables, however, by adding a context of luxury. The order of hypotheses will be restructured into two sections to make it more comprehensible for the reader, see Table 21. Each hypothesis will end with a short discussion of the results and anchoring to the theory.

Table 21. Structure of the Analysis

Section I. Logo Shape Preference
Overall logo shape preference H1-H2 Overall logo shape preference, luxury versus a non-luxury context H8-H9
Section II. Brand Personality Perceptions
Logo shape's impact on brand personality perceptions H3-H7 Logo shape's impact on brand personality perceptions (Competent and Sophisticated) in a luxury context versus a non-luxury context H10-H11

5.2 Logo Shape Preference

This first section tests and analyzes hypotheses 1-2; whether there is a general preference for the round logo compared to the angular, and if males, to a greater extent, rank higher in preferences for the angular-shaped logo than females. The section is then followed by hypotheses 8-9, which test and analyze whether the luxury context amplifies these preferences. See an overview of the structure in Table 22.

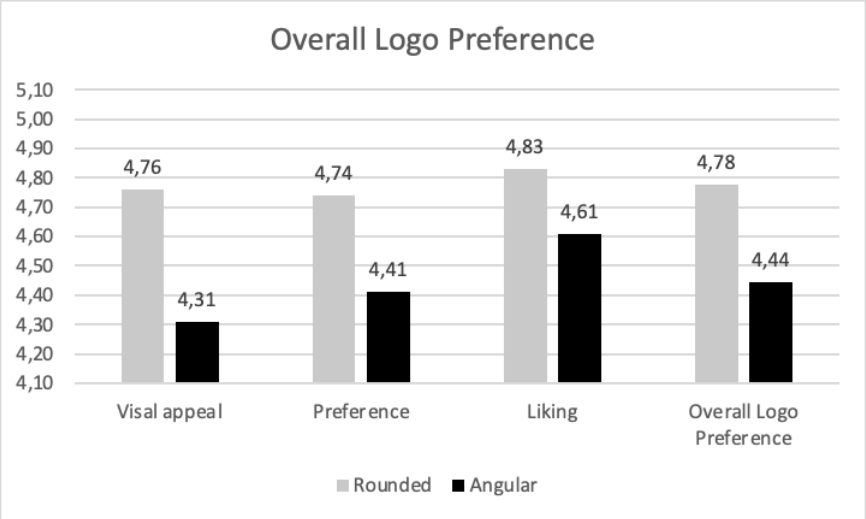
Table 22. Hypotheses of Brand Logo Preference

Hypotheses
Independent of Context
H1: Consumers generally prefer rounded logos over angular logos
H2: Males have a stronger preference for angular logos than females
Luxury Context
H8: Consumers' preference for rounded logos is amplified by a luxury context compared to a non-luxury context
H9: Males' preference for angular logos is amplified by a luxury context compared to a non-luxury context

5.2.1 General Preference for Round Logos (H1)

The data were analyzed according to an independent t-test to predict differences in consumers' general preference for rounded logos through the grouping variables of round versus angular (Figure 11, Appendix K). Our test revealed a significant difference in the latent variable *Overall logo preference* ($p=0.035 < 0.05$, $t=2.122$), indicating participants' overall preference for the round logo ($M_{round}= 4.78$, $SD_{round}=1.082$, $M_{angular}=4.44$, $SD_{angular}=1.205$). Hence, this implies that the null hypothesis is unlikely to be true.

Figure 11. Means for Logo Preference



Analyzing all variables separately, *Visual appeal* showed a significant difference ($p=0.005 < 0.01$), indicating that the respondents had a distinct visual appeal for the round logo ($M_{round}=4.76$, $M_{angular}=4.31$). Similarly, a significant difference was found for *Preference* ($p=0.065 < 0.1$), indicating a weak yet significant preference for the round logo ($M_{round}=4.74$, $M_{angular}=4.41$). No significance was uncovered for *Liking* ($p=0.210$), indicating that the participants had no difference in liking for the round versus the angular logo and that the brand logo shape thus is not a determinant factor in terms of liking for the logo. These findings reveal that the participants

evaluated the round logo as more visually pleasing and preferred it over the angular logo. Hence, H1 is accepted. This finding highlights that consumers generally have a stronger preference for a rounded logo than an angular logo, further increasing the relevance of the study's identification of shape as a determinant of logo preference.

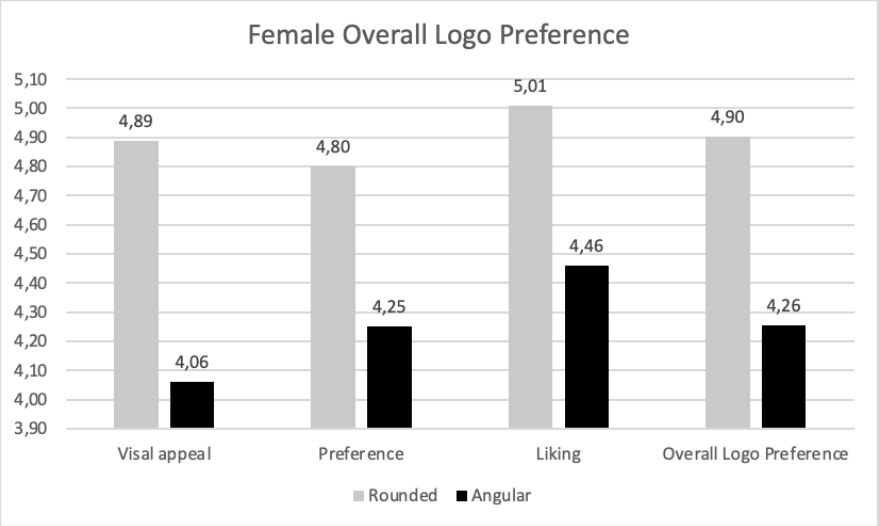
5.2.2 Angular Logos - A Male Preference (H2)

This hypothesis unfolds preferences in logo shape between males and females; therefore, the means between the two groups were compared through an independent t-test, split by gender.

5.2.2.1 Female Preference for Angularity

The data were analyzed according to an independent t-test to predict gender differences in preference for the angular logo through the grouping variables of round versus angular (Figure 12, Appendix L).

Figure 12. Means for Female Logo Preference



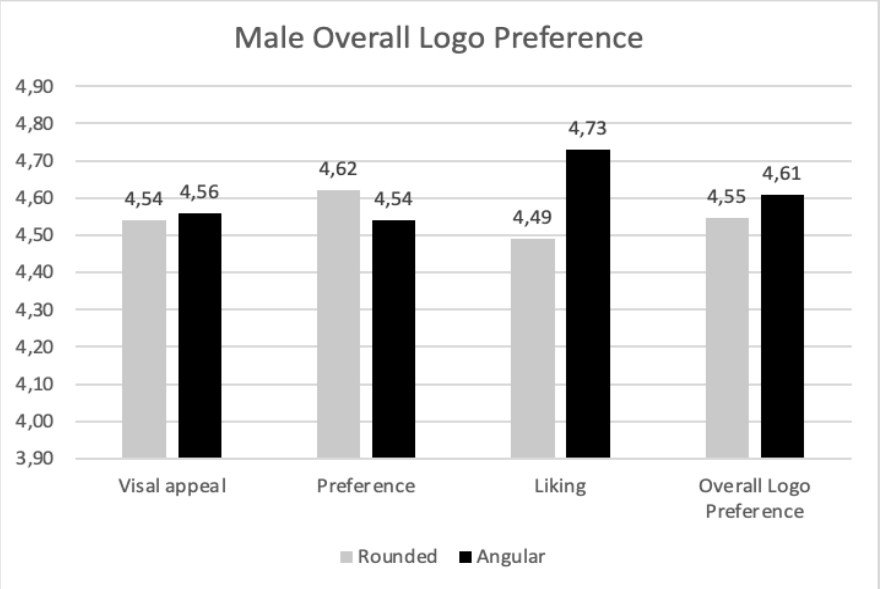
Our test showed a significant difference for the latent variable *Overall logo preference* ($p=0.002 < 0.01$, $t=3.229$), however, indicating that the female participants had an overall preference for the round logo ($M_{round}=4.90$, $SD=1.05769$, $M_{angular}=4.26$, $SD=1.14259$).

Analyzing all variables separately, *Visual appeal* ($p=0.000$, $M_{round}=4.89$, $M_{angular}=4.06$), *Preference* ($p=0.018$, $M_{round}=4.80$, $M_{angular}=4.25$), and *Liking* ($p=0.013$, $M_{round}=5.01$, $M_{angular}=4.46$), all showed a significant difference, indicating that female participants' experienced greater preference, liking, and visual appeal for the round logo compared to the angular logo.

5.2.2.2 Male Preference for Angularity

For males, our test revealed no significance for the latent variable *Overall logo preference* (p=0.806 > 0.1, t=-0.246), indicating that male participants' had no overall preference for any of the logo shapes (M_{round}=4.55, SD=1.10418, $M_{angular}$=4.61, SD=1.25022). See Figure 13 and Appendix L.

Figure 13. Means for Male Logo Preference



To gain further insights, all variables were analyzed separately. The independent t-test showed that neither of the individual variables of *Visual appeal* (p=0.940, M_{round}=4.54, $M_{angular}$=4.56), *Preference* (p=0.783, M_{round}=4.62, $M_{angular}$=4.54), and *Liking* (p=0.390, M_{round}=4.49, $M_{angular}$=4.73), had a significant difference. This indicates that men had no distinct preference, liking, or difference in visual appeal between the two logo shapes. To test the hypothesis for males', which assumed a higher preference for angular logos compared to females, means between the two genders were compared, see Table 23.

Table 23. Gender Differences in Means

Angular Logo ('2')	M_{male}	M_{female}	$M_{difference}$ (%)*
Visual Appeal	4.56	4.06	11%
Preference	4.54	4.25	6%
Liking	4.73	4.46	6%
Overall Logo Preference	4.6090	4.2564	8%

*The difference between means/highest counted means

Generally, males had higher means for *Overall logo preference* ($M_{angular,\ males}$=4.6090, $M_{angular,\ females}$=4.2564). However, the difference in means between genders was calculated below 10%, indicating that no distinct trend can be identified in males' higher overall preference for angular logos compared to females. *Preference* ($M_{angular,\ males}$=4.54, $M_{angular,\ females}$=4.25) and *Liking* ($M_{angular,\ males}$=4.73, $M_{angular,\ females}$=4.46) showed similar results. However, the variable of *Visual appeal* ($M_{angular,\ males}$=4.56, $M_{angular,\ females}$=4.06) detects a trend above 10%, indicating that males have a greater visual appeal for the angular logos compared to females. This result documents that males view the angular logo as more visually pleasing than females.

The experimental findings provide strong support for a female's preference for round logos. However, no significant difference was found for males' overall higher preference for angular logos compared to females. This indicates that males are more indifferent to what is considered an aesthetically preferred logo shape than females are. Although a trend is found in males, compared to females,' with greater visual appeal to the angular logo, H2 does not fulfill its requirements to be accepted. Hence, H2 is rejected.

5.2.3 Sub-discussion (H1 & H2)

As expected, the result shows statistical evidence for H1, indicating that people generally prefer round logos over angular logos. This finding is in line with prior literature supporting the general preference for rounded shapes (e.g., Bar & Neta, 2006, 2007; Bertamini et al., 2015; Carbon, 2010; Palumbo & Bertamini, 2016; Silvia & Barona, 2009; Westerman et al., 2012). From an evolutionary perspective, the general preference for rounded logos stems from humans' inherited preference for rounded objects. This is because round objects were naturally found in nature and were rarely harmful to the individual. Therefore, it conveyed a sense of safety and elicited positive concepts (Bar & Neta, 2006). This theoretical assumption is thus aligned with our statistical findings, which support the general preference for round features. Further, it supports the motive of *evading physical harm*, contributing to the extension of the application of this literature.

However, the general preference for round features has an opposed perspective, indicating that one prefers the round object due to the resentment and avoidance of angular-shaped objects as a self-protective mechanism (e.g., Bar & Neta, 2006). Therefore, Bar and Neta (2006) suggest that one might dislike the angular logo more than one prefers the round logo. Although prior research implies that humans (even apes and children) have a general preference for rounded shapes (Jadva et al., 2010; Munar et al., 2015), this study hypothesized that males' preferences change with their puberty, thus preferring angular shapes more than females' due to the evolved aggressive behavior that was needed in terms of hunting, mating, and climbing the status hierarchy (Buss, 2019). Aligned with the assumptions, our findings point to females disfavoring angular logos compared to round logos. For males, the only variable that had a noticeable difference was *Visual appeal,* implying that males, compared to females, are more visually attracted to or indifferent to the angular logo.

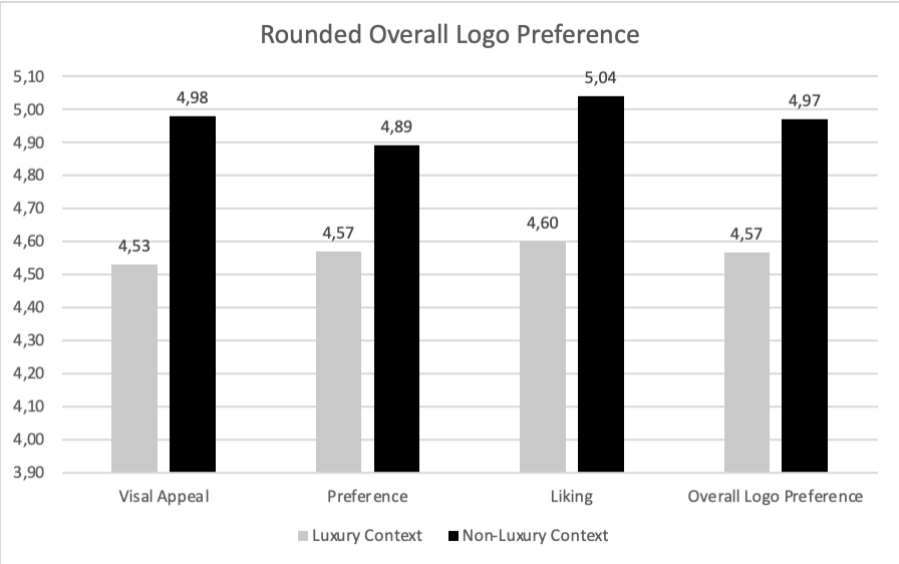
This is thus aligned with the theoretical assumptions of the sex differences in the development of fears and phobias, see section 2.3.2.1, suggesting that males are more shielded against fears due to their frequent exposure to threats. In contrast, females report a greater fear of harmful events (Fetchenhauer & Buunk, 2005). Fetchenhauer & Buunk (2005) argue that sex differences in fear development stem from sexual selection, meaning that risk-taking strategies were beneficial to men in terms of obtaining status, gaining resources, and succeeding with mating, while the cautiousness of women instead protected themselves and their offspring (Fetchenhauer & Buunk, 2005; Campbell, 2013). Therefore, it can be inferred that the angular logo expresses danger and thus conveys a sense of fear, further explaining why females are more reluctant towards them than males. This means that the lack of preference for the angular versus the round logo can be explained through sexual selection and the females' activated motive of *evading physical harm*.

Although men did not show any significant difference in preferences between the logos, they neither showed resentment towards the angular logo. Instead, the results point toward males' being somewhat indifferent in preferences between the two shapes. This is also in line with the evolutionary discussion above, suggesting that risk-taking strategies were beneficial for survival and status and that males, therefore, do experience fear cues less intensively. The angular logo might thus stimulate potent-related associations, implying that the shape possessed survival-relevant values. This could imply that males' to a greater extent, are willing to purchase products with an angular logo to signal these values to others and thereby gain status and attract a desirable mate. Although H2 cannot be accepted, this opens up further research possibilities within the area.

5.2.4 Preferences Amplified by the Luxury Context (H8)

By adding the dimension of luxury context, the general preference for the round logo was hypothesized to be enhanced. The data were analyzed according to an independent t-test to predict differences in consumers' general preference for rounded logos in a luxury context versus a non-luxury context through the grouping variables of condition 1 (round/luxury) and condition 2 (round/non-luxury), see Figure 14, Appendix M. Our test revealed a significant difference for the latent variable. *Overall logo preference* ($p=0.050 \leq 0.05$, $t=-1.985$), indicating that participants had an overall preference for the round logo in a non-luxury context compared to the luxury context ($M_{luxury}=4.5660$, $SD_{luxury}=1.17594$, $M_{non\text{-}luxury}=4.9708$, $SD_{non\text{-}luxury}=0.95801$). This result is opposed to the assumptions made through the formulation of H8.

Figure 14. Means for Round Logo Preference, Luxury & Non-luxury Context



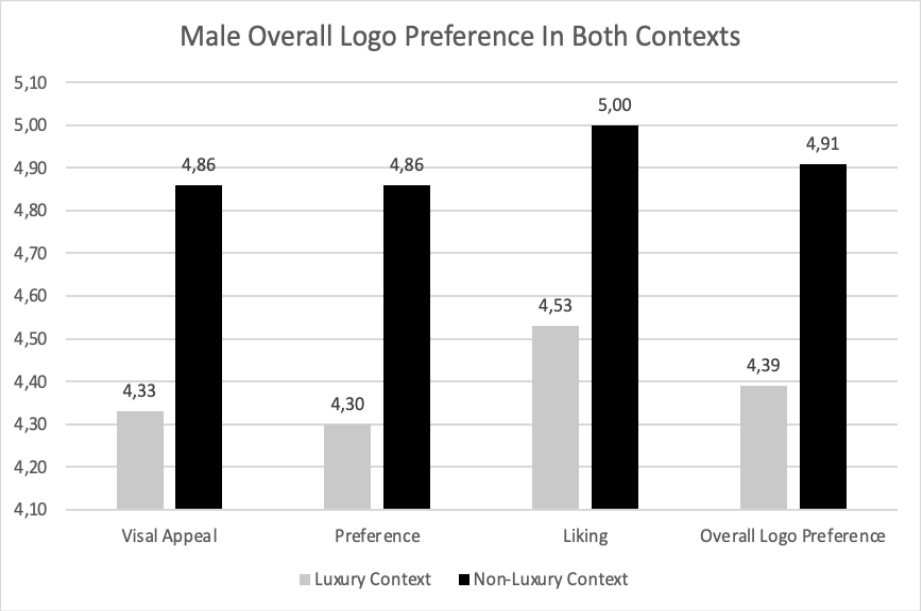
When analyzing the variables separately, it becomes evident that the same significant effect is found in terms of *Visual appeal* ($p=0.034 < 0.05$, $M_{luxury}=4.53$, $M_{non\text{-}luxury}=4.98$) and *Liking* ($p=0.068$, $M_{luxury}=4.60$, $M_{non\text{-}luxury}=5.04$). This indicates that the participants experienced a greater visual appeal and liking for the round logo in a non-luxury context, compared to a luxury context. *Preference* showed no significant effect ($p=0.145$).

The result indicates that the participants prefer the logo more in the non-luxury context than in the luxury context. This implies that, as opposed to the assumptions made through H8, the luxury context is not an amplifier of the general preference for the round logo. H8 is therefore rejected.

5.2.5 Angular Preferences Amplified by the Luxury Context (H9)

The hypotheses development predicted that the luxury context would amplify the male preference for angular logos. To measure whether such an effect exists, an independent t-test was conducted to predict differences in males' preference for angular logos in a luxury context versus a non-luxury context through the grouping variables of conditions 3 (angular/luxury) and 4 (angular/non-luxury), see Figure 15 and Appendix N. Our test revealed no significant difference ($p=0.140$, $t=-1.500$) for the latent variable *Overall logo preference* ($M_{luxury}= 4.3889$, $SD_{luxury}= 1.17145$, $M_{non\text{-}luxury}= 4.9091$, $SD_{non\text{-}luxury}= 1.31809$) indicating that the luxury context did not amplify the male participants' preference for the rounded logo. Similarly, no other variable of *Visual appeal* ($p=0.130$), *Preference* ($p=0.164$), or *Liking* ($p=0.230$) demonstrated a significant difference for the luxury context in amplifying males' preference for angular logos.

Figure 15. Means for Male Logo Preference, Luxury & Non-luxury Context



Comparing means for all variables, Table 24 indicates that the opposite effect to what we hypothesized might be present. This implies that males' preference for angular logos is amplified in a non-luxury rather than a luxury context. This finding is thus opposed to what was formulated through the hypothesis. Although the p-values do not show a significant difference, the difference in means suggests that a difference exists. This result thus suggests that the sample size is too tiny (Appendix H). Therefore, including a larger sample size could potentially provide significant differences as opposed to those assumed in H8. Therefore, H9 is rejected.

Table 24. Differences in Means Between Contexts

Angular Logo ('2')	M_{luxury}	$M_{non\text{-}luxury}$	$M_{difference}$ (%)*
Visual Appeal	4.33	4.86	10.9%
Preference	4.30	4.86	11.5%
Liking	4.53	5.00	9.4%
Overall Logo Preference	4.3889	4.9091	10.4%

*The difference between means/highest counted mean

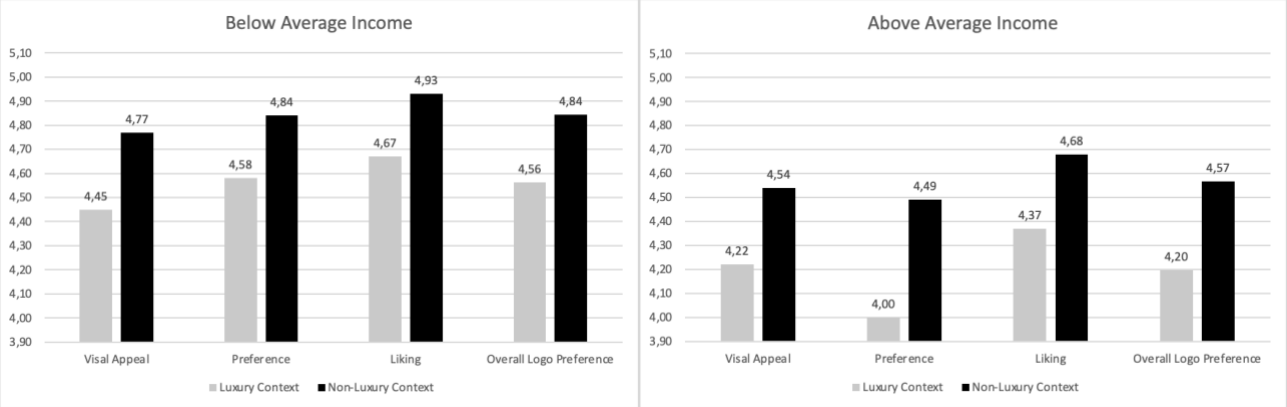
5.2.6 Sub-discussion (H8 & H9)

The findings reveal interesting results as opposed to the assumptions in the literature review. The luxury context did not enhance the effect of preference for the round logo. Similarly, the luxury context did not

amplify the male preference for angular logos. As opposed to the hypotheses, the non-luxury context was generally preferred.

It is important to acknowledge that respondents tend to answer questions subjectively. Luxury is a category that everyone does not consume. Therefore, a post hoc test was conducted where income level was added as a potential explanation for this result (Figure 16, Appendix O). The majority of the participants reported an income level below average (Appendix H), this could thus imply that the luxury context was not personally relevant for the majority of participants. Therefore, this might indicate that weaker financial fitness is a determining factor in the preference for the non-luxury context. It is, however, important to state that these findings should be analyzed with caution as the sample size between the two income groups varied to a great extent and could thus impact the result.

Figure 16. Differences in Means Between Income Levels, Luxury Context & Non-luxury Context



For *Visual appeal* ($p=0.078 < 0.1$), the post hoc test showed a significant difference for participants in the lower-income group to be more visually appealed by logos in a non-luxury context compared to a luxury context. Although *Liking* ($p=0.183 > 0.1$) and *Overall logo preference* ($p=0.112 > 0.1$) move towards a trend of a significant difference ≈ of 0.1; it cannot be considered a significant difference. However, suppose a larger sample size was used. In that case, it is possible that the test would show a significant trend in terms of preference for the round logo in a non-luxury context, indicating that participants with an income below average prefer the non-luxury context due to their lower financial fitness. When comparing means (Figure 16), participants in the above-average income group indeed had a somewhat greater preference for the round logo in a non-luxury context. However, besides *Visual appeal*, the results showed no significant difference between the two contexts. Overall, this result might indicate that participants with an income below average prefer the non-luxury context due to their lower financial fitness; however, this was not statistically confirmed.

However, suppose a larger sample size was used. In that case, it is possible that the test would show a significant trend in terms of preference for the round logo in a non-luxury context, indicating that participants with an income below average prefer the non-luxury context due to their lower financial fitness. When comparing means (Figure 16), participants in the above-average income group had a somewhat greater preference for the round logo in a non-luxury context. However, besides *Visual appeal*, the results showed no significant difference between the two contexts. Overall, this result might indicate that participants with an income below average prefer the non-luxury context due to their lower financial fitness; however, this was not statistically confirmed.

From an evolutionary perspective, costly behavior signals one's survival-relevant fitness, and only those in excellent condition can afford to display costly acts (Buss, 2019; Sundie et al., 2011). In modern behavior, conspicuous consumption is considered a costly signal to enhance one's status (Saad, 2011). However, if the person in question does not have the financial condition to engage in conspicuous consumption, it will instead be perceived as a considerable risk to engage in. Thus, for participants who do not have the financial fitness to purchase luxury goods, it can instead be perceived as a survival mechanism to not engage in risky behavior such as costly signaling and instead stick to the status quo (Jost & Hunyady, 2005). People in the higher income group had no significant difference, indicating that financial fitness is a mediating factor in preferences for the round logo in a specific context. Thus, these findings are viewed as providing a direction for the interpretation of data, and income level could thus be a determining factor in the results.

These findings suggest that a luxury context might be difficult to measure with a sample size that largely consists of people with low purchasing power. Thus, criticism can be directed at the process of data collection. Assumably, the sample size consists of many students with a lower income (see Appendix H). As the study aims to add a luxury context, the data collection could thus have been directed towards people with a higher income to avoid biased answers. This should therefore be taken into consideration in future research.

5.3 Brand Personality Perceptions

This section tests and analyzes H3-H7, investigating whether the logo shape can affect brand personality perceptions. No context is taken into consideration for these hypotheses. The section is then followed by H10 and H11, which test and analyze whether the luxury context amplifies perceptions of sophisticated and competent brand personalities. All hypotheses regarding brand personality perceptions are summarized in Table 25.

Table 25. Hypotheses & Sub hypotheses for Brand Personality Perceptions

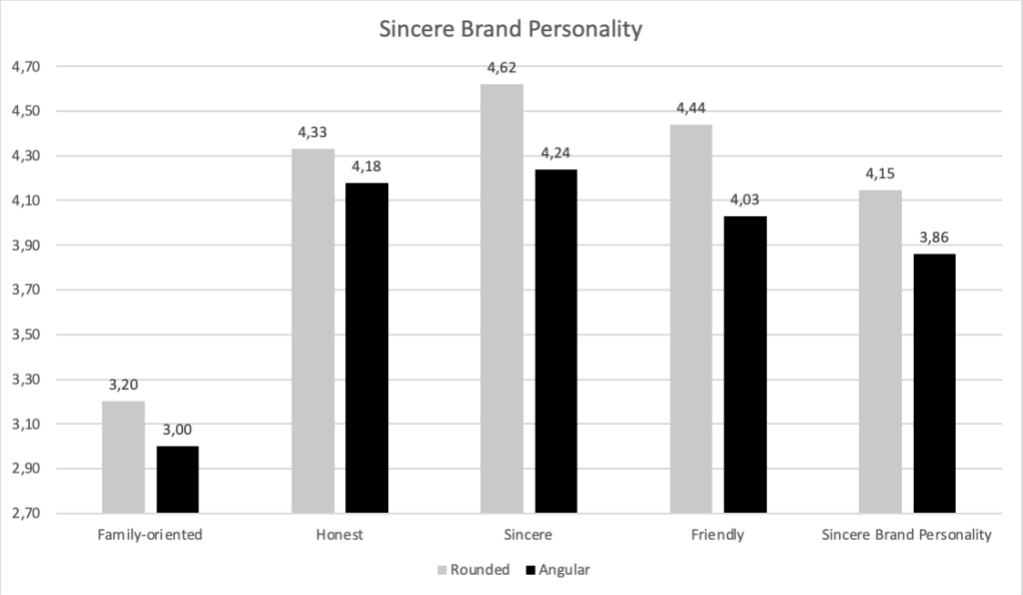
Hypotheses	Sub-Hypotheses
Independent of Context	
H3: Compared to brands with angular logos, brands with rounded logos are perceived to have a more Sincere brand personality	H3a: Compared to brands with angular logos, brands with rounded logos are perceived as more family-oriented H3b: Compared to brands with angular logos, brands with rounded logos are perceived as more honest H3c: Compared to brands with angular logos, brands with rounded logos are perceived as more sincere H3d: Compared to brands with angular logos, brands with rounded logos are perceived as more friendly
H4: Compared to brands with angular logos, brands with rounded logos are perceived to have a more Sophisticated brand personality	H4a: Compared to brands with angular logos, brands with rounded logos are perceived as more glamorous H4b: Compared to brands with angular logos, brands with rounded logos are perceived as more feminine H4c: Compared to brands with angular logos, brands with rounded logos are perceived as more smooth H4d: Compared to brands with angular logos, brands with rounded logos are perceived as more good-looking
H5: Compared to brands with rounded logos, brands with angular logos are perceived to have a more Rugged brand personality	H5a: Compared to brands with rounded logos, brands with angular logos are perceived as more masculine H5b: Compared to brands with rounded logos, brands with angular logos are perceived as more rugged H5c: Compared to brands with rounded logos, brands with angular logos are perceived as more tough
H6: Compared to brands with rounded logos, brands with angular logos are perceived to have a more Competent brand personality	H6a: Compared to brands with rounded logos, brands with angular logos are perceived as more intelligent H6b: Compared to brands with rounded logos, brands with angular logos are perceived as more technical H6c: Compared to brands with rounded logos, brands with angular logos are perceived as more aligned with a leader H6d: Compared to brands with rounded logos, brands with angular logos are perceived as more reliable
H7: Compared to brands with rounded logos, brands with angular logos are perceived to have a more Exciting brand personality	H7a: Compared to brands with rounded logos, brands with angular logos are perceived as more exciting H7b: Compared to brands with rounded logos, brands with angular logos are perceived as more unique H7c: Compared to brands with rounded logos, brands with angular logos are perceived as more daring H7d: Compared to brands with rounded logos, brands with angular logos are perceived as more independent
Luxury Context	
H10: The rounded logo's effect on consumer perceptions of a Sophisticated brand personality is amplified by a luxury context	H10a: The rounded logo's effect on consumer perceptions of the brand as feminine is amplified by a luxury context H10b: The rounded logo's effect on consumer perceptions of the brand as smooth is amplified by a luxury context H10c: The rounded logo's effect on consumer perceptions of the brand as good-looking is amplified by a luxury context
H11: The angular logo's effect on consumer perceptions of a Competent brand personality is amplified by a luxury context	H11a: The angular logo's effect on consumer perceptions of the brand as intelligent is amplified by a luxury context H11b: The angular logo's effect on consumer perceptions of the brand as technical is amplified by a luxury context H11c: The angular logo's effect on consumer perceptions of the brand as a leader is amplified by a luxury context H11d: The angular logo's effect on consumer perceptions of the brand as reliable is amplified by a luxury context

5.3.1 Brand Personality Perceptions: Sincerity (H3)

The data were analyzed according to an independent t-test to predict whether the logo shape impacted perceptions of a *Sincere brand personality* (Figure 17, Appendix P). Our test revealed a significant difference

for the latent variable (p=0.041 < 0.05, t=2.061), indicating that participants' exposed to the rounded logo perceived the brand as more sincere than participants exposed to the angular logo (M_{round}=4.1455, SD_{round}=0.96818, $M_{angular}$=3.8619, $SD_{angular}$=1.04868). Thus, indicating that the null hypothesis is unlikely to be true, and H3 is accepted.

Figure 17. Means for Sincere Brand Personality Perceptions



Analyzing all variables separately, *Sincere* showed a significant difference (p=0.027 < 0.05), indicating that the respondents perceived the brand with a round logo as more sincere (M_{round}=4.62, $M_{angular}$=4.24). Similarly, *Friendly* was found to significantly differ (p=0.022 < 0.05) in favor of perceptions related to the brand with a round logo (M_{round}=4.44, $M_{angular}$=4.03). This indicates that H3c and H3d are accepted. For *Family-oriented* (p=0.316 > 0.1) and *Honest* (p=0.405 > 0.1), no significant difference was uncovered, indicating that the participants did not view the brand with the round logo as more family-oriented or honest. This result implies that H3a and H3b are rejected.

These findings reveal that the participants evaluated the brand with a round logo as more sincere and friendly. Thus, it can be inferred that the round logo stimulates perceptions related to a *Sincere brand personality*. As outlined in chapter 4, the *Sincere brand personality* is a reliable variable, indicating that H3 is supported. These findings highlight that consumers exposed to a round logo view the brand as more sincere, increasing the relevance of the study's identification of the logo shape as a determinant of brand personality perceptions.

5.3.1.1 Sub-discussion (H3)

Both *Friendly* and *Sincere* showed a significant difference in means between the round and angular logos. This is aligned with the literature review as well as assumptions based on previous findings (Jiang et al., 2016; Liu

et al., 2018; Zhang et al., 2006). For instance, rounded shapes have been shown to prime the need to belong to a group and increase associations with closeness, comfort, friendliness, and warmth - all of which can be attributed to the characteristics of friendliness and sincerity (Jiang et al., 2016; Zhu & Argo, 2013). Research has also shown that round shapes impact product attribute perceptions and perceived customer sensitivity among service brands (Jiang et al., 2016; Landwehr et al., 2011; Liu et al., 2018). From an evolutionary perspective, friends and allies were crucial for survival, and people excluded from the group experienced intense psychological pain (Buss, 2019). Thus, it can be inferred that the round logo stimulates the motive of *affiliation* and consequently also *evading physical harm*. This is because the round features in the logo work as a friendly cue that further promotes belongingness and the safety of being part of a group. To no surprise, our study aligns with prior findings, contributing to the academia of round logos' impact on perceptions of *Friendly* and *Sincere*.

Although the hypothesis did not test gender differences, we conducted a post hoc test to gain further insights into the results (Appendix Q). The results showed that the perception of *Friendliness* and *Sincerity* was more significant among women than men, which could be explained by the females' sensitivity to fear cues and females' kin-like relationships (Buss, 2019; Fetchenhauer & Buunk, 2005). Previous findings show that angular features are perceived as more threatful, cruel, hard, and enhance perceptions of individuality and uniqueness (Jiang et al., 2006; Zhang et al., 2006; Zhu & Argo, 2013). Thus, angular features convey a threat of physical harm and exclusion, stimulating females' fear cues to a greater extent and affecting female perceptions of angular shapes as less friendly.

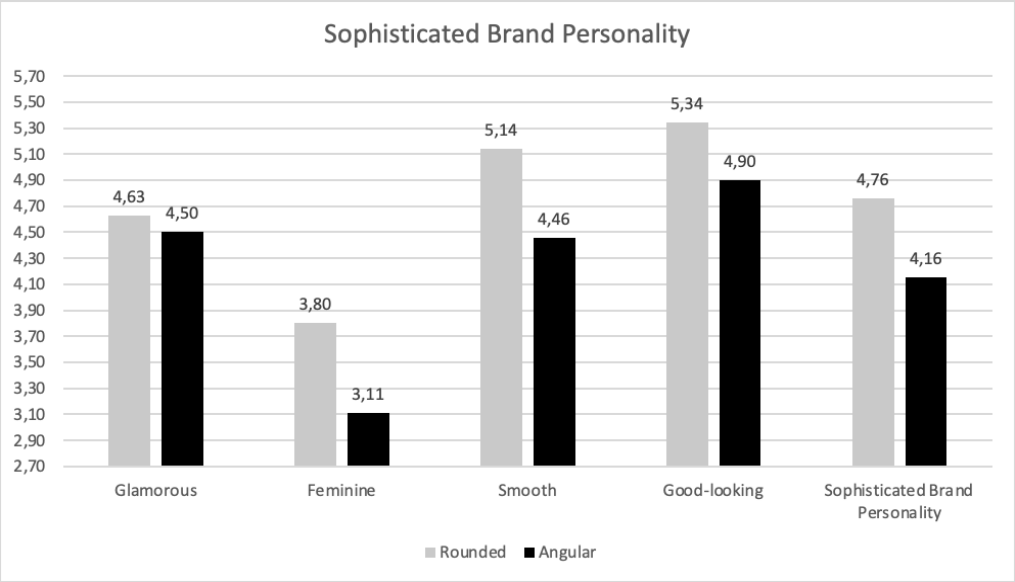
Generally, neither of the logos was perceived as very *Family-oriented*. Although it was theorized that, aligned with parental investment theory, both genders would view the brand with a round logo as more *Family-oriented*, females showed a difference in means of 11% (M_{round}=3.21, $M_{angular}$=2.85). This indicates that a trend can be detected in females' perception of the brand with the round logo as more family oriented. This suggests that females are more sensitive to family-orientation cues, which could further be explained through females' higher investment in parental care (motive of *kin care*). However, the product category could explain the general lack of family-orientation perceptions. Although the product category aimed to be as neutral as possible, it is impossible to include all aspects. Hence, it would be interesting to test another product category to investigate whether the round logo would generate the same results or differ in perceptions.

5.3.2 Brand personality perceptions: Sophisticated (H4)

The data were analyzed according to an independent t-test to predict whether the logo shape impacted perceptions of a sophisticated brand personality (Figure 18, Appendix R). As outlined in chapter 4, the latent variable *Sophisticated brand personality* is low in reliability indicating a questionable internal consistency.

This provides further reason to investigate each variable constituting the latent variable. Our test revealed a significant difference for the latent variable *Sophisticated brand personality* ($p=0.000 < 0.001$, $t=3.835$), indicating that participants' exposed to the rounded logo perceived the brand as more Sophisticated than participants exposed to the angular logo ($M_{round}=4.7250$, $SD_{round}=0.78325$, $M_{angular}=4.2405$, $SD_{angular}=1.04406$). Thus indicating that the null hypothesis is unlikely to be true, and H4 is accepted.

Figure 18. Means for Sophisticated Brand Personality Perceptions



Analyzing all variables separately, *Feminine* showed a very significant difference ($p=0.000 < 0.01$), indicating that the respondents perceived the brand with the rounded logo as more feminine ($M_{round}=3.80$, $M_{angular}=3.11$). *Smooth* was also found to significantly differ ($p=0.000 < 0.01$) in perceptions between the rounded logo and the angular logo ($M_{round}=5.14$, $M_{angular}=4.46$). Similarly, *Good-looking* also showed a very significant difference ($p=0.010 \leq 0.01$), indicating that the respondents perceived the brand with the round logo as more good-looking ($M_{round}=5.34$, $M_{angular}=4.90$). This indicates that H4b, H4c, and H4d are all accepted. *Glamorous* ($p=0.529 > 0.1$) showed no significant difference, indicating that the participants did not view the brand with the round logo as more glamorous. This result implies that H4a is rejected.

These findings reveal that the participants evaluated the brand with a rounded logo as more feminine, smooth, and good-looking compared to the brand with an angular logo. Thus, it can be inferred that the round logo stimulates perceptions of a Sophisticated brand personality. Although the latent variable is calculated as low in reliability, the overriding result points to the rounded logo's impact on perceptions of a Sophisticated brand personality, making it possible to accept the main hypothesis (H4). These findings highlight that consumers exposed to a rounded logo view the brand as more sophisticated, increasing the relevance of the study's identification of the logo shape as a determinant of brand personality perceptions.

5.3.2.1 Sub-discussion (H4)

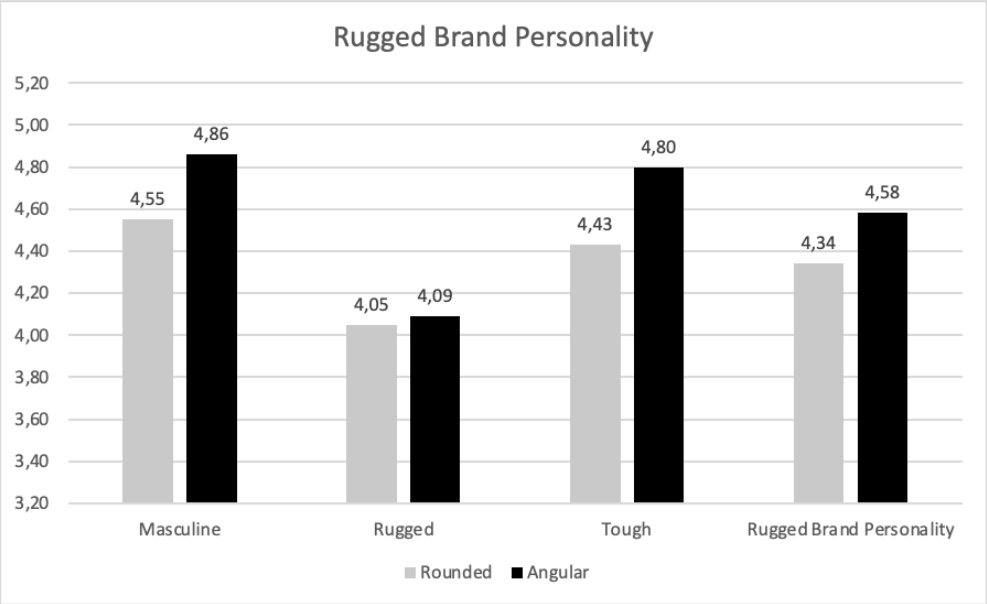
Aligned with prior research, the round logo enhanced perceptions of *Smoothness* compared to the angular logo. According to the literature, people prefer smoother textures and smoothly curved shapes as well as have a positive response to them (Bar & Neta, 2006; Blazhenkova & Kumar, 2018; Palumbo et al., 2015). Similarly, smooth features, as opposed to general sharpness, enhance perceptions of pleasantness and safety (Etzi et al., 2016). Thus, a possible explanation for this finding is that round and smooth curvatures were not harmful to the individual. Therefore, humans might have inherited behaviors seeking smooth features and avoiding sharp and angular objects. Hence, this aligns with the motive of *evading physical harm*, as it is assumed that the round logo stimulates smooth associations, promoting safety, thus leading the consumer to perceive the brand as more smooth (Bar & Neta, 2006; Griskevicius & Kenrick, 2013).

This arguably also explains the results of perceptions of *Good-looking*, as individuals, especially women, are drawn to objects that convey safety. Angular features are in research described as being more aggressive and dominant. On the other hand, round features signaled youthfulness and fertility and thus tended to be more liked and perceived as more attractive than angular faces (Buss, 2019; Chatterjee, 2013; Rhodes, 2006; Zebrowitz, 1997). The perception of a brand with a round logo as more good-looking can therefore be explained through the motive of *acquiring a mate* as a round face was more attractive in a mating partner, but also through the motive of *evading physical harm* as round faces were perceived as less threatening to the individual (Griskevicius & Kenrick, 2013). This study also showed a strongly significant difference in femininity perceptions among both genders. This is also aligned with prior research, indicating that a round logo stimulates perceptions of brand femininity (Buss, 2019; Lieven et al., 2015). Hence, this finding contributes to the same field within academia. In regards to the *Glamorous* variable, H10 will examine this further.

5.3.3 Brand Personality Perceptions: Rugged (H5)

The data were analyzed according to an independent t-test to predict whether the logo shape impacted perceptions to a rugged brand personality (Figure 19, Appendix S). As opposed to previous hypotheses, the latent variables *Rugged brand personality* showed no significant difference ($p=0.129 > 0.1$, $t=-1.524$), indicating that the perception of the brand as rugged did not depend on the logo shape ($M_{round}=4.3424$, $SD_{round}=1.22866$, $M_{angular}=4.5810$, $SD_{angular}=1.05513$). This indicates that the null hypothesis is more likely to be true and H5 is therefore rejected.

Figure 19. Means for Rugged Brand Personality Perceptions



Analyzing all variables separately, *Masculine* showed a weak significant difference ($p=0.080 < 0.1$), indicating that the respondents perceived the brand with the angular logo as more masculine ($M_{round}=4.55$, $M_{angular}=4.86$). Similarly, *Tough* was also found to significantly differ ($p=0.066 < 0.1$) in perceptions between the brand possessing the round logo and the angular logo ($M_{round}=4.43$, $M_{angular}=4.80$). This suggests that the participants exposed to the angular logo viewed the brand as more tough compared to those exposed to the rounded logo. Thus, H5a and H5c are accepted. Contrary, no significant difference was found in terms of *Rugged* ($p=0.877 > 0.1$), indicating that the participants did not view the brand with the angular logo as more rugged. This result implies that H5b is rejected.

These findings reveal that the participants evaluated the brand with an angular logo as slightly more masculine and tough compared to the brand with a round logo. This indicates that the angular logo stimulates perceptions that refer to a Rugged brand personality. However, since neither *Rugged* nor the latent variable was accepted, it is impossible to fully confirm that an angular logo stimulates perceptions of a Rugged brand personality.

5.3.3.1 Sub-discussion (H5)

An additional post hoc test was conducted to gain further insights into gender differences in masculine perceptions (Appendix T). Because masculinity is the opposite of femininity, both relating to brand personality perceptions, the test included both variables. Compared to the angular logo, the round logo significantly differed in terms of associations with $Femininity_{round}$ and $Masculinity_{angular}$. These findings are aligned with evolutionary theory, implying that round features are related to the female gender, including bodily features, whereas angular features are related to the male gender and body-related features such as harsher features and a V-shaped body (e.g., Buss, 2019; Blazhenkova & Kumar, 2018; Lieven et al., 2015; Schmitt & Simonson,

1997; Van Rompay & Pruyn, 2011). The result, however, shows that the round logo's average mean was higher in terms of masculinity rather than femininity. This thus implies that the product category of a suitcase brand might be perceived as more masculine in general. Therefore, it was deemed important to study the data where the logo was the only manipulator; thus, another post hoc test was conducted (Appendix U). The logo was viewed as rather masculine within the luxury and non-luxury contexts separately. However, the results imply that a brand with a round logo (compared to an angular logo) is viewed as more feminine, and the angular logo (compared to the round logo) has higher means of masculine perceptions of the brand. Therefore, this is aligned with prior theory, e.g., Lieven et al. (2015), who suggest that logo shape impacts brand gender perception.

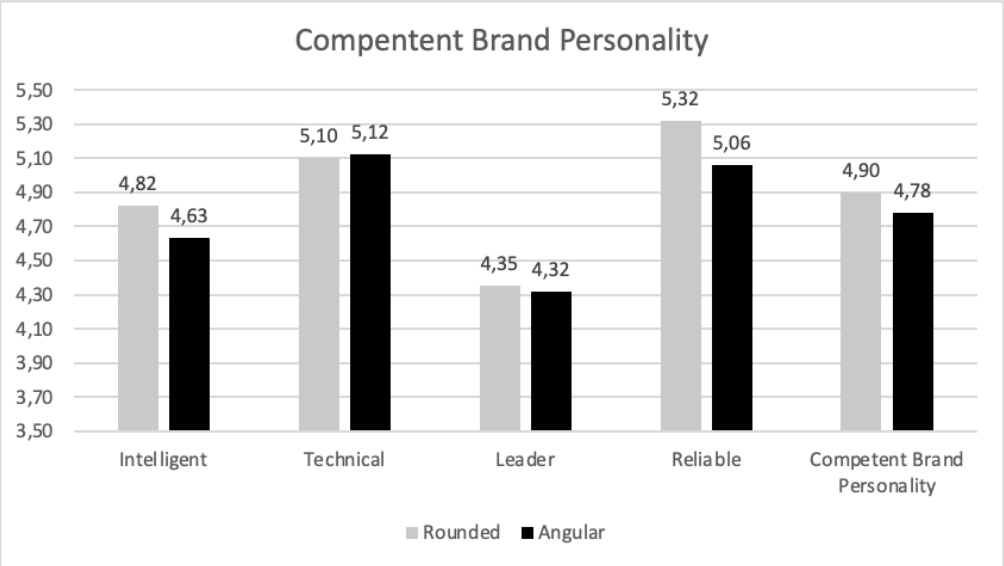
Interpreting these effects required another post hoc analysis split by gender (Appendix V). The result showed that females ($p=0.052 < 0.1$, 10% difference in M) compared to males ($p=0.588 > 0.1$, 3% difference in M) are more inclined to associate the angular logo, compared to the round logo, with masculinity. From an evolutionary lens, the male gender signals more aggression and thus conveys a bigger threat (Heerwagen & Orians, 2002). Heerwagen and Orians (2002) argue that the male gender in evolution is perceived as more dangerous. As outlined multiple times, females are more sensitive to threat cues conveyed from angularity. Females' perception of the brand with an angular logo as masculine could thus be an explanation for why females are less inclined to prefer the angular logo, referring back to H2.

Research also links toughness and ruggedness to angular features, partly supported by our findings (Van Rompay & Pruyn, 2011; Zhang et al., 2006). While our findings support the angular logo conveying brand associations with *Tough* and *Masculine* more than round logos, the variable *Rugged* is not nearly as significant. This contradicts research and the evolutionary perspective. Therefore, it is an interesting finding since *Masculinity* and *Toughness* convey similar meanings as *Rugged* (e.g., Van Rompay & Pruyn, 2011; Zhang et al., 2006). One explanation for this outcome could be that the participants did not understand the full meaning of the term rugged. The sample is assumed to primarily consist of people with other native languages than English, which could thus manipulate the results.

5.3.4 Brand personality perceptions: Competent (H6)

An independent t-test was conducted to predict whether the logo shape impacted the perceptions of a *Competent brand personality* (Figure 20, Appendix W). As opposed to the hypotheses and assumptions, no significant difference was shown in terms of the *Competent brand personality* ($p=0.396$, $t=0.851$) which indicates that the brand personality perception was not affected by the logo shape ($M_{round}=4.8977$, $SD_{round}=0.97403$, $M_{angular}=4.7833$, $SD_{angular}=0.99763$). H6 is therefore rejected.

Figure 20. Means for Competent Brand Personality Perceptions



Analyzing all variables separately, no variable showed any significant difference. As depicted in Figure 20, *Technical* is the only variable showing a slightly higher mean for the angular logo compared to the round (p=0.887); however, no distinct difference was shown, meaning that H6b is rejected. Unlike the theoretical assumptions, the other three variables, *Intelligent* (p=0.253), *Leader* (p=0.876), and *Reliable* (p=0.105), all showed higher means for the rounded logo, but no significant difference was detected. This also indicates that H6a, H6c, and H6d are all rejected.

5.3.4.1 Sub-discussion (H6)

The results are interesting considering prior findings in literature, as Grohmann (2008) found that angular logos increased the perception of a Competent brand personality. Similarly, Liu et al. (2018) found that angular logos activated perceptions of competence of service brands, suggesting that angular shapes can be used to communicate a Competent brand personality. However, as depicted in Figure 20, the average means are relatively high for all variables, indicating that the product category could generate more Competent brand personality perceptions. Thus, it would be interesting in future research to study several product categories to minimize bias related to a specific product category.

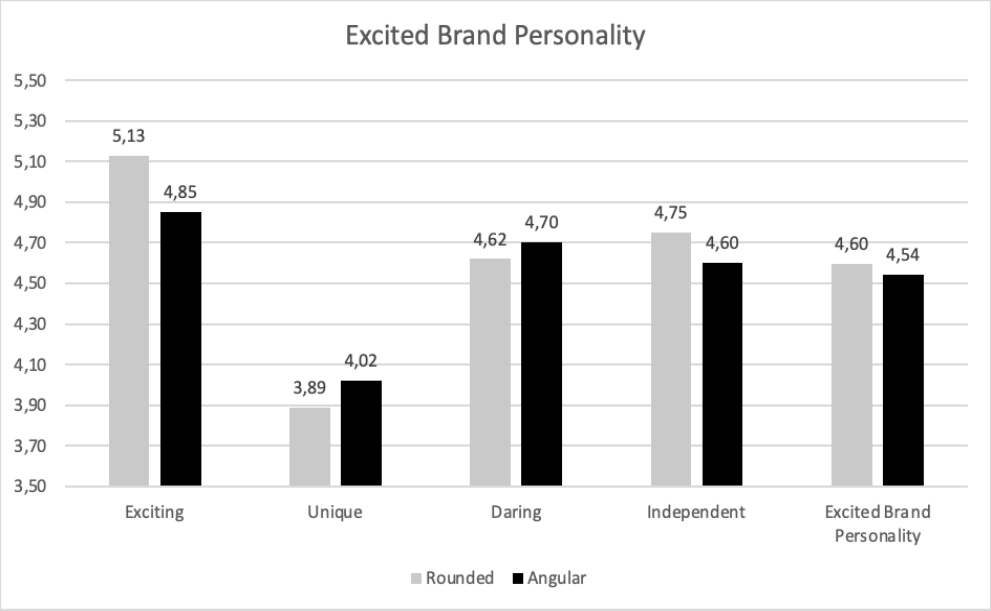
First, it was hypothesized that since the angular shape is linked to structure, durability, reliability, and stability (e.g., Jiang et al., 2016; Moss et al., 2007; Pettersson, 1999; Adir et al., 2012), the angular logo would stimulate such perceptions. Instead, a significant difference was shown in terms of *Reliability* in favor of the round logo. This can, however, have evolutionary explanations. Therefore, a post hoc test split by gender was conducted to gain further insights (Appendix X).

Except for females showing a significant difference in *Reliability* for the rounded logo ($p=0.043 < 0.05$), no other significant differences were found. Adopting an evolutionary perspective, roundness's impact on reliability perceptions among females are also be argued to be explained by the roundness conveying a sense of belongingness and safety (Buss, 2019; Munar et al., 2015), which is an aspect that can also be linked to the securing of resources. In line with the parental investment theory, females are also more dependent on finding a mate that provides resources (Buss, 2019). Thus, reliability can be viewed as an essential aspect for females and the survival of offspring. Thus, these findings suggest that the round logo conveys a sense of beloningness, safety and reliability, activating the inherited motives of *affiliation* and *parental care*, as belonging to a group increases the survival rate of self and offspring.

5.3.5 Brand Personality Perceptions: Exciting (H7)

The data were analyzed according to an independent t-test to predict whether the logo shape impacted perceptions of an *Exciting brand personality* (Figure 21, Appendix Y). Our data revealed that the latent variable *Exciting brand personality* showed no significant difference ($p=0.706$, $t=0.377$), indicating that exciting perceptions towards a brand did not depend on the logo shape ($M_{round}=4.5955$, $M_{angular}=4.5429$). This indicates that the null hypothesis is likely to be true, thus H7 is rejected.

Figure 21. Means for Excited Brand Personality Perceptions



Neither of the variables of *Exciting* ($p=0.141$), *Unique* ($p=0.549$), *Daring* ($p=0.652$), or *Independent* ($p=0.368$) showed a significant difference, indicating that these perceptions were not exclusive to a specific logo shape. This means that the logo shape did not matter in regards to the perception of an Exciting brand personality. This finding implies that H7a, H7b, H7c, and H7d, are rejected.

5.3.5.1 Sub-discussion (H7)

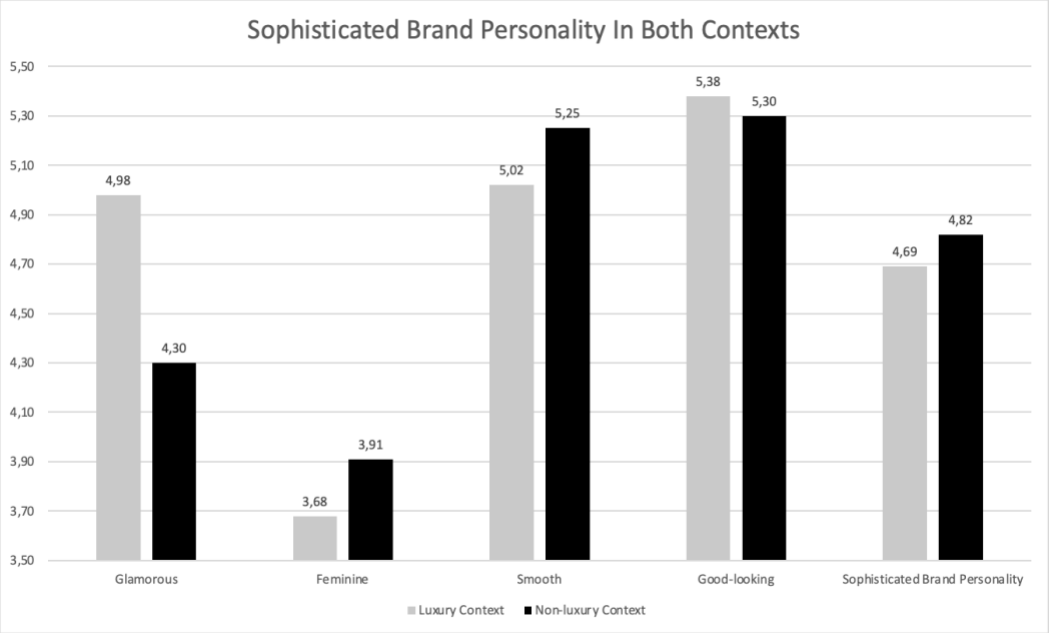
Looking at each variable, *Exciting* stands out (M_{round}=5.13, $M_{angular}$=4.85) as it is ranked high in means for both logo shapes. It is, therefore, possible to assume that the product category of a suitcase, which symbolizes traveling, is associated with excitement. Thus, this opens up further investigation.

However, as opposed to our assumptions and findings in literature (e.g., Blazhenkova & Kumar, 2018), the brand with the round logo seems to be perceived as more exciting than the brand with the angular logo. Interpreting this result required a post hoc analysis, thus an independent t-test was conducted split by gender (Appendix Z). Analyzing the means, males are more inclined to view the brand with a round logo as more exciting (M_{round}=5.36, SD_{round}=1.181, $M_{angular}$=4.81, $SD_{angular}$=1.547) as a significant difference was found ($p=0.057 < 0.1$, $t=1.928$). This indicates that a trend exists for males to associate a brand with a round logo as somewhat more exciting than an angular logo. The result is not entirely surprising, as rounded shapes are more connected to positive emotions (Palumbo et al., 2015; Salgado-Montejo et al., 2014; Westerman et al., 2012). From an evolutionary perspective, males' are considered to have a stronger sex drive and thus get more easily sexually excited (Buss, 2019). Thus, a farfetched explanation for why the roundness stimulates associations with excitement might be that the round logo stimulates associations with femininity and fertility and thus activates men's *mating* motive. This could stimulate the perceptions of the feminine gender and thus perceive the brand with the round logo as particularly exciting. However, this is not anchored in literature and thus only opens up for further discussions.

5.3.6 Luxury Brand Personality Perceptions: Sophisticated (H10)

Adding the dimension of luxury context, the hypothesis tests whether a round logo enhances perceptions of a more *Sophisticated brand personality*. Thus, a post hoc test was conducted comparing the means of a *Sophisticated brand personality* between the luxury context and the non-luxury context (Figure 22, Appendix AA).

Figure 22. Means for Sophisticated Brand Personality Perceptions, Luxury & Non-luxury Context



Our test revealed no significant difference for the latent variable *Sophisticated brand personality* (p=0.615, t=0.504), indicating that the luxury context did not amplify the perceptions of a Sophisticated brand personality. Similar results were found in regards to *Smooth* (p=0.342), *Feminine* (p=0.321), and *Good-looking* (p=0.695), indicating that the luxury context did not amplify perceptions of the brand as feminine, smooth or good-looking. Thus, H10b, H10c, H10d and H10 are all rejected.

However, *Glamorous* showed a significant difference (p=0.018 < 0.05, t=2.396), indicating that the luxury context did enhance the perceptions of a brand with a round logo as more glamorous (M_{luxury}=4.98, $M_{non\text{-}luxury}$=4.30). This strongly suggests that H10a is accepted.

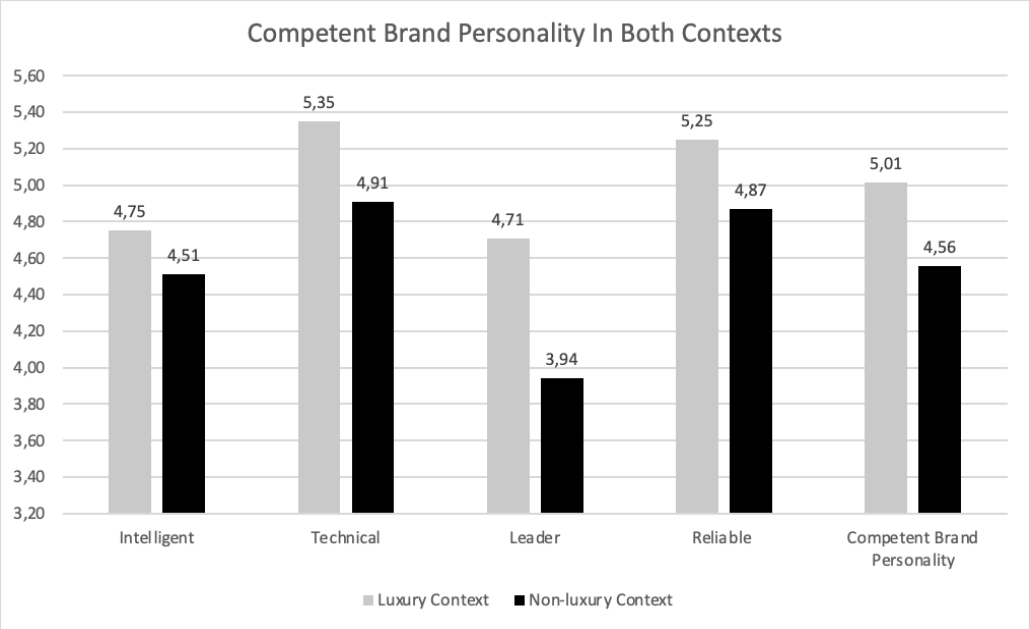
5.3.6.1 Sub-discussion (H10)

Prior findings suggest that a Sophisticated brand personality is commonly found in the luxury industry. Therefore, it comes as no surprise that the luxury context amplifies the perceptions of the brand as glamorous (Appendix AA). However, it was therefore interesting to see whether this result was caused by the logo shape or the luxury context. To gain further insights into the results, we conducted an independent t-test between $angular_{luxury}$ and $round_{luxury}$, where no significant difference was found (Appendix AB). This indicates that the luxury context, rather than the logo shape, is the determining factor in why the participants view the brand as more glamorous. The same test showed that *Good-looking, Feminine*, and *Smooth*, as well as the latent variable in a luxury context, were more associated with the brand with a round logo compared to an angular logo. This emphasizes that overall, the round shape has a powerful effect on Sophisticated brand personality perceptions.

5.3.7 Luxury brand personality perceptions: Competent (H11)

Adding the dimension of luxury context to the *Competent brand personality*, the hypothesis tests whether an angular logo enhances perceptions of the brand as more competent. An independent t-test was conducted comparing the two angular conditions in a luxury context and the non-luxury context respectively (Figure 23, Appendix AC).

Figure 23. Means for Competent Brand Personality Perceptions, Luxury & Non-luxury Context



Our test revealed a significant difference for the latent variable *Competent brand personality* ($p=0.018 < 0.05$, $t=2.405$), indicating that the luxury context did amplify perceptions of a competent brand personality ($M_{luxury}=5.0144$, $SD_{luxury}=0.99313$, $M_{non\text{-}luxury}=4.5566$, $SD_{non\text{-}luxury}=0.95781$). A trend was detected for *Technical* ($p=0.065 < 0.1$) and *Reliable* ($p=0.098 < 0.1$), indicating that the luxury context did enhance perceptions of these attributes. The most significant difference was however found for *Leader* ($p=0.005 < 0.01$, $t=2.856$), suggesting that the brand to a greater extent was perceived as a leader in the luxury context ($M_{luxury}=4.71$, $M_{non.luxury}=3.94$). *Intelligent* showed no significant difference ($p=0.327$), indicating that the participants did not view the brand as more intelligent in a luxury context. Thus, H11b, H11c, H11d, and H11 are all accepted while H11a is rejected.

5.3.7.1 Sub-discussion (H11)

The Competent brand personality perceptions did not show any significant difference in H6. Therefore, similar to H10, we conducted additional post hoc tests to gain further insight into whether the luxury context was the only factor that caused this result (Appendix AD). Therefore, an additional independent t-test was conducted

where the two logo shapes were compared in a luxury context. This is to confirm whether the result occurred due to the logo shape or solely the context.

The post hoc test showed no significant difference for the variables of *Leader* ($p=0.873 > 0.1$) and *Technical* ($p=0.496 > 0.1$), indicating that these variables are solely enhanced due to the luxury context. This implies that the logo shape is not a contributing factor to perceiving the brand as more aligned with a Competent brand personality in a luxury context. *Reliable* was the only variable that showed a significant difference between the logo shapes ($p=0.050$, $t=1.984$); however, in favor of the round logo ($M_{round,\ luxury}=5.66$, $M_{angular,\ luxury}=5.25$). This indicates that in a luxury context, the perception of reliability is significantly higher for a brand with a round logo than for an angular logo. Although a brand with an angular logo in a luxury context is viewed as more reliable than in a non-luxury context, it is even more enhanced for a brand with a round logo.

To dig even deeper into these findings, another t-test was conducted to test the *Reliability* specifically for the round logo in the two separate contexts (Appendix AE). The test showed that a brand with a round logo in a luxury context is strongly amplified compared to a non-luxury context ($p=0.003 < 0.01$).

Adding to what is outlined in H6, it is an interesting result from an evolutionary standpoint. Reliability was thus outlined as an important aspect for females' as they are more dependent on finding a male that provides resources. Adding the dimension of a luxury context, it can thus be assumed that the reliability of gaining resources is more substantial in such a context, as the luxury item is more associated with financial fitness. The results of the test support this, showing a significant difference in females' perceptions of a brand's reliability when a round logo represents the brand ($p=0.011$, $t=2.626$), see Appendix AF.

Additional findings show that males' have a weak significant trend in regards to *Technical* ($p=0.064$, $M_{angular,\ diff}=12.9\%$, Appendix AC), indicating that the participants who were exposed to an angular logo in a luxury context viewed the brand as more *Technical*. This aligns with prior research that argues that men are drawn to more technical aesthetics (Moss & Colman, 2001).

Overall, these findings generate a deeper understanding of what competence attributes are amplified by the luxury condition and what is enhanced due to the logo shape. Hence, this finding contributes to brand design academia.

5.4 Analytical Conclusions

Summarily, statistical tests were conducted to test whether the angularity or roundness of a logo influenced preferences and the effect on brand personality perceptions. The tests resulted in the acceptance or rejection of hypotheses, summarized in Table 26.

Table 26. Summary of Accepted & Rejected Hypotheses

Hypotheses
Independent of Context
H1: Consumers generally prefer rounded logos over angular logos
H2: Males have a stronger preference for angular logos than females
Luxury Context
H8: Consumers' preference for rounded logos is amplified by a luxury context compared to a non-luxury context
H9: Males' preference for angular logos is amplified by a luxury context compared to a non-luxury context
Independent of Context
H3: Compared to brands with angular logos, brands with rounded logos are perceived to have a more Sincere brand personality
H3a: Compared to brands with angular logos, brands with rounded logos are perceived as more family-oriented H3b: Compared to brands with angular logos, brands with rounded logos are perceived as more honest H3c: Compared to brands with angular logos, brands with rounded logos are perceived as more sincere H3d: Compared to brands with angular logos, brands with rounded logos are perceived as more friendly
H4: Compared to brands with angular logos, brands with rounded logos are perceived to have a more Sophisticated brand personality
H4a: Compared to brands with angular logos, brands with rounded logos are perceived as more glamorous H4b: Compared to brands with angular logos, brands with rounded logos are perceived as more feminine H4c: Compared to brands with angular logos, brands with rounded logos are perceived as more smooth H4d: Compared to brands with angular logos, brands with rounded logos are perceived as more good-looking
H5: Compared to brands with rounded logos, brands with angular logos are perceived to have a more Rugged brand personality
H5a: Compared to brands with rounded logos, brands with angular logos are perceived as more masculine H5b: Compared to brands with rounded logos, brands with angular logos are perceived as more rugged H5c: Compared to brands with rounded logos, brands with angular logos are perceived as more tough
H6: Compared to brands with rounded logos, brands with angular logos are perceived to have a more Competent brand personality
H6a: Compared to brands with rounded logos, brands with angular logos are perceived as more intelligent H6b: Compared to brands with rounded logos, brands with angular logos are perceived as more technical H6c: Compared to brands with rounded logos, brands with angular logos are perceived as more aligned with a leader H6d: Compared to brands with rounded logos, brands with angular logos are perceived as more reliable
H7: Compared to brands with rounded logos, brands with angular logos are perceived to have a more Exciting brand personality
H7a: Compared to brands with rounded logos, brands with angular logos are perceived as more exciting H7b: Compared to brands with rounded logos, brands with angular logos are perceived as more unique H7c: Compared to brands with rounded logos, brands with angular logos are perceived as more daring H7d: Compared to brands with rounded logos, brands with angular logos are perceived as more independent

Luxury Context
H10: The rounded logo’s effect on consumer perceptions of a Sophisticated brand personality is amplified by a luxury context
H10a: The rounded logo's effect on consumer perceptions of the brand as feminine is amplified by a luxury context H10b: The rounded logo’s effect on consumer perceptions of the brand as smooth is amplified by a luxury context H10c: The rounded logo’s effect on consumer perceptions of the brand as good-looking is amplified by a luxury context
H11: The angular logo’s effect on consumer perceptions of a Competent brand personality is amplified by a luxury context
H11a: The angular logo’s effect on consumer perceptions of the brand as intelligent is amplified by a luxury context H11b: The angular logo’s effect on consumer perceptions of the brand as technical is amplified by a luxury context H11c: The angular logo’s effect on consumer perceptions of the brand as a leader is amplified by a luxury context H11d: The angular logo’s effect on consumer perceptions of the brand as reliable is amplified by a luxury context

6. Discussion

This chapter discusses the key findings of the thesis. The chapter also provides theoretical implications and contributions to managers, providing insights into how this research can be adapted in real-life settings. Lastly, limitations and critiques of the study are outlined.

6.1 Evolutionary Reflections

Brand logos are a critical element of brand image equity in the process of visually conveying brand values to a consumer base. While previous studies have discussed logo design elements like color, typography, and complexity in their ability to communicate brand attributes, little research has been conducted on logo shape. This study takes point of departure from assumptions that the logo shape has evolutionary meaning and, consequently, can influence consumer preferences and perceptions in the increasingly cluttered brand landscape. This was argued to be important due to the extensive use of brand logos, which does not correspond to existing literature in the research area. Therefore, it is a relevant concept to expand in literature. Insights into evolutionary behavior with the logo shape as the central plasticity can thus provide valuable insights into subconscious consumer behavior, which has value to managers in building strong brands. Moreover, as evolutionary theory is a universal concept, the findings can provide insights across cultures and industries. This further supports the idea that evolutionary theory is a relevant concept and can provide valuable insights cross-culturally.

While our findings provide valuable insights into both existing and future research, it is crucial to understand why that is. Referring back to the ocean and islands model, Kock et al. (2020) unfold the different layers of consumer behavior to predict and understand why these occur in different situations. While research exists on brand logos and to what extent they influence brand image, brand identity, and brand equity (e.g., Henderson & Cote, 1998; Luffarelli et al., 2019; Schmitt & Simonson, 1997), little research dives into the field of evolutionary psychology. As marketing literature succeeds in explaining that consumers prefer round logos and logos' impact on brand personality perceptions (e.g., Grohmann, 2008; Meiting & Hua, 2021), research is limited to studying the proximate motives of consumer behavior. To the authors' knowledge, only a handful of papers have studied brand logos, more specifically in terms of ultimate preferences and brand personality perceptions, from an evolutionary perspective.

This study, therefore, aimed to add an extra dimension by providing insights from evolutionary theory. This is to study whether preferences for a certain logo shape and brand personality perceptions could stem from inherited behavior and adaptive solutions developed by human ancestors, thus gaining further understanding

of how contemporary brand elements such as brand logos affect consumer preferences and perceptions. Therefore, the evolutionary perspective helps to unfold the different layers of consumer behavior, which provides valuable managerial insights. This thesis provides a fresh perspective by combining concepts of marketing, psychology, biology, branding, and design in a creative manner, which further contributes to interdisciplinary academia on how to build strong brands in the minds of the consumer through logo design. Thus, a new perspective is provided to literature, providing new implications, and entailing a fertile concept for future research.

6.1.1 Concretizing Evolutionary Behavior

As outlined in the analysis, the empirical findings of this thesis have, to a great extent, evolutionary explanations. By concretizing this evolutionary behavior, it is possible to unfold how the logo can be used to stimulate consumer preferences and brand perceptions, thus strengthening the brand identity.

By concretizing the logo's potential impact on consumer preferences and perceptions, it is possible to get further insights into what might cause certain behaviors. Our findings suggest a general preference for round features; thus, this supports prior literature (e.g., Bar & Neta, 2006) and thus contributes to the validity of our study. Aligned with Kock et al.'s (2020) model, the preference for round logos is considered a plasticity. Suppose the survey of this study provided questions about why the consumers preferred the round logo. In that case, potential answers could be that it is more aesthetically pleasing and nicer, thus constituting the proximate motive, namely the immediate reason for certain behavior. However, as outlined in the analysis, this preference might stem from a motive of *evading physical harm*, as round shapes, to a greater extent, did not convey any threat to the individual, which arguably led to the adaptive behavior of preferring that object (Bar & Neta, 2006). This could thus be viewed as the ultimate behavior, meaning that the exposure of the round logo subconsciously conveyed a sense of safety, thus activating the ultimate motive of survival. This is thus argued to consequently trigger the proximate motive of aesthetic appeal for the round logo. All plasticities are summarized in Table 27. By unfolding these consumer phenomena, it becomes easier to understand on a managerial level how both conscious and subconscious motives drive consumers.

Table 27. Concretization of Findings

Section	Proximate Motive	Ultimate Motive	Explanation
Logo Preference,	E.g., Like, Nicer, Beautiful	Evading physical harm	Prefers objects and shapes found in nature.
	E.g., Dislike, Uglier, Disfavoring.	Evading physical harm	Resent angular objects due to danger.
	Sincere	Evading physical harm; Affiliation	Evokes a feeling of belongingness. Having allies are crucial in order to survive.

Brand Personality Perceptions	Friendly	Evading physical harm; Affiliation	Evokes a feeling of belongingness. Having allies are crucial in order to survive.
	Smooth	Evading physical harm	Smooth contours are less harmful, often found in nature.
	Feminine	Affiliation; Acquiring a mate	Females build kin-like relationships with friends. Feminine bodies have more rounded features. Rounded features were more fertile and vital for reproduction.
	Good-looking	Evading physical harm; Acquiring a mate	Rounded features were found in nature and conveyed a sense of safety; thus, it was considered more attractive. Similarly, rounded shapes in faces are perceived as more fertile and attractive.
	Masculine	Evading physical harm; Attaining status; Acquiring a mate	Masculine bodies have more angular features and come off as more dominant. Vital for survival by gaining status and acquiring a mate.
	Tough	Evading physical harm; Attaining status; Acquiring a mate	Toughness was viewed as a dominant trait, important for survival by gaining status and acquiring the most desired mate.
	$Females_{Reliable}$	Evading physical harm; Affiliation; Kin care	To have allies was reliable to gain resources, which was relevant for survival for self and offspring.
	$Males_{Exciting}$	Acquiring a mate	Males are genetically more attracted to the female body, thus giving rise to sexual excitement.

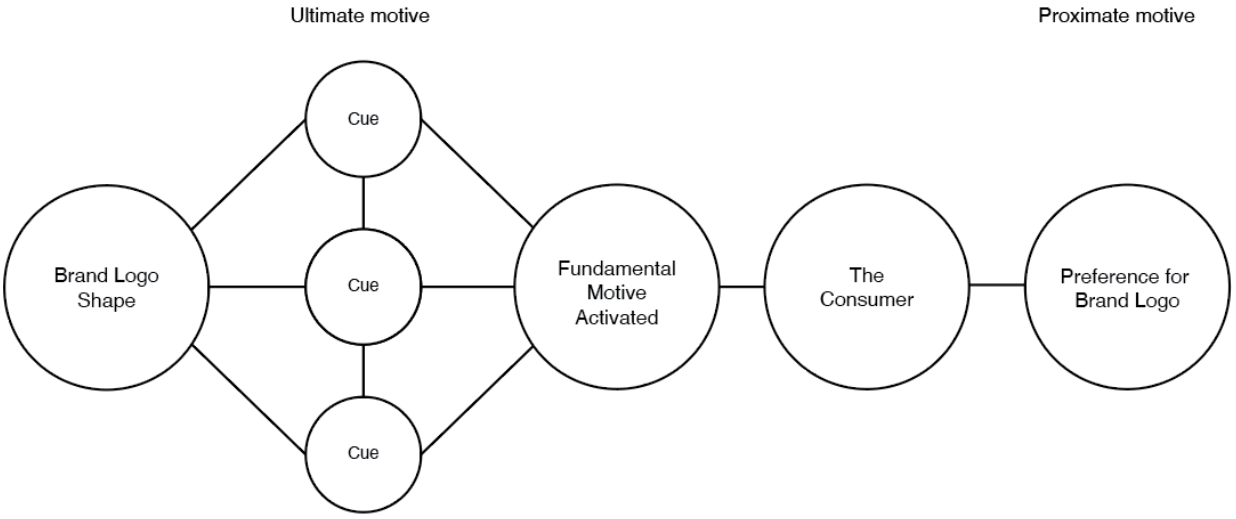
The ultimate motive central to our findings is *evading physical harm*; this is much aligned with Bar & Neta's (2006) theoretical suggestion of round contours conveying a sense of safety and harmless, whereas angular shapes are considered threatful and harmful to the individual. Among the motives in this study that can link to why preferences and certain perceptions occur, the vast majority stem from the motive of *evading physical harm*, indicating that self-protection and survival are central to the findings. This observation is aligned with the hierarchy of fundamental human motives (Durante & Griskevicius, 2016, Figure 3), suggesting that self-protection is one of the most important motives for humans. Although affiliation and attaining status are potential explanations for our findings, these are both intrinsically linked to the motive of *evading physical harm*. The findings of this study thus align with these theoretical assumptions, indicating that the most important factor in why the logo shape stimulates different preferences and perceptions stems from a motive of survival and self-protection. This also aligns with Bar and Neta's (2006) evolutionary explanation of the preference for rounded shapes.

6.1.2 General Discussion

One of the key findings of this thesis is the general preference for round logos. Although it is in line with prior research (e.g., Bar & Neta, 2006), it emphasizes the importance of understanding a shape's impact on consumers' ultimate preferences (see discussion in chapter 5). This is illustrated in Figure 24. Additionally, while preferences for the round logo came as no surprise, another key finding is the shape's impact on brand

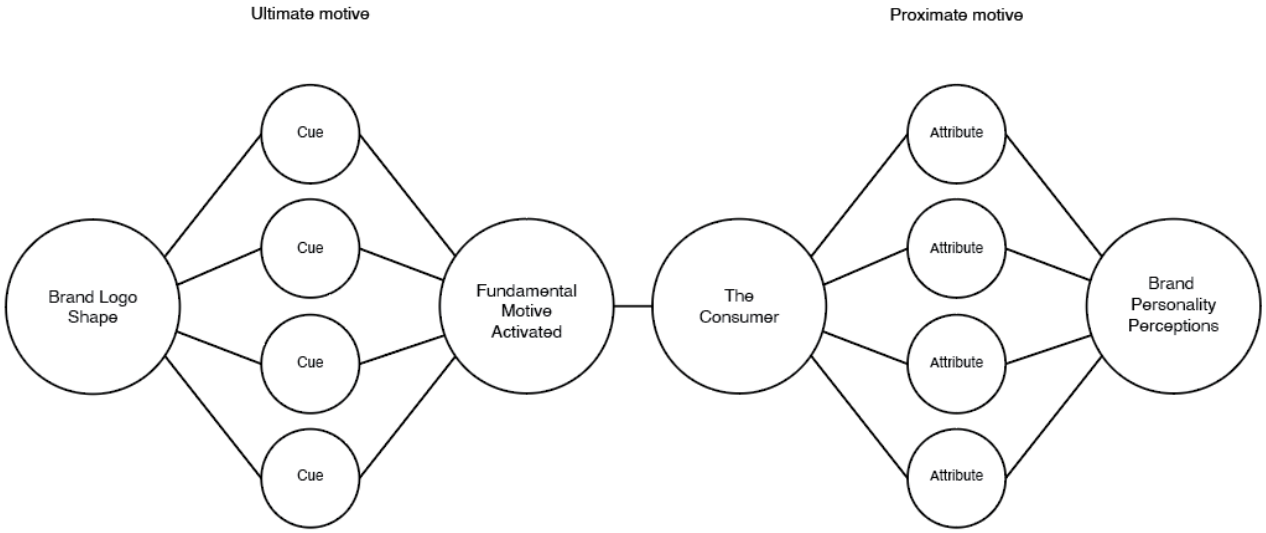
personality perceptions. In fact, round logos' great influence on brand personality perceptions contributes tremendously to academia.

Figure 24. How the Logo Shape Influences Consumer Preferences



Prior research provides insights into shape's impact on perceptions (e.g., Henderson & Cote, 1998; Schmitt & Simonson, 1997). However, little research has previously studied the linkage to brand personality dimensions. As previously outlined, the shapes' impact on perceptions is enormous; see Table 1. For instance, angular features are perceived as threatful, while round shapes are associated with happiness and pleasantness (Bar & Neta, 2006; Larson et al., 2011). In fact, many of these perceptions stimulated by a particular shape are in literature linked to specific attributes and human-like characteristics. Facial features, expressions, and body movements convey the same semantic meaning as shapes'. Therefore, this study aimed to take this further by connecting the attributes stimulated by shapes' to specific brand personality dimensions, similar to how different human features influence the personality perceptions of other human beings. For instance, angry faces and masculine features contain more angles, while happy faces and feminine features contain more rounded features. From an evolutionary lens, these are important arguments. Because of the apparent implications and significance of brand personality, little research exists investigating what ultimate factors impact brand personality perceptions (Larson et al., 2011). Therefore, this study aimed to investigate whether the brand logo shape could influence not only preferences but also brand personality perceptions. This is illustrated in Figure 25.

Figure 25. How the Logo Shape Influences Brand Personality Perceptions



The study assumed that round logos stimulate human-like attributes aligned with a Sincere and Sophisticated brand personality. Likewise, it was assumed that angular logos stimulate perceptions of human-like characteristics aligned with a Rugged, Competent, and Exciting brand personality. The study, however, did primarily provide evidence for the round logos' impact on brand personality. While the assumptions of a round logo stimulating perceptions of a Sincere and Sophisticated brand personality were confirmed, the angular logo stimulated only perceptions of Masculinity and Toughness, included in a Rugged brand personality. This suggests that the round logo stimulates brand personality perceptions to a greater extent. Therefore, the question arises, why is that?

First, round shapes are argued to be more preferred due to their natural linkage to what is found in nature (Bar & Neta, 2006; Pittard et al., 2007). Round objects were, in ancestral times, assumably linked to survival-relevant objects such as fruits and foods, to which humans were more exposed. Thus, these positive concepts have contributed to developing a general preference for round shapes. Therefore, one can argue that those concepts were so strongly associated with survival and positive emotions for our ancestors that they are still strongly related to positive emotions today. Contrary, research also indicates that one prefers round features due to the resentment and avoidance of dangerous angular-shaped objects (e.g., Bar & Neta, 2006). While the round shapes thus convey a sense of safety and harmony, the angular features convey a sense of danger and threat. For obvious reasons, this implies that consumers are less likely to have a favorable opinion of an angular logo. For that reason, it can be argued that consumers tend to engage more with the round logo, thus forming a better and more favorable opinion.

Second, round shapes are considered more human. Nowadays, consumers attribute human qualities to brands, as techniques of anthropomorphization, such as brand avatars, characters, and spokespeople, are used to cue human knowledge schemas and consequently improve brand differentiation (Heine, 2009). As outlined in the literature review, rounded faces are linked to female faces with associations with femininity, youthfulness, fertility, and health, as well as linked to children's faces and childlike features (Buss, 2019; Chatterjee, 2013; Rhodes, 2006). Therefore, it can be assumed that round features, to a greater extent, stimulate perceptions of human faces. Heine (2009) suggests that a humanized brand can, through a strengthened consumer-brand relationship, impact preferences, purchase intention, loyalty, and brand love. This suggests that if a round logo subconsciously reminds the consumer of human facial features, it also enhances the relationship with them. Females, in particular, were more likely to perceive the round logo as aligned with brand personality attributes, which could be attributed to the female's natural empathy and sensitivity to reading others' facial expressions, and their kin-like friendships (Buss, 2019).

Third, research has also provided evidence that smooth contours and curved shapes are easier and faster to process (Bertamini et al., 2019; Palumbo et al., 2015). Palumbo et al. (2015) found that curved shapes generated an approach response and an absence of avoidance reaction for angular shapes. Bertamini et al. (2019) discuss how smooth shapes, which were objectively judged as more complex, were subjectively perceived as less complex. Thus, if such shapes are easier to integrate, it can lead to faster responses. However, it is worth noting that research suggests that the advantage of the visual system in integrating smooth contours could be seen as a result of the natural environment (consisting mainly of rounded shapes) in which the system was evolved (Bertamini et al., 2019). Thus, it allows for a discussion that while round shapes are easier to process and thus perhaps easier to perceive as aligned with a particular personality dimension, angular shapes might entail too much cognitive effort and longer time to assign such perceptions. As a result, the round logo might generate an approach response in regards to personality perceptions, rather than the angular logo generating avoidance responses.

Based on what is outlined, the preference for round shapes, and the positive and distinct associations connected to a brand with a round logo, have many potential explanations. However, these findings provide both a deeper theoretical understanding of the influence of subtle cues such as the brand logo shape on preferences and brand personality perceptions as well as practical information for both designers and marketers.

7. Conclusions

With this thesis, we set out to investigate:

- How does human's evolutionary past shape their preference for rounded and angular logos in contemporary consumption?
    - What role does gender play in preferences?
- What effect do the roundness and angularity of brand logos have on brand personality perceptions?

This, with the purpose of investigating whether humans' evolutionary past can explain potential differences in preferences and brand personality perceptions by simply being exposed to a round or an angular logo. Eleven hypotheses were developed and examined through a quantitative method, specifically through a survey experiment, to investigate and answer the research questions. To test H1-H7, manipulation in the form of a logo shape (round versus angular) was added to the experiment. By uncovering significant differences in how consumers' perceptions differed based on the brand logo shape manipulation, we found that the logo shape influenced consumers' preferences and perceptions.

The analysis showed a general preference for the round logo compared to the angular logo. Our findings thus provide evidence that aligns with the theoretical assumptions that consumers' evolutionary past has resulted in adaptive behaviors to conquer these age-old problems. As outlined in section 5.2.3, the preference for the roundedly shaped logo can be examined from two perspectives. Does one prefer the round logo because one likes round features or dislikes the angular logo? Round shapes were naturally found in nature (Bar & Neta, 2006). These objects are in the literature referred to as, for example, food, fruits, and children's faces, perceived as less harmful, and thus it was rewarding for humans' to seek these shapes. Therefore, round shapes were related to positive concepts such as friendly, harmony, beauty, and safety. Contrary, angular objects were naturally more harmful to the individual, such as poisonous plants, sharp teeth, sharp stones, and aggressive-looking faces that were more dangerous to human ancestors. Therefore, angular objects were associated with more negative concepts and signaled threats, which activated fear cues (Bar & Neta, 2006).

Our study, therefore, supports these theoretical assumptions, as the same effect is found in contemporary consumption, such as exposure to a brand logo. Our findings support that humans' inherited behavior from the evolutionary past still is a powerful force in modern consumption preferences. Prior literature has found the same effect in regard to product interface preferences (Bar & Neta, 2006). Therefore, this study extends this to be applied to brand logo preferences.

Moreover, the research question also stated whether gender could be a mediating factor in terms of preferences. The hypotheses (H2, H9) specifically aimed to test whether the male gender, to a greater extent than females,

preferred the angular logo. While the study did not show a significant preference for angular logos among males, the study confirmed a strong significant difference in preference for the round logo compared to the angular logo among females. As previously outlined, females experience greater fear of objects and events that might be harmful (Buss, 2019). Although males instead were more exposed to threats more frequently, the fear of angular shapes might thus be saturated. Therefore, our findings confirm that gender plays a distinct role in logo-shape preferences, thus aligning with prior research suggesting that sex differences are a natural part of biology and human behavior. This further implies that humans' inherited behavior, and behavioral sex differences, are dominant enough to influence modern consumption preferences in the form of a brand logo shape.

Furthermore, the study found that the brand logo shape has an effect on brand personality perceptions. More specifically, it was found that the brand with a round logo, compared to the angular logo, was perceived as aligned with a Sincere and Sophisticated brand personality, thus stimulating the brand's perception as more feminine, good-looking, smooth, sincere, and friendly. Compared to the round logo, the brand with an angular logo was perceived as masculine and tough, thus referring to a Rugged brand personality (see Table 26). Thus, our findings show that a round logo has more distinct personality perceptions in the mind of the consumers. As the literature review matched the personality dimensions with attributes connected to the shapes reported in literature, it was suggested that the shape would project the same associations to the brand, creating associations to a particular brand personality. Hence, consumers inherited behavior is found to impact the overall brand perceptions and, consequently, associations with a specific brand personality. The evolutionary past is thus assumed to play a role in these perceptions, as the brand with the round logo was associated with positive and harmless personality traits. In contrast, the brand with the angular logo was associated with potentially threatful associations. This implies that humans' evolutionary past influences how the consumers perceive a brand's personality today, as the logo-shape triggers equivalent associations to those developed in the ancestral past.

H8-H11 added a dimension in the form of a luxury context. The examined context constituted a suitcase brand, tested in both a luxury and non-luxury setting. The luxury context did not amplify a general preference for the round logo nor males' preference for angular logos. However, our results showed that the luxury context amplified consumers' perception of a Competent brand personality of an angular logo, while no enhanced effect was found in terms of perceptions of a Sophisticated brand personality; see a complete discussion of the findings in chapter 5.

With our findings, we can conclude that the round logo, compared to the angular logo, generally had more impact on both preferences as well as brand personality perceptions. Thus, this research allows one to argue

that our ancestors influence parts of modern consumer behavior. We contribute to empirical findings on brand logo preference and brand personality perceptions through an evolutionary lens, which has managerial relevance. This contributes as evidence for brand managers to use in the identity process, as the brand element of a logo influences consumers' ultimate motives to achieve increased logo preference and enhanced associations to a specific brand personality dimension. Further, it can guide brands in understanding their consumers to provide more accurate brand communication to their target group.

8. Managerial Implications

"Brand identity design. Who needs it? Every company on the planet" (Airey, 2010, p. X). As outlined throughout the thesis, consumers are exposed to more brands, impressions, and other stimuli than ever before as brands have become more accessible to consumers worldwide. Thus, the need for a strong brand is more present than ever before. To build successful brands that are distinguished in the minds of consumers, it is important to understand why and how consumers behave. This is to develop the rightful message that appeals to the target audience. While the analysis has provided explanations from the evolutionary past, this chapter will provide insights into how consumers in modern society behave when exposed to a certain logo shape, which can help managers in their strategic work.

The universality of art suggests that it has adaptive relevance (Dutton, 2005). This suggests that the shape has evolutionary meaning, influencing today's consumers' subconscious behavior through, for example, brand logos (e.g., Bar & Neta, 2006). This research, therefore, provides an evolutionary perspective on brand identity management as it unfolds how the brand logo triggers aesthetic preference and brand personality perceptions. The findings of this research provide insights to managers on how to strengthen the brand by tailoring the logo to its customers and thus creating favorable preferences and distinct brand personality perceptions. Although the research examines the context of a suitcase brand, it is assumed to be generally applicable to all industries and product categories with a brand logo as a part of the identity.

First, based on our findings, the participants had an overall preference for the round brand logo, and round logos were viewed as more aesthetically pleasing. This insight is important for all existing brands and can be applied in the design process to develop and implement roundedly shaped logos that are preferable to the consumer. The preference for round logos was independent of gender, implying that a roundedly shaped logo is strategically optimal for use in a market where the target group consists of both genders. Therefore, by using a round logo, the brand can stimulate preferences and positive concepts for the brand logo, which might lead to other brand advantages such as favorable attitudes, product preferences, and purchase decisions.

Second, our research findings imply that females generally are more sensitive to angular shapes and report the angular logo, compared to the round logo, as more unfavorable and with 'negative' concepts. Thus, depending on a brand's target group, the logo shape is especially important to consider. The knowledge of females' less favorable perceptions of angular logos suggests that angular logos and sharp features should be avoided entirely when developing a brand logo for a target market mainly consisting of females. This is because the female exposure to an angular logo might lead to more negative perceptions, which further lead to brand disadvantages. For the male gender, no extreme values were found. This suggests that although men are more

inclined to prefer the round logo, they are not as sensitive to the angular-shaped logo. Therefore, the logo shape is less fateful for a brand whose target market primarily consists of men.

Further, as discussed above, logos can stimulate certain brand personality perceptions. Consumers are often encouraged to assign human qualities to brands by brand managers (Heine, 2009). Therefore, anthropomorphization techniques are often implemented by brands, where characters, spokespeople, and mascots are used to create symbolic meanings to differentiate from competitors. In turn, it helps customers maintain and enhance their own identity as well as strengthen customer-brand relationships, which affect purchase intentions, brand love, and loyalty (Heine, 2009). Therefore, assigning human qualities to brands is desirable in today's cluttered and competitive landscape. This research provides managers with the tools to do so, namely, by the shape of the logo.

Table 28. Significant Differences in Brand Personality Perceptions

Logo Shape	Brand Personality perception	Male	Female	Both
ROUND	**Sincere Brand Personality**	No	Yes	Yes
	Friendly	No	Yes	Yes
	Sincere	No	Yes	Yes
	Sophisticated Brand Personality	Yes	Yes	Yes
	Feminine	Yes	Yes	Yes
	Smooth	Yes	Yes	Yes
	Good-looking	No	Yes	Yes
ANGULAR	**Rugged Brand Personality**	No	No	No
	Masculine	No	Yes	Yes
	Tough	No	No	Yes
	Competent Brand Personality	No	No	No
	Reliable	No	Yes	No
	Exciting Brand Personality	No	No	No
	Exciting	Yes	No	No

By providing insights into the logo shape and its potential influence on brand personality dimensions, managers are able to contribute with valuable implications to the identity process by consulting on the design process of logos to align with the desired brand personality. Based on our findings (summarized in Table 28), to increase perceptions of the brand as Sincere or Sophisticated, the brand logo representing the brand should be permeated

by rounded contours. Contrary, to increase perceptions of masculinity and toughness, the brand should develop a brand logo with angular features.

Females viewed the brand with a round logo as friendly, sincere, smooth, feminine, good-looking, and reliable. For managers, this indicates that when a target group mainly consists of females, a round logo can help stimulate these brand personality-related perceptions to create a more distinct place in the minds of the consumers. Furthermore, males were more prone to viewing the round logo as more exciting. Therefore, if the brand aims to be perceived as more exciting and has a male target group, a round logo is optimal to represent the brand. Angular logos do not stimulate as strong associations; however, a trend has been found toward stimulating perceptions of the brand being more masculine and tough. Thus, an angular logo can be used if a brand wants to strengthen perceptions of a Rugged brand personality, however to the expense of general logo preference.

Based on our research, luxury brands have also been suggested to implement a round logo to represent the brand. Our research found that a Sophisticated brand personality is strongly associated with luxury, but no evidence supported that it was stimulated by the logo shape. This means that although a round logo is associated with Sophistication, such perceptions are not necessarily amplified by a luxury context. However, compared to the angular logo, the round logo still influences perceptions no matter the context of a Sophisticated brand personality. This has further implications for managers that by designing a rounded logo, the brand can enhance perceptions of a Sophisticated brand personality.

In contrast, an angular logo is recommended for luxury brands to use in a luxury context. Our findings imply that the luxury context enhances perceptions of technical, leadership, and reliable traits, which refers to a Competent brand personality. In particular, men view it as technical. This indicates that an angular logo can be used if a manager wants to communicate perceptions of these attributes. Females tend to view the brand as a leader and reliable. However, the study showed that the competence perceptions were even more enhanced in a luxury context with a round logo, suggesting that a round logo is more appropriate for luxury brands. Together with the strong female preference for round logos, this implies that managers should prioritize implementing a round logo in a target group composed of females. However, as males do not experience the same resentment towards angular logos, managers can use both an angular logo and a round logo to be perceived as more competent in a luxury setting.

Finally, the evolutionary perspective has allowed us to unravel the layers of brand logo shape's impact on preferences and contributors to brand personality perceptions. This allows managers to make more accurate decisions based not only on observable behavior but also by considering the subconscious processes. The fine

thing about evolutionary theory is that it is a universal concept, meaning that it is applicable cross-culturally. This is because all humans are equipped with the same adaptive behaviors and ultimate motives inherited from our ancestors. This indicates no distinct difference in the inherited animal drive between a person from, for instance, Scandinavia and a person from Japan. This further implies that the findings can be used cross-culturally, across industries and product categories, and provide valuable insights into international strategies.

The findings provide valuable insights to graphic designers, strategic designers, marketers, and brand managers, among others, to build a strong brand. It also gives valuable knowledge to higher decision-makers, such as the executive board and shareholders, since the logo is a central part of forming a distinct brand identity and further building strong brand equity, thus contributing to a more valuable brand and higher return to shareholders. While anyone can design a logo, not everyone can design the right logo (Airey, 2010).

This study suggests that with a minor adjustment of the shape of a brand logo, managers can contribute to the development of a logo that is impactful in terms of consumer preferences and perceptions of brand personality dimensions - without the consumer being aware of it. This research thus provides valuable insights into consumer behavior for managers across industries to be used in the building of strong brands.

9. Limitations & Future Research

This chapter outlines the study's limitations. The expected quality of this thesis is high; however, limitations cannot be avoided in any research. Thus, recommendations for future research are also presented and discussed.

9.1 Methodological Limitations

Our research included 215 participants. Because of the division between the four conditions and the comparisons between genders, the sample size is inadequate in some statistical tests, thus increasing the risk of statistical errors. This means that it can either show significant differences that exist or do not exist, resulting in a higher risk of accepting or rejecting the null hypothesis. For instance, it is important to note that the male and female participants in the experimental groups of the round logo and the angular logo differed in sample size (Appendix H). These skewed samples are important to acknowledge in order to draw valid conclusions, as a more even sample size could potentially generate different results.

Similarly, as the study is divided into several conditions, the study would potentially benefit by increasing the total sample size. This could thus also lead to potential additional findings. Thus, if the study is duplicated, the sample size should be carefully considered and extended.

The data collection was conducted on our own social media channels and networks. Therefore, the method entails biases, as there always constitutes a risk that personal contacts respond in line with how they think will facilitate the research and thus not from their own sense or instincts. Because we had no control over who, when, and how the participants conducted the survey, there is also a risk that the person uncommittedly responded to the survey without any further consideration. This could have been prevented by including an attention control, which would have been an effective way of controlling that the participants were paying attention when responding to the survey and thus strengthening the validity of the results.

Similarly, past research suggests that the seating arrangement can prime the participants with a feeling of belonging or being unique (Zhu & Argo, 2013). This implies that environmental cues have an impact on the participants, as they can prime the participant in a certain way. In our study, it was impossible to control for individual environmental cues; therefore, this might affect what evolutionary motive was activated. This could have been somewhat avoided by controlling the experiment through a laboratory experiment, where environmental stimuli do not interfere with the results. Another suggestion would be to manipulate a certain motive by, for instance, adding stress cues to the survey. However, due to the limitations of this study, these are considered relevant for future research.

9.2 Context Limitations

The context manipulator also includes limitations. Although aimed to provide a product category as natural as possible, the results point towards the suitcase having primarily utilitarian value. We argue that our findings apply to other product categories; however, adding several product categories to the test would be beneficial to increase the validity of the results. Another aspect is that due to the Covid-19 pandemic, most of the participants have not been able to travel as much in the last few years. This can entail difficulties in personal relevance for the suitcase brand and thus not being as invested in the brand as otherwise.

The luxury context was added for many reasons, one of them being that conspicuous consumption is high in relevance from an evolutionary perspective (e.g., Saad, 2011). Luxury consumption is argued to work as a costly signal, enhancing the status and functioning as a reliable signal of survival-relevant qualities desirable in a mate. However, it does entail different limitations.

Although the skewed sample size in income levels can, to some extent, explain the outcome of the result (H9, H10), there might be other evolutionary explanations for the rejection of hypotheses. First, referring back to the island and ocean model (Kock et al., 2020), socio-ecological factors are argued to contribute to what ultimate motive is activated and can thus help explain certain behaviors (Kock et al., 2020, Appendix C). This is because different external cues in the ecology can stimulate certain fundamental motives (Durante & Griskevicius, 2016). This is further supported by Buss (2019), who argued that the current environment interacts with the design of the human mind to construct observable behavior and thus encompasses environmental influences and is not solely determined by genetics. Thus, it encompasses environmental influence and is not solely determined by genetics (Buss, 2019). These factors could thus have an impact on the study's outcomes and thus constitutes the limitations of this study.

For example, Sng et al. (2018) depict that higher population density results in slower life history and lower mortality results in bolder behavior. The geographic location was not something this study controlled for, which thus is a possible explanation for why certain motives are more easily activated. The sample is believed to include people from all over the world. However, it is assumed that the majority is based in Scandinavia. Unlike emerging markets, where people experience a higher need to disassociate themselves from their ingroup, the Scandinavian society is more or less equal economically; thus, people might experience a lesser need to engage in luxury consumption.

Similarly, another variable that can explain the outcome is civil status, which the experiment did not include. Griskevicius and Kenrick (2013) argue that women in relationships that experience threats from another female regarding their partner are more prone to invest in luxury goods. Similarly, females with short-term mating

motives are more attracted to males that possess luxury items (Saad, 2011). This infers that relationship status could be a factor in the interest of luxury consumption and the attraction to mates who possess luxury items. Therefore, by adding this item to the survey, the thesis could have looked further into the motive of *acquiring a mate* and *mate retention* and see whether the luxury context could be unfolded and the results further explained.

As outlined, different ecological factors and life stages can have an impact on the aspect of luxury consumption. Therefore, it can entail difficulties in generalizing this context and the results. Thus, it contributes to this study's limitations and further opens possibilities for future research.

Finally, the sample size entails a majority of participants between the ages of 18-34, meaning that a young sample where many are students. This might entail difficulties in measuring the luxury context, as one usually responds in terms of oneself, suggesting a decreased interest in purchasing a luxury suitcase for a respondent with a limited budget each month. This can lead to biased responses.

9.3 Evolutionary Limitations

As previously outlined, Buss (2019) argues that evolutionary psychology is an interactionist framework, meaning that it is founded on the belief that human behavior is a consequence of (1) evolved adaptations and (2) environmental cues that trigger the development and activation of these adaptations. On a broader theoretical note, our study hypothesized that the preferences for a particular logo, and the brand personality perceptions connected to it, stem from evolution and that all humans have the same inherited behaviors. This indicates that roundness and angularity are embedded in stimuli with survival-relevant meaning among ancestors.

While humans are considered a product of evolution and our ancestors, it is also a fact that the culture further forms us and our behavior (Buss, 2019). Our biological roots and culture have an impact on how we think, what we think and how we behave. The culture is thus the social context and environment that distinguishes humans' animal drive from other behaviors. Therefore, it is not easy to test. Despite the fact that our findings align with an evolutionary perspective, this study cannot confirm whether these behaviors are evolutionarily inherited or culturally learned as evolutionary theory is based on assumptions. Further, the sample of the experiment can be considered too homogeneous, as the majority of the sample is assumed to be located in Scandinavia, which could affect the outcomes in regard to the socio-ecological factors. With a homogeneous sample, it is more difficult to theoretically distinguish what findings are evolutionarily inherited and what findings are culturally formed.

This thesis takes an evolutionary approach to the findings. However, one should not consider these findings the absolute truth. To provide the complete picture and gain further insights into the findings and understanding of human behavior, it is suggested to merge these perspectives by applying a complementary perspective to strengthen the cross-cultural applicability further.

Evolutionary theories have also been misused and misrepresented to justify immoral and unethical opinions and actions. For example, the findings of this thesis are primarily based on the assumption of genders as the sex one is born into. Similar assumptions are made regarding heterosexuality, indicating that males only are attracted to females and vice versa, which obviously is not true. Due to the evolutionary perspective, participants' sexual orientation was not considered in this study which can be argued to be somewhat controversial and outdated. Thus, the reader needs to bear these limitations in mind.

9.4 Future research

Research suggests that fluency between brand elements facilitates cognitive processing in the consumer's mind, leading to more favorable brand evaluations (e.g., Cai & Mo, 2019; Labroo et al., 2008; Lee & Labroo, 2004). Schmitt and Simonson (1997) imply that repeated aesthetics in identity elements results in a stronger brand image and the possibility to effectively reach consumers through numerous brand clutter. Reber et al. (2004) also imply that perceptual fluency enhances aesthetic judgments, thus giving rise to aesthetic pleasantness. Much research exists examining the congruency between visual design elements and their impact on brand evaluations (e.g., Van Rompay et al., 2009; Labroo et al., 2008; Cai & Mo, 2019). However, little research exists on the attitudes formed when the associations with a certain logo shape are congruent with a matching brand personality. Thus, based on previous literature on similar topics and reflective discussions, we suggest further research to study the interplay between a certain logo shape and a matching brand personality as we are of the impression that the congruency between these elements will generate more positive brand evaluations. The initial intention was to test this within this study; however, due to limited resources, we were not able to conduct the appropriate statistical testing.

Generally, brands use a combination of text and illustration. This research is limited to testing the shape of the logo. However, future research could deepen the knowledge of what influences the ultimate perception of a certain logo by investigating the typeface or the combination of typeface and logo shape. Further, the logo often constitutes a certain color. Therefore, combining several design elements would further complement our study and contribute to existing literature (e.g., Grohmann et al., 2012; Hynes, 2009; van Rompay & Pruyn,

2011). This would thus provide more extensive implications to managers and designers, as well as provide a more profound understanding and knowledge valuable for branding academia.

Moreover, a challenge with this study was to find a product category that was similar in terms of utilitarian and hedonic benefits, as well as neutral in terms of femininity and masculinity. For future research, the study should be complemented with additional product categories to strengthen the validity of the findings. Crowley et al. (1992) provide a framework in which they divide products on a continuum between hedonic and utilitarian benefits. The framework suggests that jeans is a neutral category; thus, this is a product category that can be further looked into in additional studies.

In some research, Aaker's (1997) brand personality dimension scale has been criticized for its inclusion of items in the scale development and its applicability as a general scale (e.g., Avis, 2012; Azoulay & Kapferer, 2003). Therefore, for future research, it is suggested to consider this criticism thoroughly and replicate the study with the use of another, perhaps more fitting, brand personality scale. Additionally, an opposite perspective could be adopted, meaning that a new scale of brand personalities is developed based on the brand logo shape.

Another important factor to note is that our research does not confirm whether the general preference for the round logo is determined by consumers' disliking of the angular logo or if they generally like the round logo more. This is, therefore, a suggestion for future research, where different cues could be implemented to manipulate different motives. An example is to conduct an experiment with two groups: one control group and one primed with fear cues. This means that one of the groups would subconsciously be primed to activate the motive of *evading physical harm*, which is believed to be central to angular features. Thus, by comparing the two groups in relation to their perceptions of an angular logo, it could be possible to investigate if the fear cues increase the dislike for the angular logo.

Lastly, as suggested, this research opens up many possibilities to study and provides a fertile concept for future research. Hence, this is conquering new land to investigate, to gain further insights into how brand elements such as logo design can affect the consumer and provide new implications.

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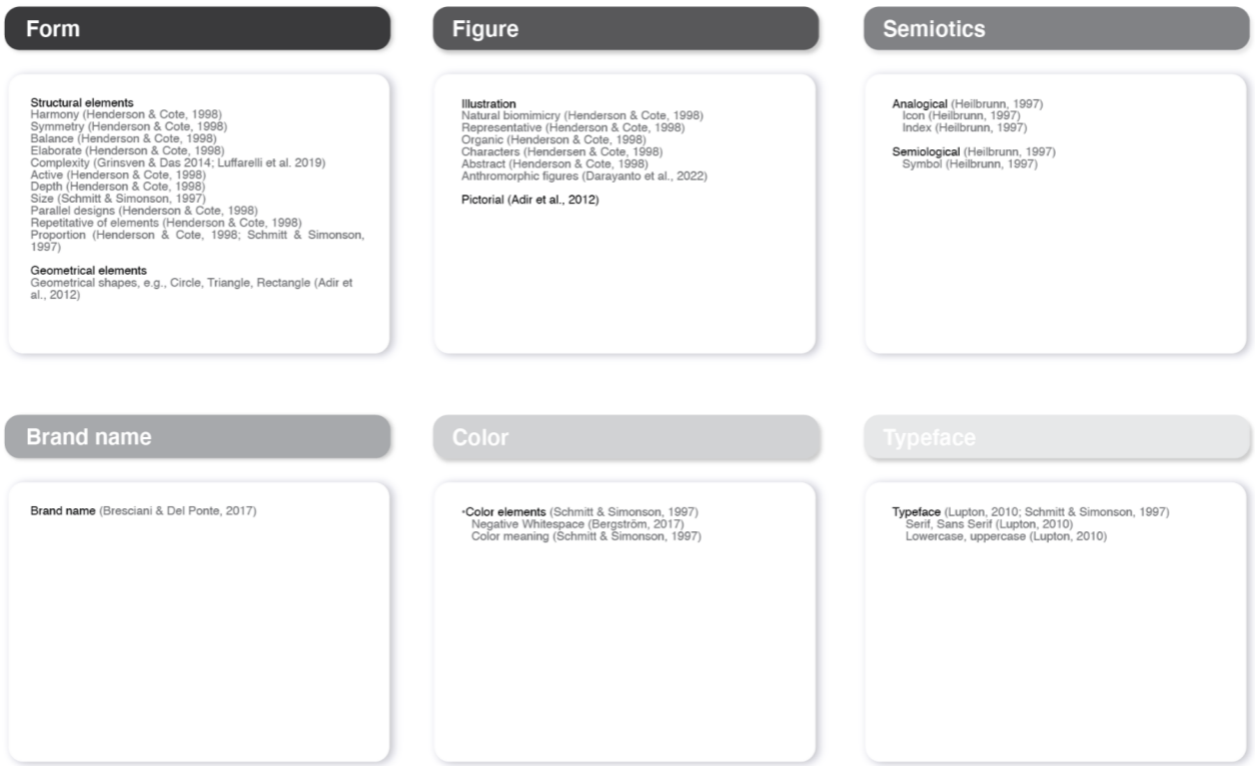
Appendices

Appendix A. Brand Logo Design Elements

Brand logo design elements with corresponding sources.



Appendix B. The Savannah Hypothesis

The savanna hypothesis suggests that humans have an inherited preference for savanna-like landscapes, which is believed to be the landscape which humans originate from (Buss, 2019). This preference is explained through evolutionary theory, where savannas provide resources and places to hide. Therefore, the hypothesis attempts to explain that the preference stems from an adaptation to problems in nature. The environment of a savanna is claimed to include trees, bushes, tropical forests, open landscapes, and other vegetation - all vital for survival. Modern research adopting the hypothesis has shown that humans prefer natural environments compared to environments that are considered human-made and that landscapes resembling the savanna are rated more positively than similar environments but lacking vegetation (Buss, 2019; Ulrich, 1983). Similarly, research has shown that people manipulated by stress cues show less physiological distress when shown images of nature and landscapes. Further, patients recover faster in hospitals when exposed to trees and vegetation (Ulrich, 1984). Although most modern consumers are far away from savanna-like landscapes, humans incorporate cues in their environment to correspond to their ancient roots.

Appendix C. Socio-Ecological Factors

Kock et al.'s (2020) framework includes the surrounding *ecology*. By ecology, the authors mean socio-environmental factors that can trigger humans' fundamental motives. This could thus explain cultural consumer behavior from an evolutionary perspective. Sng et al. (2018) bring forward six ecological dimensions; population density, genetic relatedness, sex ratio, resource availability/patchiness/unpredictability, mortality (extrinsic), and pathogen stress. For example, the sex ratio measures the ratio of reproductive-aged males and females in a certain population (Sng et al., 2018). When this sex ratio is biased, such as more males than females, the competition increases in finding a female partner, which can impact a variety of behaviors (Sng et al., 2018). For example, females tend to be choosier when looking for a mate in those cases.

Appendix D. Human Fundamental Motives

This section provides a further explanation of the fundamental motives not used in the thesis, *motive of disease avoidance* and *motive of mate retention*. The section further provides more detailed insights into the motive of *evading physical harm*, *kin care*, and the *parental investment theory*.

- **Motive of Evading Physical Harm:**

"Finding food is as necessary for survival as finding a mate is for reproduction" (Buss, 2019, p. 149). Without food and water, species would not survive. Thus, human ancestors were rewarded for eating food containing the highest amounts of calories, as a surplus of calories meant avoiding nutrition deficiency (Buss, 2019; Saad, 2011). In today's Western world, the problem of finding food and water is not as present. However, ancestral behavior is still permeated in today's modern world. According to research, human ancestors evolved a preference for sweet foods high in calories, which in today's society might be a mismatch that can lead to, e.g., obesity (Birch, 1999; Krebs, 2009; Saad, 2011).

- **Motive of Disease Avoidance:**

Aligned with human ancestors' constant seeking and collecting of food, one crucial aspect was to avoid diseases or toxication caused by bacteria or viruses contained in food (Buss, 2019). In conjunction with that, humans are equipped with a physiological immune system to combat inhabited infections; humans have evolved a behavioral immune system to avoid disease and prevent contaminations (Shaller, 2016, as cited in Buss, 2019). For all objects at risk of spreading diseases, the human behavioral immune system worked symbiosis with the psychological immune system to prevent contaminations (Buss, 2019; Griskevicius & Kenrick, 2013).

When exposed to pathogen threats, e.g., sneezing, odors, body-liquids, and dirt, it triggers the emotion of *disgust*, which thus activates the behavioral immune system (Buss, 2019; Griskevicius & Kenrick, 2013). The emotion that has evolved to trigger disease avoidance is disgust which motivates humans to feel an intense withdrawal from the disgust-producing stimulus (Buss, 2019). In modern society, this can reveal itself in behaviors such as increased xenophobia and ethnocentrism, i.e., reluctant toward the outgroup, and conformity to the in-group (Buss, 2019; Confer et al., 2010; Kock et al., 2020; Navarrete & Fessler, 2006; Saad, 2011), increased prejudice to humans faced with pathogen threats (Schaller & Neuberg, 2012), increased perception of the number of people in a crowd (Kock et al., 2020; Wang & Ackerman, 2019), and increased sensitivity to physical appearance, i.e., attractiveness (Ackerman et al., 2018). Xenophobia, in general, is a survival-relevant mechanism, as foreigners and other clans could spread diseases and thus extinct an entire population (Buss, 2019). In terms of brands, higher levels of xenophobia could, for example, lead people to prefer brands that are domestic and feel reluctant against foreign brands (Josiassen, 2011). The motive of disease avoidance also works the other way around, preferring physically attractive people, e.g., with symmetric features, as these are considered beautiful and work as signs of health (Buss, 2019).

- **Motive of Mate Retention:**

Mate retention is another fundamental motive that humans have had considerable importance in terms of survival that includes time, effort, and other resources to maintain the relationship (Griskevicius & Kenrick, 2013). Evolutionary-wise, the motive of mate retention was important from several aspects, e.g., sharing resources, thus protecting their offspring from threats, and increasing the likelihood of survival (Griskevicius & Kenrick, 2013).

The motive is triggered by relational cues, e.g., threats or celebration of long-term relationship bonds (Griskevicius & Kenrick, 2013). The system activates behaviors that reinforce current relationships and strategies to manage threats of potential romantic competitors (Campbell & Ellis, 2005). The mating retention system thus differs noticeably from the mating acquiring system, as the retention system, instead of attracting potential partners of the opposite sex, guards their partner against the threats of potential rivals within the same sex (Griskevicius & Kenrick, 2013; Maner et al., 2007a, 2007b; Wang & Griskevicius, 2014).

The differences between the two motives are argued to correlate with the biological sex and can be explained through the parental investment theory (Trivers, 1972). According to this theory, men are more motivated by the motive of mate acquisition due to their low parental investment. At the same time, women score higher on the parental investment leading them to be more selective when choosing a mate and are thus motivated by mate retention (Griskevicius & Kenrick, 2013; Trivers, 1972). Women desire lasting commitment, and men

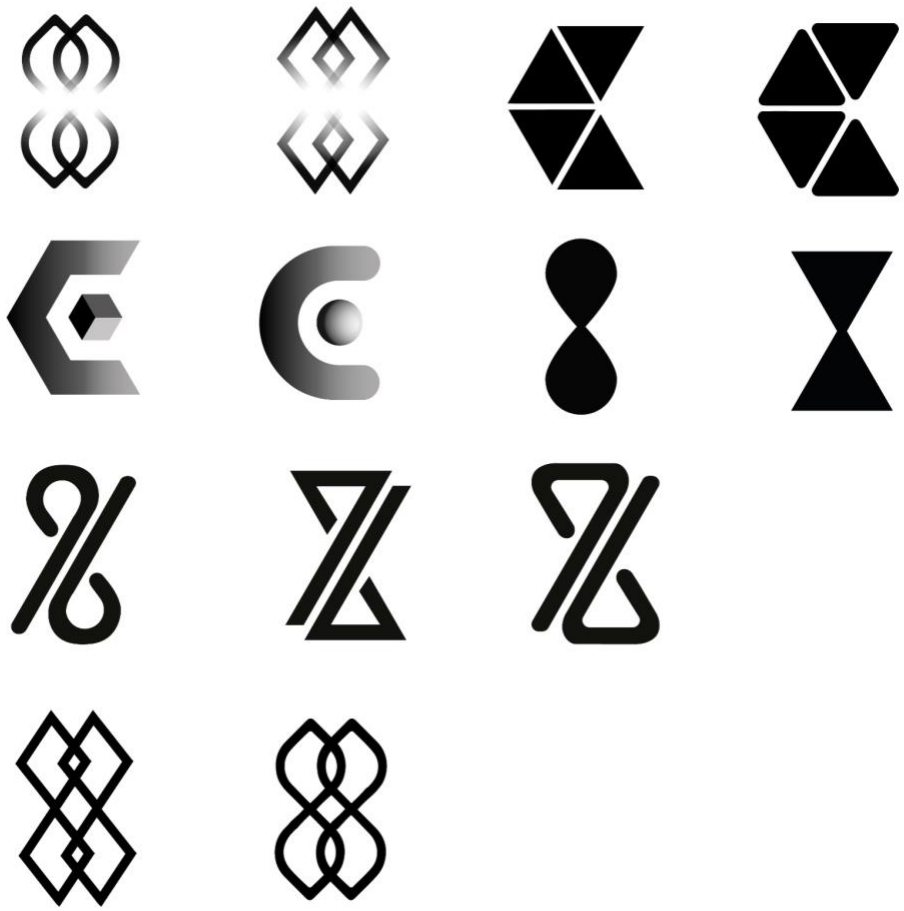
willing to promise long-term resources, protection, and investment in children appeal to women (Buss, 2019). In a conducted study, women tend to socially avoid other women who ovulate, especially if they have an attractive partner (Krems et al., 2016). The mate retention system has also been connected to luxury consumption (Wang & Griskevicius, 2014). Findings have shown that women invest in luxury goods in order to signal to other women that the mate is committed to her, preventing rivals from approaching her romantic partner (Wang & Griskevicius, 2014). Hence, women tend to be more attentive to other women's attractiveness while this system is active (Buss, 2002). When this current motive is activated for men, they are instead more attentive to other men's status (Buss et al., 1992). However, studies show that the male gender benefits from entering into marriage by increasing status, as unmarried males could imply that they have failed to attract any women (Buss, 2019). An increased status can bring a host of benefits, e.g., better resources for children, repeated sexual access, access to coalitional allies through wife, and living longer (Buss, 2019). Thus, men can also benefit from the motive of mate retention (Buss, 2019).

- **Motive of Caring For Children (Kin Care):**

According to the provisioning hypothesis, human males are unique in their heavy parental investment in children in the form of hunting and securing food resources (Buss, 2019). Both parents' high investment in their offspring makes this a powerful motive. The parental investment is so substantial that parents might even sacrifice their own lives to save their offspring, i.e., carriers of copies of the parent's genes, thus indicating that genetic relatedness is a powerful predictor of helping among humans (Buss, 2019).

Appendix E. Logos Used in the Pre-test Survey

Below is an illustration of all logos used in the pre-test survey.



Appendix F. Pre-test Survey

This section outlines the questions used in the pre-test as well as the results from the survey.

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I have seen this logo 1 before	○	○	○	○	○
I like this logo 1	○	○	○	○	○
I think logo 1 is a good logo	○	○	○	○	○
Logo 1 is rounded	○	○	○	○	○
Logo 1 is angular	○	○	○	○	○
Logo 1 is simple	○	○	○	○	○
Logo 1 is complex	○	○	○	○	○
Logo 1 is visually appealing	○	○	○	○	○

The statements were based on e.g., Luffarelli et al. (2019) and Schmitt and Simonson (1997) as well as an open question the participant could answer if they had any associations with the logo.

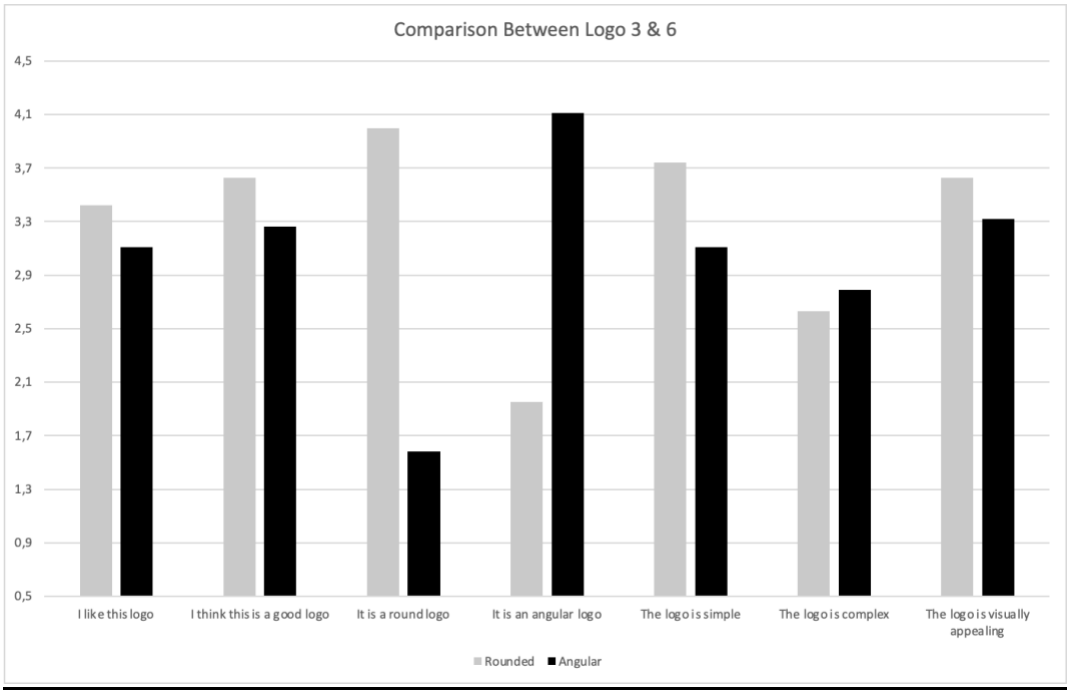
The results of the pre-test survey were then compared, where logos number 3 and 6 were chosen as the finalized ones to use in the experiment.

Logo	I like this logo	I think this is a good logo	It is a round logo	It is an angular logo	The logo is simple	The logo is complex	The logo is visually appealing
Logo 1	3.05	3.05	1.53	4.42	2.94	3.28	3.06
Logo 10	3.58	3.58	4.26	1.84	2.63	3.26	3.72
Logo 3	3.42	3.63	4.00	1.95	3.74	2.63	3.63
Logo 6	3.11	3.26	1.58	4.11	3.11	2.79	3.32
Logo 5	3.21	3.21	4.32	1.47	4.58	1.42	3.42
Logo 7	2.42	2.47	1.53	4.21	4.47	1.58	2.79

Rounded
Angular

Logo 6

Logo 3



Appendix G. The Survey Design

This section outlines the questions used in the survey-based experiment.

PART 1. Introduction & Demographical Questions:

CBS COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

Hi,

We are two master's students at Copenhagen Business School studying Brand and Communications Management. We are currently writing our master's thesis and will conduct a survey-based experiment to contribute to branding and marketing academia.

In this survey, you will learn about a suitcase brand and its logo. You will then proceed to provide your opinion on that brand. Please try to answer as accurately as possible aligned with your own personal opinion. Your answers will be treated anonymously.

Please answer this survey individually! The survey takes approximately 3 minutes.

Thank you for participating!

Best,
Hanna & Clara

If you have any questions regarding this survey, you are welcome to contact us at either hahu20ac@student.cbs.dk or clri20ab@student.cbs.dk.

CBS COPENHAGEN BUSINESS SCHOOL
HANDELSHØJSKOLEN

What gender do you identify with?

- Female
- Male
- Other

How old are you?

- Under 18
- 18-24 years old
- 25-34 years old
- 35-44 years old
- 45-54 years old
- 55-64 years old
- 65+ years old

Please estimate your average gross salary per month

- < €999
- €1000-1999
- €2000-2999
- €3000-3999
- €4000-4999
- €5000-5999
- > €6000

PART 2. Four conditions (rounded/angular, luxury/non-luxury):

You will now read a description of a luxury suitcase brand:

This luxury brand redefines travel by providing high-end aluminum suitcases in the premium price range from €800-1500 (Euro). These exclusive suitcases combine handmade with high-tech, in a timeless design that is built to last. With a 360° wheel system and a lightweight, waterproof construct that resists any weather - it is the perfect travel companion. Inspired by aviation, the suitcases become a symbol for the international jet set.

Adventures are less about where you go and more about how you carry yourself. What might begin with a new suitcase could be the beginning of the voyage of a lifetime. Make the entire travel a first-class experience!

You will now read a description of a lifestyle suitcase brand:

This lifestyle brand redefines travel by providing suitcases with aluminum finish in the competitive price range from €50-150 (Euro). These universal suitcases combine handmade with high-tech, in a timeless design that is built to last. With a 360° wheel system and a lightweight, waterproof construct that resists any weather - it is the perfect travel companion. Inspired by aviation, the suitcases become a symbol for international journeying.

Adventures are less about where you go and more about how you carry yourself. What might begin with a new suitcase could be the beginning of the voyage of a lifetime. Make the entire travel a seamless experience!

On a scale from 1-7, to what extent do you perceive this brand as...

- **Differences In Brand Description:**

This luxury brand redefines travel by providing high-end aluminum suitcases in the premium price range from €800-1500 (Euro). These exclusive suitcases combine handmade with high-tech, in a timeless design that is built to last. With a 360° wheel system and a lightweight, waterproof construct that resists any weather - it is the perfect travel companion. Inspired by aviation, the suitcases become a symbol for the international jet set.

Adventures are less about where you go and more about how you carry yourself. What might begin with a new suitcase could be the beginning of the voyage of a lifetime. Make the entire travel a first-class experience!

This lifestyle brand redefines travel by providing suitcases with aluminum finish in the competitive price range from €50-150 (Euro). These universal suitcases combine handmade with high-tech, in a timeless design that is built to last. With a 360° wheel system and a lightweight, waterproof construct that resists any weather - it is the perfect travel companion. Inspired by aviation, the suitcases become a symbol for international journeying.

Adventures are less about where you go and more about how you carry yourself. What might begin with a new suitcase could be the beginning of the voyage of a lifetime. Make the entire travel a seamless experience!

PART 3. Brand personality questions:

On a scale from 1-7, to what extent do you perceive this brand as...

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Glamorous	○	○	○	○	○	○	○
Good-looking	○	○	○	○	○	○	○
Feminine	○	○	○	○	○	○	○
Smooth	○	○	○	○	○	○	○
Family-oriented	○	○	○	○	○	○	○
Honest	○	○	○	○	○	○	○
Sincere	○	○	○	○	○	○	○
Friendly	○	○	○	○	○	○	○
Daring	○	○	○	○	○	○	○
Exciting	○	○	○	○	○	○	○
Spirited	○	○	○	○	○	○	○

On a scale from 1-7, to what extent do you perceive this brand as...

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree
Unique	○	○	○	○	○	○	○
Masculine	○	○	○	○	○	○	○
Tough	○	○	○	○	○	○	○
Rugged	○	○	○	○	○	○	○
Reliable	○	○	○	○	○	○	○
Secure	○	○	○	○	○	○	○
Intelligent	○	○	○	○	○	○	○
Independent	○	○	○	○	○	○	○
Technical	○	○	○	○	○	○	○
Leader	○	○	○	○	○	○	○

PART 4. Brand logo preference:

By observing this logo, please grade your personal opinions

Overall, my visual appeal for this logo is...

	Very ugly	Ugly	Somewhat ugly	Neither beautiful nor ugly	Somewhat beautiful	Beautiful	Very beautiful
Visual appeal	○	○	○	○	○	○	○

Overall, my attitude towards this logo is....

	Extremely negative	Moderately negative	Slightly negative	Neither positive nor negative	Slightly positive	Moderately positive	Extremely positive
Attitude	○	○	○	○	○	○	○

Overall, my degree of liking for this logo is...

	Strongly dislike	Dislike	Somewhat dislike	Neither like nor dislike	Somewhat like	Like	Strongly like
Liking	○	○	○	○	○	○	○

Overall, my preference for this logo is...

	Very unfavorable	Unfavorable	Somewhat unfavorable	Neither not favorable nor favorable	Somewhat favorable	Favorable	Very favorable
Preference	○	○	○	○	○	○	○

PART 5. Overall brand attitude and liking:

Recapping the brand description:

This lifestyle brand redefines travel by providing suitcases with aluminum finish in the competitive price range from €50-150 (Euro). These universal suitcases combine handmade with high-tech, in a timeless design that is built to last. With a 360° wheel system and a lightweight, waterproof construct that resists any weather - it is the perfect travel companion. Inspired by aviation, the suitcases become a symbol for international journeying.

Adventures are less about where you go and more about how you carry yourself. What might begin with a new suitcase could be the beginning of the voyage of a lifetime. Make the entire travel a seamless experience!

Appendix H. Data Allocation

This section outlines the data allocation and statistical techniques used in the findings and analysis.

- **Allocation of participants by gender:**

Condition	Males	Females	Other	Total
I	21	32	0	53
II	18	39	0	57
III	30	22	0	52
IIII	22	30	1	53
Total	91	123	1	215

- **Allocation of participants by age:**

Condition	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Total
I	0	18	28	1	3	2	1	53
II	0	20	31	5	0	1	0	57
III	0	17	25	2	5	3	0	52
IIII	0	11	36	4	0	2	0	53
Total	0	66	120	12	8	8	1	215

- **The different ages in the groups:**

Age group	Ages
1	<18
2	18-24
3	25-34
4	35-44
5	45-54
6	55-64
7	>65

- **Allocation of participants by income level:**

Condition	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Total
I	13	17	5	8	2	3	5	53
II	11	16	9	6	8	5	2	57
III	7	11	7	10	4	5	8	52
IIII	3	15	6	7	7	5	10	53
Total	34	59	27	31	21	18	25	215

- **The different income levels in the groups:**

Age group	Ages
1	<€999
2	€1000-1999
3	€2000-2999
4	€3000-3999
5	€4000-4999
6	€5000-5999
7	>€6000

The majority of the participants reported their income level in the range of €1000-1999, and the minority thus consisted of participants reporting a higher income level (above €6000). This, thus, gives the study a skewed sample in terms of income level. As the income level is an essential aspect of luxury consumption, it is an interesting factor to consider. The test was thus conducted, splitting the data based on the group variable of income. This created two groups: above average (<€3999) and below-average (>€4000). This demarcation is based on the average monthly salary in Sweden (Statistics Sweden, 2021).

Appendix I. Cronbach's Alpha Test

- **Inter-item Correlation & Cronbach's Alpha - Overall logo preference:**

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.912	.912	3

Inter-Item Correlation Matrix

	Visual appeal	Preference	Liking
Visual appeal	1.000	.802	.746
Preference	.802	1.000	.781
Liking	.746	.781	1.000

- **Inter-item Correlation & Cronbach's Alpha - Sincere Brand Personality:**

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.762	.768	4

Inter-Item Correlation Matrix

	Family-oriented	Honest	Sincere	Friendly
Family-oriented	1.000	.315	.326	.438
Honest	.315	1.000	.675	.398
Sincere	.326	.675	1.000	.564
Friendly	.438	.398	.564	1.000

- **Inter-item Correlation & Cronbach's Alpha - Sophisticated Brand Personality:**

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.623	.628	4

Inter-Item Correlation Matrix

	Glamorous	Feminine	Smooth	Good-looking
Glamorous	1.000	.219	.184	.509
Feminine	.219	1.000	.298	.206
Smooth	.184	.298	1.000	.366
Good-looking	.509	.206	.366	1.000

- **Inter-item Correlation & Cronbach's Alpha - Rugged Brand Personality:**

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.734	.732	3

Inter-Item Correlation Matrix

	Masculine	Rugged	Tough
Masculine	1.000	.334	.519
Rugged	.334	1.000	.577
Tough	.519	.577	1.000

- **Inter-item Correlation & Cronbach's Alpha - Competent Brand Personality:**

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.781	.782	4

Inter-Item Correlation Matrix

	Intelligent	Technical	Leader	Reliable
Intelligent	1.000	.439	.531	.508
Technical	.439	1.000	.451	.354
Leader	.531	.451	1.000	.555
Reliable	.508	.354	.555	1.000

- **Inter-item Correlation & Cronbach's Alpha - Exciting Brand Personality:**

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.713	.716	4

Inter-Item Correlation Matrix

	Exciting	Unique	Daring	Independent
Exciting	1.000	.376	.608	.308
Unique	.376	1.000	.274	.435
Daring	.608	.274	1.000	.319
Independent	.308	.435	.319	1.000

Appendix J. Statistical Techniques

Statistical techniques used in SPSS in the data analysis.

- **Independent t-test:**

Analyze → Compare means → Independent-Samples T Test → choose Test-variable and Grouping variable.

- **Split file between groups:**

When comparing differences between two groups, the data was split. For example, gender differences was split into females and males, by selecting Data → Split file → Organize outputs per group. Splitting the data thus provided means for each gender.

- **Example of calculation of the difference in means:**

Mean 1: 4.25

Mean 2: 5.25

(M2-M1)/M2 = Difference in means
(5.25-4.25)/5.25 = 0.19047 ≈ 19,1%

All numbers are presented with 2 decimals.

- **Standard deviation**

The standard deviation (SD) measure is a measurement of how much the group's scores differ from the group's mean, thus measuring the variability of the data (Field, 2018). A low SD implies that the values are close to the mean, whereas a high SD indicates that the values have a broader spread in range (Field, 2018).

- **T-value**

Because our tests are two-tailed, we present the t-value. Thus, if a Sig. Value is significant; the t-value indicates the extent of the difference between two sample sets. If the sample is large enough, the t-value is considered

significant (if 5% sig. level) if it measures an absolute t-value higher or equal to 1.96 (Field, 2018). See the below Table for all t-values presented in this study.

Confidence Level	T-value (Field, 2018)
1%	2.58
5%	1.96
10%	1.64

Appendix K. Data analysis for H1

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Visual appeal	Equal variances assumed	2.283	.132	2.820	213	.005	.449	.159	.135	.763
	Equal variances not assumed			2.814	209.215	.005	.449	.160	.135	.764
Preference	Equal variances assumed	6.616	.011	1.862	213	.064	.327	.176	-.019	.673
	Equal variances not assumed			1.854	203.934	.065	.327	.176	-.021	.674
Liking	Equal variances assumed	1.070	.302	1.258	213	.210	.218	.173	-.123	.559
	Equal variances not assumed			1.256	210.240	.210	.218	.173	-.124	.559
Overall Logo Preference	Equal variances assumed	2.840	.093	2.122	213	.035	.33131	.15610	.02361	.63902
	Equal variances not assumed			2.117	208.125	.035	.33131	.15649	.02280	.63983

Group Statistics

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Visual appeal	1.00	110	4.76	1.116	.106
	2.00	105	4.31	1.219	.119
Preference	1.00	110	4.74	1.178	.112
	2.00	105	4.41	1.392	.136
Liking	1.00	110	4.83	1.226	.117
	2.00	105	4.61	1.312	.128
Overall Logo Preference	1.00	110	4.7758	1.08282	.10324
	2.00	105	4.4444	1.20511	.11761

Appendix L. Data analysis for H2

- **Females:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Visual appeal	Equal variances assumed	1.025	.313	4.083	121	.000	.830	.203	.427	1.232
	Equal variances not assumed			4.035	105.040	.000	.830	.206	.422	1.237
Preference	Equal variances assumed	2.888	.092	2.398	121	.018	.553	.231	.096	1.009
	Equal variances not assumed			2.358	102.778	.020	.553	.234	.088	1.018
Liking	Equal variances assumed	2.364	.127	2.525	121	.013	.553	.219	.119	.986
	Equal variances not assumed			2.499	105.760	.014	.553	.221	.114	.991
Overall Logo Preference	Equal variances assumed	2.364	.127	3.229	121	.002	.64500	.19973	.24957	1.04042
	Equal variances not assumed			3.191	104.978	.002	.64500	.20214	.24418	1.04582

a. What gender do you identify with? = Female

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Visual appeal	1.00	71	4.89	1.076	.128
	2.00	52	4.06	1.162	.161
Preference	1.00	71	4.80	1.203	.143
	2.00	52	4.25	1.341	.186
Liking	1.00	71	5.01	1.165	.138
	2.00	52	4.46	1.244	.173
Overall Logo Preference	1.00	71	4.9014	1.05769	.12552
	2.00	52	4.2564	1.14259	.15845

a. What gender do you identify with? = Female

- **Males:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Visual appeal	Equal variances assumed	.286	.594	-.075	89	.940	-.019	.257	-.529	.490
	Equal variances not assumed			-.076	84.590	.940	-.019	.254	-.525	.486
Preference	Equal variances assumed	2.501	.117	.276	89	.783	.077	.279	-.477	.631
	Equal variances not assumed			.285	88.686	.776	.077	.270	-.459	.613
Liking	Equal variances assumed	.002	.964	-.863	89	.390	-.244	.282	-.804	.317
	Equal variances not assumed			-.872	84.984	.385	-.244	.279	-.799	.312
Overall Logo Preference	Equal variances assumed	.510	.477	-.246	89	.806	-.06197	.25209	-.56286	.43893
	Equal variances not assumed			-.250	86.571	.803	-.06197	.24763	-.55419	.43026

a. What gender do you identify with? = Male

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Visual appeal	1.00	39	4.54	1.166	.187
	2.00	52	4.56	1.243	.172
Preference	1.00	39	4.62	1.138	.182
	2.00	52	4.54	1.434	.199
Liking	1.00	39	4.49	1.275	.204
	2.00	52	4.73	1.374	.190
Overall Logo Preference	1.00	39	4.5470	1.10418	.17681
	2.00	52	4.6090	1.25022	.17337

a. What gender do you identify with? = Male

Appendix M. Data analysis for H8

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Visual appeal	Equal variances assumed	7.029	.009	-2.168	108	.032	-.454	.210	-.869	-.039
	Equal variances not assumed			-2.150	99.455	.034	-.454	.211	-.873	-.035
Preference	Equal variances assumed	2.523	.115	-1.470	108	.145	-.329	.224	-.772	.115
	Equal variances not assumed			-1.460	101.450	.147	-.329	.225	-.775	.118
Liking	Equal variances assumed	5.969	.016	-1.865	108	.065	-.431	.231	-.890	.027
	Equal variances not assumed			-1.848	97.681	.068	-.431	.233	-.895	.032
Overall Logo Preference	Equal variances assumed	3.900	.051	-1.985	108	.050	-.40472	.20389	-.80887	-.00058
	Equal variances not assumed			-1.970	100.458	.052	-.40472	.20541	-.81222	.00278

Group Statistics

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Visual appeal	1.00	53	4.53	1.219	.167
	2.00	57	4.98	.973	.129
Preference	1.00	53	4.57	1.279	.176
	2.00	57	4.89	1.064	.141
Liking	1.00	53	4.60	1.364	.187
	2.00	57	5.04	1.052	.139
Overall Logo Preference	1.00	53	4.5660	1.17594	.16153
	2.00	57	4.9708	.95801	.12689

Appendix N. Data analysis for H9

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Visual appeal	Equal variances assumed	.118	.733	-1.540	50	.130	-.530	.344	-1.222	.161
	Equal variances not assumed			-1.521	43.210	.136	-.530	.349	-1.233	.173
Preference	Equal variances assumed	1.287	.262	-1.414	50	.164	-.564	.399	-1.364	.237
	Equal variances not assumed			-1.440	48.130	.156	-.564	.391	-1.350	.223
Liking	Equal variances assumed	.016	.901	-1.216	50	.230	-.467	.384	-1.237	.304
	Equal variances not assumed			-1.197	42.572	.238	-.467	.390	-1.253	.320
Overall Logo Preference	Equal variances assumed	.061	.806	-1.500	50	.140	-.52020	.34670	-1.21657	.17616
	Equal variances not assumed			-1.473	42.136	.148	-.52020	.35315	-1.23282	.19241

a. What gender do you identify with? = Male

Group Statistics[a]

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Visual appeal	3.00	30	4.33	1.184	.216
	4.00	22	4.86	1.283	.274
Preference	3.00	30	4.30	1.489	.272
	4.00	22	4.86	1.320	.281
Liking	3.00	30	4.53	1.306	.238
	4.00	22	5.00	1.447	.309
Overall Logo Preference	3.00	30	4.3889	1.17145	.21388
	4.00	22	4.9091	1.31809	.28102

a. What gender do you identify with? = Male

Appendix O. Post Hoc Test, Sub-discussion H8 & H9

This section outlines the post hoc test split by income level.

- **Participants with an average monthly gross income below average:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Visual appeal	Equal variances assumed	.650	.421	-1.777	149	.078	-.318	.179	-.672	.036
	Equal variances not assumed			-1.780	148.934	.077	-.318	.179	-.672	.035
Preference	Equal variances assumed	1.231	.269	-1.265	149	.208	-.259	.205	-.663	.145
	Equal variances not assumed			-1.269	148.844	.206	-.259	.204	-.662	.144
Liking	Equal variances assumed	.025	.876	-1.338	149	.183	-.265	.198	-.656	.126
	Equal variances not assumed			-1.337	147.853	.183	-.265	.198	-.656	.126
Overall Logo Preference	Equal variances assumed	.204	.652	-1.601	149	.112	-.28065	.17535	-.62714	.06584
	Equal variances not assumed			-1.601	148.552	.111	-.28065	.17528	-.62701	.06572

a. Below Average Vs Above Average = 1.00

Group Statistics[a]

	Luxury Versus Non-luxury	N	Mean	Std. Deviation	Std. Error Mean
Visual appeal	1.00	78	4.45	1.124	.127
	2.00	73	4.77	1.074	.126
Preference	1.00	78	4.58	1.314	.149
	2.00	73	4.84	1.190	.139
Liking	1.00	78	4.67	1.202	.136
	2.00	73	4.93	1.228	.144
Overall Logo Preference	1.00	78	4.5641	1.08287	.12261
	2.00	73	4.8447	1.07019	.12526

a. Below Average Vs Above Average = 1.00

- **Participants with an average monthly gross income above average:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Visual appeal	Equal variances assumed	.000	.985	-.928	62	.357	-.318	.343	-1.004	.367
	Equal variances not assumed			-.926	55.640	.359	-.318	.344	-1.007	.371
Preference	Equal variances assumed	.029	.865	-1.448	62	.153	-.486	.336	-1.158	.185
	Equal variances not assumed			-1.439	54.820	.156	-.486	.338	-1.164	.191
Liking	Equal variances assumed	.990	.324	-.873	62	.386	-.305	.350	-1.005	.394
	Equal variances not assumed			-.853	51.048	.398	-.305	.358	-1.024	.413
Overall Logo Preference	Equal variances assumed	.009	.925	-1.134	62	.261	-.37004	.32645	-1.02261	.28254
	Equal variances not assumed			-1.130	55.512	.263	-.37004	.32751	-1.02625	.28618

a. Below Average Vs Above Average = 2.00

Group Statistics[a]

	Luxury Versus Non-luxury	N	Mean	Std. Deviation	Std. Error Mean
Visual appeal	1.00	27	4.22	1.368	.263
	2.00	37	4.54	1.346	.221
Preference	1.00	27	4.00	1.359	.261
	2.00	37	4.49	1.304	.214
Liking	1.00	27	4.37	1.497	.288
	2.00	37	4.68	1.292	.212
Overall Logo Preference	1.00	27	4.1975	1.30502	.25115
	2.00	37	4.5676	1.27866	.21021

a. Below Average Vs Above Average = 2.00

Appendix P. Data analysis for H3

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Family-oriented	Equal variances assumed	.304	.582	1.005	213	.316	.200	.199	-.192	.592
	Equal variances not assumed			1.005	212.790	.316	.200	.199	-.192	.592
Honest	Equal variances assumed	.659	.418	.835	213	.405	.146	.175	-.199	.492
	Equal variances not assumed			.835	212.972	.405	.146	.175	-.199	.492
Sincere	Equal variances assumed	.548	.460	2.228	213	.027	.380	.171	.044	.716
	Equal variances not assumed			2.222	207.092	.027	.380	.171	.043	.717
Friendly	Equal variances assumed	.688	.408	2.312	213	.022	.408	.176	.060	.755
	Equal variances not assumed			2.304	204.963	.022	.408	.177	.059	.757
Sincere Brand Personality	Equal variances assumed	.142	.707	2.061	213	.041	.28355	.13757	.01238	.55472
	Equal variances not assumed			2.057	209.657	.041	.28355	.13782	.01185	.55525

Group Statistics

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Family-oriented	1.00	110	3.20	1.470	.140
	2.00	105	3.00	1.448	.141
Honest	1.00	110	4.33	1.307	.125
	2.00	105	4.18	1.262	.123
Sincere	1.00	110	4.62	1.173	.112
	2.00	105	4.24	1.327	.129
Friendly	1.00	110	4.44	1.193	.114
	2.00	105	4.03	1.390	.136
Sincere Brand Personality	1.00	110	4.1455	.96818	.09231
	2.00	105	3.8619	1.04868	.10234

Appendix Q. Post Hoc Test, Sub-discussion H3

This section outlines the post hoc test split by gender.

- **Females:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Family-oriented	Equal variances assumed	2.080	.152	1.396	121	.165	.365	.262	-.153	.883
	Equal variances not assumed			1.437	119.133	.153	.365	.254	-.138	.868
Honest	Equal variances assumed	4.016	.047	1.250	121	.214	.278	.222	-.162	.717
	Equal variances not assumed			1.288	119.193	.200	.278	.216	-.149	.704
Sincere	Equal variances assumed	.346	.557	2.343	121	.021	.518	.221	.080	.956
	Equal variances not assumed			2.333	108.314	.021	.518	.222	.078	.959
Friendly	Equal variances assumed	1.883	.173	2.449	121	.016	.560	.229	.107	1.012
	Equal variances not assumed			2.363	94.134	.020	.560	.237	.089	1.030
Sincere Brand Personality	Equal variances assumed	.585	.446	2.418	121	.017	.43019	.17790	.07799	.78239
	Equal variances not assumed			2.440	113.416	.016	.43019	.17633	.08086	.77951

a. What gender do you identify with? = Female

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Family-oriented	1.00	71	3.21	1.539	.183
	2.00	52	2.85	1.274	.177
Honest	1.00	71	4.45	1.307	.155
	2.00	52	4.17	1.080	.150
Sincere	1.00	71	4.63	1.198	.142
	2.00	52	4.12	1.231	.171
Friendly	1.00	71	4.52	1.119	.133
	2.00	52	3.96	1.414	.196
Sincere Brand Personality	1.00	71	4.2042	.99760	.11839
	2.00	52	3.7740	.94228	.13067

a. What gender do you identify with? = Female

- **Males:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Family-oriented	Equal variances assumed	1.414	.238	.080	89	.936	.026	.320	-.609	.661
	Equal variances not assumed			.082	87.810	.935	.026	.312	-.594	.645
Honest	Equal variances assumed	.852	.358	-.307	89	.760	-.090	.292	-.671	.491
	Equal variances not assumed			-.312	86.112	.756	-.090	.288	-.662	.483
Sincere	Equal variances assumed	2.040	.157	.807	89	.422	.224	.278	-.328	.777
	Equal variances not assumed			.833	88.617	.407	.224	.269	-.311	.760
Friendly	Equal variances assumed	.001	.975	.581	89	.563	.167	.287	-.403	.737
	Equal variances not assumed			.585	83.981	.560	.167	.285	-.400	.733
Sincere Brand Personality	Equal variances assumed	2.118	.149	.364	89	.717	.08173	.22444	-.36422	.52768
	Equal variances not assumed			.376	88.707	.708	.08173	.21713	-.34972	.51318

a. What gender do you identify with? = Male

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Family-oriented	1.00	39	3.18	1.355	.217
	2.00	52	3.15	1.613	.224
Honest	1.00	39	4.10	1.294	.207
	2.00	52	4.19	1.442	.200
Sincere	1.00	39	4.59	1.141	.183
	2.00	52	4.37	1.428	.198
Friendly	1.00	39	4.28	1.317	.211
	2.00	52	4.12	1.381	.192
Sincere Brand Personality	1.00	39	4.0385	.91504	.14652
	2.00	52	3.9567	1.15547	.16023

a. What gender do you identify with? = Male

Appendix R. Data analysis for H4

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Glamorous	Equal variances assumed	.122	.727	.630	213	.529	.132	.209	-.281	.545
	Equal variances not assumed			.630	212.253	.529	.132	.210	-.281	.545
Feminine	Equal variances assumed	2.595	.109	3.931	213	.000	.686	.174	.342	1.030
	Equal variances not assumed			3.923	209.444	.000	.686	.175	.341	1.030
Smooth	Equal variances assumed	5.463	.020	3.610	213	.000	.679	.188	.308	1.050
	Equal variances not assumed			3.594	201.916	.000	.679	.189	.307	1.052
Good-looking	Equal variances assumed	6.955	.009	2.612	213	.010	.441	.169	.108	.774
	Equal variances not assumed			2.595	192.326	.010	.441	.170	.106	.776
Sophisticated Brand Personality	Equal variances assumed	7.095	.008	3.861	213	.000	.48452	.12550	.23714	.73191
	Equal variances not assumed			3.835	192.694	.000	.48452	.12633	.23536	.73368

Group Statistics

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Glamorous	1.00	110	4.63	1.526	.145
	2.00	105	4.50	1.545	.151
Feminine	1.00	110	3.80	1.225	.117
	2.00	105	3.11	1.332	.130
Smooth	1.00	110	5.14	1.245	.119
	2.00	105	4.46	1.507	.147
Good-looking	1.00	110	5.34	1.052	.100
	2.00	105	4.90	1.407	.137
Sophisticated Brand Personality	1.00	110	4.7250	.78325	.07468
	2.00	105	4.2405	1.04406	.10189

Split by genders

- **Females:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Glamorous	Equal variances assumed	.031	.860	.739	121	.461	.206	.278	-.345	.756
	Equal variances not assumed			.742	111.668	.460	.206	.277	-.343	.754
Feminine	Equal variances assumed	1.917	.169	2.664	121	.009	.632	.237	.162	1.102
	Equal variances not assumed			2.647	107.475	.009	.632	.239	.159	1.106
Smooth	Equal variances assumed	1.008	.318	3.079	121	.003	.778	.253	.278	1.278
	Equal variances not assumed			3.016	101.154	.003	.778	.258	.266	1.289
Good-looking	Equal variances assumed	2.350	.128	2.751	121	.007	.601	.218	.168	1.033
	Equal variances not assumed			2.668	96.551	.009	.601	.225	.154	1.048
Sophisticated Brand Personality	Equal variances assumed	1.699	.195	3.195	121	.002	.55410	.17345	.21072	.89749
	Equal variances not assumed			3.105	97.512	.002	.55410	.17845	.19996	.90825

a. What gender do you identify with? = Female

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Glamorous	1.00	71	4.65	1.541	.183
	2.00	52	4.44	1.501	.208
Feminine	1.00	71	3.90	1.278	.152
	2.00	52	3.27	1.330	.184
Smooth	1.00	71	5.24	1.303	.155
	2.00	52	4.46	1.488	.206
Good-looking	1.00	71	5.41	1.090	.129
	2.00	52	4.81	1.329	.184
Sophisticated Brand Personality	1.00	71	4.7993	.87180	.10346
	2.00	52	4.2452	1.04845	.14539

a. What gender do you identify with? = Female

- **Males:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Glamorous	Equal variances assumed	.077	.782	.212	89	.832	.071	.332	-.589	.730
	Equal variances not assumed			.214	84.257	.831	.071	.329	-.584	.725
Feminine	Equal variances assumed	.430	.514	2.940	89	.004	.731	.249	.237	1.225
	Equal variances not assumed			2.977	85.380	.004	.731	.245	.243	1.219
Smooth	Equal variances assumed	7.317	.008	1.604	89	.112	.468	.292	-.112	1.048
	Equal variances not assumed			1.676	88.945	.097	.468	.279	-.087	1.023
Good-looking	Equal variances assumed	5.393	.022	.812	89	.419	.224	.276	-.325	.773
	Equal variances not assumed			.861	87.462	.392	.224	.261	-.293	.742
Sophisticated Brand Personality	Equal variances assumed	9.457	.003	2.005	89	.048	.37340	.18627	.00329	.74350
	Equal variances not assumed			2.167	82.270	.033	.37340	.17230	.03065	.71614

a. What gender do you identify with? = Male

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Glamorous	1.00	39	4.59	1.517	.243
	2.00	52	4.52	1.603	.222
Feminine	1.00	39	3.62	1.115	.179
	2.00	52	2.88	1.215	.169
Smooth	1.00	39	4.95	1.123	.180
	2.00	52	4.48	1.540	.214
Good-looking	1.00	39	5.21	.978	.157
	2.00	52	4.98	1.502	.208
Sophisticated Brand Personality	1.00	39	4.5897	.57493	.09206
	2.00	52	4.2163	1.05024	.14564

a. What gender do you identify with? = Male

Appendix S. Data analysis for H5

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Masculine	Equal variances assumed	.196	.658	-1.762	213	.080	-.312	.177	-.660	.037
	Equal variances not assumed			-1.764	212.999	.079	-.312	.177	-.660	.037
Rugged	Equal variances assumed	.046	.831	-.155	213	.877	-.031	.200	-.426	.364
	Equal variances not assumed			-.155	212.165	.877	-.031	.201	-.427	.364
Tough	Equal variances assumed	11.562	.001	-1.836	213	.068	-.373	.203	-.773	.027
	Equal variances not assumed			-1.845	206.739	.066	-.373	.202	-.771	.026
Rugged Brand Personality	Equal variances assumed	.928	.336	-1.524	213	.129	-.23853	.15652	-.54706	.07000
	Equal variances not assumed			-1.529	210.684	.128	-.23853	.15597	-.54599	.06893

Group Statistics

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Masculine	1.00	110	4.55	1.325	.126
	2.00	105	4.86	1.267	.124
Rugged	1.00	110	4.05	1.458	.139
	2.00	105	4.09	1.481	.145
Tough	1.00	110	4.43	1.639	.156
	2.00	105	4.80	1.311	.128
Rugged Brand Personality	1.00	110	4.3424	1.22866	.11715
	2.00	105	4.5810	1.05513	.10297

Appendix T. Post Hoc Test 1, Sub-discussion H5

This section outlines the post hoc test split by luxury versus non-luxury and gender.

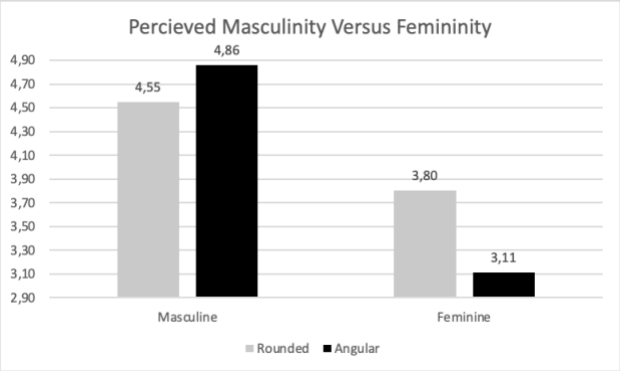
- **Perceived femininity and masculinity, stimulated by the round and angular logo:**

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Masculine	Equal variances assumed	.196	.658	-1.762	213	.080	-.312	.177	-.660	.037
	Equal variances not assumed			-1.764	212.999	.079	-.312	.177	-.660	.037
Feminine	Equal variances assumed	2.595	.109	3.931	213	.000	.686	.174	.342	1.030
	Equal variances not assumed			3.923	209.444	.000	.686	.175	.341	1.030

Group Statistics

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Masculine	1.00	110	4.55	1.325	.126
	2.00	105	4.86	1.267	.124
Feminine	1.00	110	3.80	1.225	.117
	2.00	105	3.11	1.332	.130



Appendix U. Post Hoc Test 2, Sub-discussion H5

This section outlines the post hoc test split by luxury versus non-luxury.

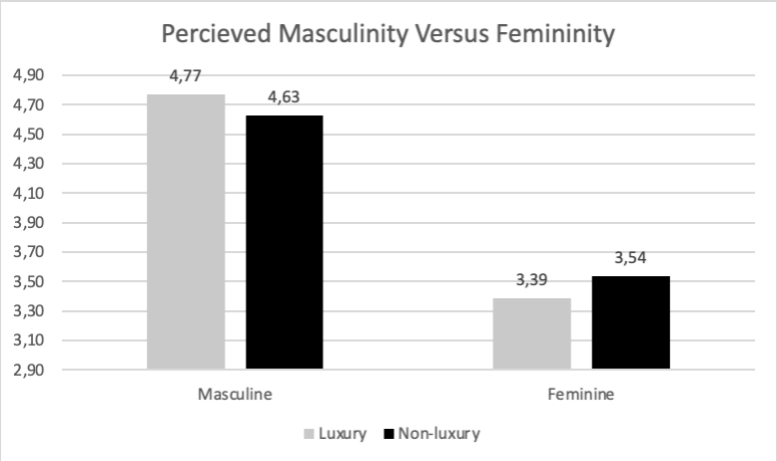
- **Perceived femininity and masculinity, stimulated by the context:**

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Masculine	Equal variances assumed	.017	.895	.810	213	.419	.144	.178	-.207	.495
	Equal variances not assumed			.811	212.971	.418	.144	.178	-.206	.495
Feminine	Equal variances assumed	.009	.925	-.809	213	.420	-.146	.180	-.501	.210
	Equal variances not assumed			-.810	212.972	.419	-.146	.180	-.501	.209

Group Statistics

	Luxury Versus Non-luxury	N	Mean	Std. Deviation	Std. Error Mean
Masculine	1.00	105	4.77	1.280	.125
	2.00	110	4.63	1.326	.126
Feminine	1.00	105	3.39	1.282	.125
	2.00	110	3.54	1.359	.130



Appendix V. Post Hoc Test 3, Sub-discussion H5

This section outlines the posthoc test split by gender.

- **Females:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Masculine	Equal variances assumed	.571	.451	-1.960	121	.052	-.469	.239	-.942	.005
	Equal variances not assumed			-1.983	114.442	.050	-.469	.236	-.937	.000
Rugged	Equal variances assumed	1.903	.170	-.283	121	.778	-.073	.257	-.582	.437
	Equal variances not assumed			-.289	116.989	.773	-.073	.252	-.572	.427
Tough	Equal variances assumed	4.521	.036	-1.286	121	.201	-.357	.277	-.906	.192
	Equal variances not assumed			-1.325	119.256	.188	-.357	.269	-.890	.176
Rugged Brand Personality	Equal variances assumed	.889	.348	-1.429	121	.156	-.29939	.20948	-.71411	.11533
	Equal variances not assumed			-1.471	119.069	.144	-.29939	.20353	-.70240	.10363

a. What gender do you identify with? = Female

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Masculine	1.00	71	4.49	1.351	.160
	2.00	52	4.96	1.252	.174
Rugged	1.00	71	3.83	1.483	.176
	2.00	52	3.90	1.302	.181
Tough	1.00	71	4.24	1.634	.194
	2.00	52	4.60	1.347	.187
Rugged Brand Personality	1.00	71	4.1878	1.23151	.14615
	2.00	52	4.4872	1.02147	.14165

a. What gender do you identify with? = Female

- **Males:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Masculine	Equal variances assumed	.002	.965	-.544	89	.588	-.147	.271	-.686	.391
	Equal variances not assumed			-.543	81.518	.588	-.147	.271	-.687	.393
Rugged	Equal variances assumed	2.277	.135	.657	89	.513	.212	.322	-.428	.851
	Equal variances not assumed			.677	88.394	.500	.212	.312	-.409	.832
Tough	Equal variances assumed	4.317	.041	-.764	89	.447	-.231	.302	-.831	.369
	Equal variances not assumed			-.738	70.144	.463	-.231	.313	-.854	.393
Rugged Brand Personality	Equal variances assumed	.032	.858	-.231	89	.818	-.05556	.24094	-.53430	.42319
	Equal variances not assumed			-.228	78.372	.820	-.05556	.24366	-.54062	.42951

a. What gender do you identify with? = Male

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Masculine	1.00	39	4.64	1.287	.206
	2.00	52	4.79	1.273	.177
Rugged	1.00	39	4.46	1.335	.214
	2.00	52	4.25	1.643	.228
Tough	1.00	39	4.77	1.613	.258
	2.00	52	5.00	1.268	.176
Rugged Brand Personality	1.00	39	4.6239	1.18761	.19017
	2.00	52	4.6795	1.09855	.15234

a. What gender do you identify with? = Male

- **Female perceptions of masculinity versus femininty:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Masculine	Equal variances assumed	.571	.451	-1.960	121	.052	-.469	.239	-.942	.005
	Equal variances not assumed			-1.983	114.442	.050	-.469	.236	-.937	.000
Feminine	Equal variances assumed	1.917	.169	2.664	121	.009	.632	.237	.162	1.102
	Equal variances not assumed			2.647	107.475	.009	.632	.239	.159	1.106

a. What gender do you identify with? = Female

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Masculine	1.00	71	4.49	1.351	.160
	2.00	52	4.96	1.252	.174
Feminine	1.00	71	3.90	1.278	.152
	2.00	52	3.27	1.330	.184

a. What gender do you identify with? = Female

- **Male perceptions of masculinity versus femininty:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Masculine	Equal variances assumed	.002	.965	-.544	89	.588	-.147	.271	-.686	.391
	Equal variances not assumed			-.543	81.518	.588	-.147	.271	-.687	.393
Feminine	Equal variances assumed	.430	.514	2.940	89	.004	.731	.249	.237	1.225
	Equal variances not assumed			2.977	85.380	.004	.731	.245	.243	1.219

a. What gender do you identify with? = Male

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Masculine	1.00	39	4.64	1.287	.206
	2.00	52	4.79	1.273	.177
Feminine	1.00	39	3.62	1.115	.179
	2.00	52	2.88	1.215	.169

a. What gender do you identify with? = Male

Appendix W. Data analysis for H6

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Intelligent	Equal variances assumed	1.466	.227	1.147	213	.253	.190	.165	-.136	.516
	Equal variances not assumed			1.145	210.504	.254	.190	.166	-.137	.516
Technical	Equal variances assumed	.168	.682	-.142	213	.887	-.024	.168	-.354	.306
	Equal variances not assumed			-.142	212.701	.887	-.024	.168	-.354	.306
Leader	Equal variances assumed	1.013	.315	.156	213	.876	.031	.197	-.357	.418
	Equal variances not assumed			.156	212.872	.876	.031	.196	-.357	.418
Reliable	Equal variances assumed	.357	.551	1.630	213	.105	.261	.160	-.055	.577
	Equal variances not assumed			1.629	212.166	.105	.261	.160	-.055	.577
Competent Brand Personality	Equal variances assumed	.006	.940	.851	213	.396	.11439	.13447	-.15068	.37947
	Equal variances not assumed			.850	211.942	.396	.11439	.13455	-.15083	.37962

Group Statistics

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Intelligent	1.00	110	4.82	1.175	.112
	2.00	105	4.63	1.250	.122
Technical	1.00	110	5.10	1.234	.118
	2.00	105	5.12	1.222	.119
Leader	1.00	110	4.35	1.456	.139
	2.00	105	4.32	1.424	.139
Reliable	1.00	110	5.32	1.165	.111
	2.00	105	5.06	1.183	.115
Competent Brand Personality	1.00	110	4.8977	.97403	.09287
	2.00	105	4.7833	.99763	.09736

Appendix X. Post Hoc Test, Sub-discussion H6

This section outlines the post hoc test split by gender.

- **Females:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Intelligent	Equal variances assumed	.001	.974	.963	121	.337	.210	.218	-.222	.643
	Equal variances not assumed			.976	114.856	.331	.210	.216	-.217	.638
Technical	Equal variances assumed	1.173	.281	-.411	121	.681	-.094	.228	-.545	.357
	Equal variances not assumed			-.424	119.356	.672	-.094	.221	-.531	.344
Leader	Equal variances assumed	1.993	.161	.028	121	.977	.007	.258	-.503	.518
	Equal variances not assumed			.029	114.558	.977	.007	.255	-.497	.512
Reliable	Equal variances assumed	1.086	.299	2.047	121	.043	.444	.217	.015	.874
	Equal variances not assumed			2.079	115.591	.040	.444	.214	.021	.868
Competent Brand Personality	Equal variances assumed	3.422	.067	.794	121	.429	.14213	.17903	-.21230	.49657
	Equal variances not assumed			.818	119.174	.415	.14213	.17386	-.20212	.48638

a. What gender do you identify with? = Female

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Intelligent	1.00	71	4.85	1.238	.147
	2.00	52	4.63	1.138	.158
Technical	1.00	71	5.10	1.343	.159
	2.00	52	5.19	1.103	.153
Leader	1.00	71	4.30	1.458	.173
	2.00	52	4.29	1.348	.187
Reliable	1.00	71	5.31	1.237	.147
	2.00	52	4.87	1.121	.155
Competent Brand Personality	1.00	71	4.8873	1.05373	.12505
	2.00	52	4.7452	.87095	.12078

a. What gender do you identify with? = Female

- **Males:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Intelligent	Equal variances assumed	3.577	.062	.509	89	.612	.135	.265	-.391	.661
	Equal variances not assumed			.527	88.890	.599	.135	.255	-.373	.642
Technical	Equal variances assumed	4.755	.032	.249	89	.804	.064	.257	-.448	.576
	Equal variances not assumed			.259	88.975	.796	.064	.248	-.428	.556
Leader	Equal variances assumed	.003	.959	.303	89	.763	.096	.317	-.534	.727
	Equal variances not assumed			.305	83.556	.761	.096	.316	-.532	.724
Reliable	Equal variances assumed	.442	.508	.264	89	.792	.064	.243	-.418	.546
	Equal variances not assumed			.270	87.648	.787	.064	.237	-.407	.535
Competent Brand Personality	Equal variances assumed	4.872	.030	.421	89	.675	.08974	.21329	-.33407	.51355
	Equal variances not assumed			.440	88.954	.661	.08974	.20412	-.31584	.49533

a. What gender do you identify with? = Male

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Intelligent	1.00	39	4.77	1.063	.170
	2.00	52	4.63	1.372	.190
Technical	1.00	39	5.10	1.021	.163
	2.00	52	5.04	1.343	.186
Leader	1.00	39	4.46	1.466	.235
	2.00	52	4.37	1.521	.211
Reliable	1.00	39	5.33	1.034	.166
	2.00	52	5.27	1.223	.170
Competent Brand Personality	1.00	39	4.9167	.82185	.13160
	2.00	52	4.8269	1.12518	.15603

a. What gender do you identify with? = Male

Appendix Y. Data analysis for H7

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Exciting	Equal variances assumed	.335	.563	1.478	213	.141	.280	.189	-.093	.653
	Equal variances not assumed			1.476	211.176	.141	.280	.189	-.094	.653
Unique	Equal variances assumed	.247	.620	-.601	213	.549	-.128	.213	-.549	.292
	Equal variances not assumed			-.600	211.762	.549	-.128	.213	-.549	.293
Daring	Equal variances assumed	1.163	.282	-.451	213	.652	-.087	.192	-.465	.292
	Equal variances not assumed			-.451	212.986	.652	-.087	.192	-.465	.292
Independent	Equal variances assumed	.052	.821	.901	213	.368	.145	.161	-.173	.464
	Equal variances not assumed			.900	211.484	.369	.145	.162	-.173	.464
Excited Brand Personality	Equal variances assumed	.000	.997	.377	213	.706	.05260	.13938	-.22215	.32735
	Equal variances not assumed			.377	210.313	.707	.05260	.13960	-.22260	.32779

Group Statistics

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Exciting	1.00	110	5.13	1.355	.129
	2.00	105	4.85	1.420	.139
Unique	1.00	110	3.89	1.541	.147
	2.00	105	4.02	1.587	.155
Daring	1.00	110	4.62	1.433	.137
	2.00	105	4.70	1.379	.135
Independent	1.00	110	4.75	1.161	.111
	2.00	105	4.60	1.206	.118
Excited Brand Personality	1.00	110	4.5955	.98787	.09419
	2.00	105	4.5429	1.05581	.10304

Appendix Z. Post Hoc Test, Sub-discussion H7

This section outlines the post hoc test split by gender.

- **Females:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Exciting	Equal variances assumed	.666	.416	.535	121	.594	.135	.252	-.364	.633
	Equal variances not assumed			.543	115.592	.588	.135	.248	-.356	.626
Unique	Equal variances assumed	.596	.442	-.690	121	.492	-.186	.269	-.718	.347
	Equal variances not assumed			-.690	110.190	.492	-.186	.269	-.719	.347
Daring	Equal variances assumed	.582	.447	-.433	121	.666	-.110	.253	-.611	.392
	Equal variances not assumed			-.436	112.564	.664	-.110	.252	-.608	.389
Independent	Equal variances assumed	1.327	.252	.173	121	.863	.038	.218	-.394	.470
	Equal variances not assumed			.176	116.838	.861	.038	.214	-.386	.462
Excited Brand Personality	Equal variances assumed	1.668	.199	-.170	121	.865	-.03074	.18032	-.38772	.32624
	Equal variances not assumed			-.173	115.638	.863	-.03074	.17754	-.38239	.32090

a. What gender do you identify with? = Female

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Exciting	1.00	71	5.00	1.434	.170
	2.00	52	4.87	1.299	.180
Unique	1.00	71	3.72	1.475	.175
	2.00	52	3.90	1.472	.204
Daring	1.00	71	4.56	1.412	.168
	2.00	52	4.67	1.354	.188
Independent	1.00	71	4.63	1.256	.149
	2.00	52	4.60	1.107	.154
Excited Brand Personality	1.00	71	4.4789	1.02795	.12200
	2.00	52	4.5096	.93011	.12898

a. What gender do you identify with? = Female

- **Males:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Exciting	Equal variances assumed	4.361	.040	1.856	89	.067	.551	.297	-.039	1.142
	Equal variances not assumed			1.928	88.963	.057	.551	.286	-.017	1.119
Unique	Equal variances assumed	.126	.724	.145	89	.885	.051	.354	-.653	.755
	Equal variances not assumed			.146	84.056	.884	.051	.352	-.648	.751
Daring	Equal variances assumed	.707	.403	.021	89	.983	.006	.307	-.603	.616
	Equal variances not assumed			.021	79.903	.983	.006	.309	-.608	.621
Independent	Equal variances assumed	4.556	.036	1.343	89	.183	.333	.248	-.160	.827
	Equal variances not assumed			1.406	88.858	.163	.333	.237	-.138	.804
Excited Brand Personality	Equal variances assumed	1.938	.167	1.042	89	.300	.23558	.22605	-.21358	.68473
	Equal variances not assumed			1.086	88.999	.280	.23558	.21692	-.19543	.66658

a. What gender do you identify with? = Male

Group Statistics[a]

	Rounded versus Angular	N	Mean	Std. Deviation	Std. Error Mean
Exciting	1.00	39	5.36	1.181	.189
	2.00	52	4.81	1.547	.215
Unique	1.00	39	4.21	1.625	.260
	2.00	52	4.15	1.708	.237
Daring	1.00	39	4.72	1.486	.238
	2.00	52	4.71	1.419	.197
Independent	1.00	39	4.95	.944	.151
	2.00	52	4.62	1.316	.182
Excited Brand Personality	1.00	39	4.8077	.88381	.14152
	2.00	52	4.5721	1.18543	.16439

a. What gender do you identify with? = Male

Appendix AA. Data analysis for H10

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Glamorous	Equal variances assumed	1.583	.211	2.396	108	.018	.683	.285	.118	1.248
	Equal variances not assumed			2.406	107.864	.018	.683	.284	.120	1.246
Feminine	Equal variances assumed	2.204	.141	-.997	108	.321	-.233	.234	-.696	.230
	Equal variances not assumed			-.992	103.274	.324	-.233	.235	-.699	.233
Smooth	Equal variances assumed	.557	.457	-.954	108	.342	-.227	.238	-.698	.244
	Equal variances not assumed			-.950	104.023	.344	-.227	.239	-.700	.247
Good-looking	Equal variances assumed	.529	.469	.393	108	.695	.079	.201	-.320	.478
	Equal variances not assumed			.391	103.306	.697	.079	.203	-.322	.481
Sophisticated Brand Personality	Equal variances assumed	1.103	.296	.504	108	.615	.07555	.14997	-.22172	.37283
	Equal variances not assumed			.505	107.962	.615	.07555	.14967	-.22112	.37223

Group Statistics

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Glamorous	1.00	53	4.98	1.407	.193
	2.00	57	4.30	1.569	.208
Feminine	1.00	53	3.68	1.312	.180
	2.00	57	3.91	1.138	.151
Smooth	1.00	53	5.02	1.323	.182
	2.00	57	5.25	1.169	.155
Good-looking	1.00	53	5.38	1.130	.155
	2.00	57	5.30	.981	.130
Sophisticated Brand Personality	1.00	53	4.7642	.76337	.10486
	2.00	57	4.6886	.80634	.10680

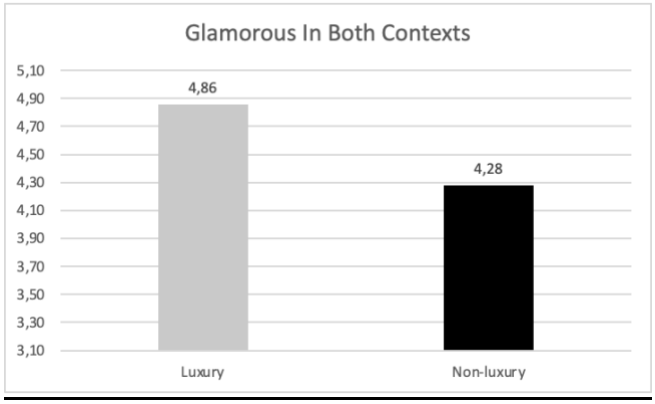
- **Glamorous in terms of luxury versus non-luxury context:**

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Glamorous	Equal variances assumed	.113	.737	2.794	213	.006	.575	.206	.169	.981
	Equal variances not assumed			2.793	211.919	.006	.575	.206	.169	.981

Group Statistics

	Luxury Versus Non-luxury	N	Mean	Std. Deviation	Std. Error Mean
Glamorous	1.00	105	4.86	1.528	.149
	2.00	110	4.28	1.491	.142



Appendix AB. Post Hoc Test, Sub-discussion H10

This section outlines the post hoc test split by condition 1 (round, luxury) and 3 (angular, luxury)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Glamorous	Equal variances assumed	1.198	.276	.838	103	.404	.250	.299	-.342	.843
	Equal variances not assumed			.837	99.952	.405	.250	.299	-.343	.844
Feminine	Equal variances assumed	.105	.747	2.382	103	.019	.583	.245	.098	1.069
	Equal variances not assumed			2.384	102.404	.019	.583	.245	.098	1.068
Smooth	Equal variances assumed	1.886	.173	2.350	103	.021	.653	.278	.102	1.205
	Equal variances not assumed			2.347	100.488	.021	.653	.278	.101	1.206
Good-looking	Equal variances assumed	6.974	.010	2.353	103	.021	.627	.267	.099	1.156
	Equal variances not assumed			2.346	92.577	.021	.627	.267	.096	1.158
Sophisticated Brand Personality	Equal variances assumed	8.815	.004	2.877	103	.005	.52857	.18370	.16425	.89289
	Equal variances not assumed			2.868	91.045	.005	.52857	.18431	.16247	.89467

Group Statistics

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Glamorous	1.00	53	4.98	1.407	.193
	3.00	52	4.73	1.646	.228
Feminine	1.00	53	3.68	1.312	.180
	3.00	52	3.10	1.192	.165
Smooth	1.00	53	5.02	1.323	.182
	3.00	52	4.37	1.521	.211
Good-looking	1.00	53	5.38	1.130	.155
	3.00	52	4.75	1.570	.218
Sophisticated Brand Personality	1.00	53	4.7642	.76337	.10486
	3.00	52	4.2356	1.09300	.15157

Appendix AC. Data analysis for H11

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Intelligent	Equal variances assumed	.000	1.000	.986	103	.327	.241	.244	-.243	.725
	Equal variances not assumed			.986	102.797	.327	.241	.244	-.244	.725
Technical	Equal variances assumed	2.981	.087	1.868	103	.065	.440	.236	-.027	.908
	Equal variances not assumed			1.872	98.912	.064	.440	.235	-.026	.907
Leader	Equal variances assumed	2.504	.117	2.856	103	.005	.768	.269	.235	1.301
	Equal variances not assumed			2.854	101.988	.005	.768	.269	.234	1.302
Reliable	Equal variances assumed	.391	.533	1.668	103	.098	.382	.229	-.072	.836
	Equal variances not assumed			1.668	102.984	.098	.382	.229	-.072	.836
Competent Brand Personality	Equal variances assumed	.832	.364	2.405	103	.018	.45782	.19040	.08021	.83543
	Equal variances not assumed			2.404	102.685	.018	.45782	.19047	.08006	.83558

Group Statistics

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Intelligent	3.00	52	4.75	1.266	.176
	4.00	53	4.51	1.234	.170
Technical	3.00	52	5.35	1.064	.148
	4.00	53	4.91	1.334	.183
Leader	3.00	52	4.71	1.433	.199
	4.00	53	3.94	1.322	.182
Reliable	3.00	52	5.25	1.169	.162
	4.00	53	4.87	1.177	.162
Competent Brand Personality	3.00	52	5.0144	.99313	.13772
	4.00	53	4.5566	.95781	.13157

- **Females:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Intelligent	Equal variances assumed	.108	.744	.254	50	.801	.082	.322	-.566	.729
	Equal variances not assumed			.250	42.820	.804	.082	.327	-.578	.742
Technical	Equal variances assumed	2.443	.124	.958	50	.343	.297	.310	-.326	.919
	Equal variances not assumed			1.004	49.998	.320	.297	.296	-.297	.891
Leader	Equal variances assumed	.008	.930	2.555	50	.014	.918	.359	.196	1.640
	Equal variances not assumed			2.630	49.167	.011	.918	.349	.217	1.620
Reliable	Equal variances assumed	.141	.709	1.249	50	.217	.391	.313	-.237	1.019
	Equal variances not assumed			1.238	43.881	.222	.391	.316	-.245	1.027
Competent Brand Personality	Equal variances assumed	.588	.447	1.761	50	.084	.42197	.23958	-.05924	.90318
	Equal variances not assumed			1.722	41.321	.093	.42197	.24510	-.07290	.91684

a. What gender do you identify with? = Female

Group Statistics[a]

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Intelligent	3.00	22	4.68	1.211	.258
	4.00	30	4.60	1.102	.201
Technical	3.00	22	5.36	.902	.192
	4.00	30	5.07	1.230	.225
Leader	3.00	22	4.82	1.140	.243
	4.00	30	3.90	1.373	.251
Reliable	3.00	22	5.09	1.151	.245
	4.00	30	4.70	1.088	.199
Competent Brand Personality	3.00	22	4.9886	.92414	.19703
	4.00	30	4.5667	.79853	.14579

a. What gender do you identify with? = Female

- **Males:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower	Upper
Intelligent	Equal variances assumed	.361	.551	1.015	50	.315	.391	.385	-.383	1.164
	Equal variances not assumed			1.002	43.175	.322	.391	.390	-.396	1.177
Technical	Equal variances assumed	1.450	.234	1.896	50	.064	.697	.368	-.041	1.435
	Equal variances not assumed			1.834	39.389	.074	.697	.380	-.071	1.465
Leader	Equal variances assumed	3.566	.065	1.501	50	.140	.633	.422	-.214	1.481
	Equal variances not assumed			1.553	49.525	.127	.633	.408	-.186	1.453
Reliable	Equal variances assumed	.004	.953	.667	50	.508	.230	.345	-.463	.923
	Equal variances not assumed			.659	43.314	.513	.230	.349	-.474	.934
Competent Brand Personality	Equal variances assumed	.004	.949	1.567	50	.124	.48788	.31142	-.13763	1.11338
	Equal variances not assumed			1.540	42.355	.131	.48788	.31684	-.15137	1.12713

a. What gender do you identify with? = Male

Group Statistics[a]

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Intelligent	3.00	30	4.80	1.324	.242
	4.00	22	4.41	1.436	.306
Technical	3.00	30	5.33	1.184	.216
	4.00	22	4.64	1.465	.312
Leader	3.00	30	4.63	1.629	.297
	4.00	22	4.00	1.309	.279
Reliable	3.00	30	5.37	1.189	.217
	4.00	22	5.14	1.283	.274
Competent Brand Personality	3.00	30	5.0333	1.05604	.19281
	4.00	22	4.5455	1.17928	.25142

a. What gender do you identify with? = Male

Appendix AD. Post Hoc Test 1, Sub-discussion H11

This section outlines the post hoc test split by condition 1 (round, luxury) and 3 (angular, luxury).

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Intelligent	Equal variances assumed	2.367	.127	.758	103	.450	.175	.230	-.282	.631
	Equal variances not assumed			.757	100.163	.451	.175	.231	-.283	.632
Technical	Equal variances assumed	.568	.453	-.683	103	.496	-.157	.231	-.615	.300
	Equal variances not assumed			-.684	100.149	.496	-.157	.230	-.614	.299
Leader	Equal variances assumed	.600	.440	.160	103	.873	.043	.270	-.491	.578
	Equal variances not assumed			.160	102.092	.873	.043	.270	-.492	.578
Reliable	Equal variances assumed	3.682	.058	1.984	103	.050	.410	.207	.000	.821
	Equal variances not assumed			1.980	97.635	.051	.410	.207	-.001	.822
Competent Brand Personality	Equal variances assumed	.829	.365	.649	103	.518	.11765	.18119	-.24169	.47699
	Equal variances not assumed			.648	100.363	.518	.11765	.18144	-.24230	.47760

Group Statistics

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Intelligent	1.00	53	4.92	1.089	.150
	3.00	52	4.75	1.266	.176
Technical	1.00	53	5.19	1.287	.177
	3.00	52	5.35	1.064	.148
Leader	1.00	53	4.75	1.329	.183
	3.00	52	4.71	1.433	.199
Reliable	1.00	53	5.66	.939	.129
	3.00	52	5.25	1.169	.162
Competent Brand Personality	1.00	53	5.1321	.85990	.11812
	3.00	52	5.0144	.99313	.13772

Appendix AE. Post Hoc Test 2, Sub-discussion H11

This section outlines the post hoc test split by condition 1 (round, luxury) and 2 (round, non-luxury); for the variable Reliable.

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Reliable	Equal variances assumed	2.851	.094	3.085	108	.003	.660	.214	.236	1.085
	Equal variances not assumed			3.118	102.989	.002	.660	.212	.240	1.080

Group Statistics

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Reliable	1.00	53	5.66	.939	.129
	2.00	57	5.00	1.268	.168

Appendix AF. Post Hoc Test 3, Sub-discussion H11

This section outlines the post hoc test split by condition 1 (round, luxury) and 2 (round, non-luxury), and gender.

- **Females:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Intelligent	Equal variances assumed	2.147	.147	1.348	69	.182	.396	.294	-.190	.982
	Equal variances not assumed			1.373	68.973	.174	.396	.288	-.179	.971
Technical	Equal variances assumed	.431	.513	.502	69	.617	.162	.322	-.481	.804
	Equal variances not assumed			.496	62.194	.622	.162	.326	-.491	.814
Leader	Equal variances assumed	1.116	.294	2.280	69	.026	.770	.338	.096	1.444
	Equal variances not assumed			2.313	68.784	.024	.770	.333	.106	1.434
Reliable	Equal variances assumed	3.878	.053	2.626	69	.011	.744	.283	.179	1.310
	Equal variances not assumed			2.726	66.743	.008	.744	.273	.199	1.290
Competent Brand Personality	Equal variances assumed	.721	.399	2.111	69	.038	.51803	.24535	.02858	1.00748
	Equal variances not assumed			2.157	68.986	.035	.51803	.24020	.03884	.99722

a. What gender do you identify with? = Female

Group Statistics[a]

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Intelligent	1.00	32	5.06	1.105	.195
	2.00	39	4.67	1.325	.212
Technical	1.00	32	5.19	1.447	.256
	2.00	39	5.03	1.267	.203
Leader	1.00	32	4.72	1.301	.230
	2.00	39	3.95	1.503	.241
Reliable	1.00	32	5.72	.924	.163
	2.00	39	4.97	1.367	.219
Competent Brand Personality	1.00	32	5.1719	.90348	.15971
	2.00	39	4.6538	1.12041	.17941

a. What gender do you identify with? = Female

- **Males:**

Independent Samples Test[a]

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Intelligent	Equal variances assumed	.105	.748	-.345	37	.732	-.119	.345	-.819	.581
	Equal variances not assumed			-.344	35.607	.733	-.119	.346	-.822	.584
Technical	Equal variances assumed	.021	.885	.576	37	.568	.190	.331	-.480	.861
	Equal variances not assumed			.576	36.109	.568	.190	.331	-.480	.861
Leader	Equal variances assumed	.324	.573	1.636	37	.110	.754	.461	-.180	1.688
	Equal variances not assumed			1.629	35.447	.112	.754	.463	-.185	1.693
Reliable	Equal variances assumed	.041	.841	1.583	37	.122	.516	.326	-.144	1.176
	Equal variances not assumed			1.573	35.082	.125	.516	.328	-.150	1.181
Competent Brand Personality	Equal variances assumed	.084	.774	1.281	37	.208	.33532	.26179	-.19511	.86575
	Equal variances not assumed			1.279	35.836	.209	.33532	.26224	-.19661	.86725

a. What gender do you identify with? = Male

Group Statistics[a]

	Condition	N	Mean	Std. Deviation	Std. Error Mean
Intelligent	1.00	21	4.71	1.056	.230
	2.00	18	4.83	1.098	.259
Technical	1.00	21	5.19	1.030	.225
	2.00	18	5.00	1.029	.243
Leader	1.00	21	4.81	1.401	.306
	2.00	18	4.06	1.474	.347
Reliable	1.00	21	5.57	.978	.213
	2.00	18	5.06	1.056	.249
Competent Brand Personality	1.00	21	5.0714	.80678	.17605
	2.00	18	4.7361	.82459	.19436

a. What gender do you identify with? = Male