



# Color and shape in logo design: influence on consumer perceptions of brand personality

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2020

# HANKEN SCHOOL OF ECONOMICS

<b>Department of:</b> Marketing	<b>Type of work:</b> Thesis
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<b>Title of thesis:</b> Color and shape in logo design: influence on consumer perceptions of brand personality	
<b>Abstract:</b> <p>Nowadays, consumers tend to perceive brands as a reflection of self-identity. The concept of brand personality, which refers to associating brands with human personality traits, have become a common phenomenon. How brands are perceived by consumers is strongly influenced by the corporate visual identity. The logo, being one of the first visual elements of a brand that people interact with, plays a big influential role on how consumers form brand attitudes and associations before any other interaction with the brand has taken place. Colors and shapes are two of the key graphic elements in the logo, and the associations that these elements evoke are essential for how different perceptions of brand personality originate.</p> <p>The aim of this study is to examine how color in combination with a circular logo shape influence consumers' perceptions of brand personality. The study seeks to find out whether the perceptions differ when the brand personalities are applied to only the logo shape and when colors are added. It also investigates which color and shape combinations are perceived as most appropriate in relation to a specific brand personality. A quantitative study is conducted in order to examine which brand personalities consumers perceive as appropriate in different versions of a circular logo.</p> <p>The results indicate that colors predominantly influence the perception of brand personality and that certain colors are perceived as more appropriate than others when combined with the circular shape. This study contributes to previous research within the fields of visual communication and branding by investigating the collaborative effect of brand elements and providing further understanding of how general associations of visual elements and their perceived appropriateness influence consumer attitudes and perceptions of brand personality. Additionally, the study gives implications for how corporate visual identity can be used as a strategic asset for strengthening brand equity. More specifically, brand managers as well as designers can gain insight into how visual elements in the logo can be applied to create desired consumer responses and develop brand personality.</p>	
<b>Keywords:</b> Logo design, visual communication, brand personality, corporate visual identity, color associations	

## SVENSKT SAMMANDRAG

<b>Institution:</b> Marknadsföring	<b>Arbetets art:</b> Avhandling
<b>Författare:</b> Mia Kronberg	<b>Datum:</b> 27.4.2020
<b>Avhandlingens rubrik:</b> Färg och form i logo design: inverkan på konsumenters uppfattning av varumärkespersonlighet	
<b>Sammandrag:</b> <p>I dagens värld är varumärken ofta en reflektion av konsumenters självidentitet. I och med detta har konceptet varumärkespersonlighet, vilket innebär att varumärket tillskrivs mänskliga personlighetsdrag, blivit ett omtalat fenomen. Företagets visuella identitet har en stor inverkan på hur konsumenter upplever varumärket. Logon är ett av de första visuella elementen som människor integrerar med och spelar därför en betydande roll i hur konsumenters attityder och associationer runt varumärket formas redan innan någon annan typ av interaktion med varumärket skett. Färger och former är de två huvudsakliga grafiska elementen i logon och de associationer dessa element väcker är avgörande för hur uppfattningar av olika varumärkespersonligheter uppstår.</p> <p>Syftet med avhandlingen är att undersöka hur färg i kombination med en cirkelformad logo inverkar på konsumenters uppfattning av varumärkespersonlighet. I studien undersöks huruvida uppfattningen av varumärkespersonligheter varierar då personligheterna relateras till endast logons form jämfört med då färger tillagts. Utöver detta undersöks även vilka kombinationer av färg och form som uppfattas som mest lämpliga i relation till en specifik varumärkespersonlighet. En kvantitativ enkätstudie utförs för att undersöka vilka varumärkespersonligheter som upplevs vara lämpliga i olika versioner av en cirkelformad logo.</p> <p>Resultatet indikerar att färger har en dominerande inverkan på uppfattningen av varumärkespersonligheten och att vissa färger upplevs som mer lämpliga än andra då de används i kombination med den cirkelformade logon. Avhandlingen bidrar till tidigare forskning inom visuell kommunikation och varumärkesidentitet genom att undersöka den kollaborativa effekten av varumärkeselement och fördjupa förståelsen för hur allmänna associationer av visuella element och deras upplevda lämplighet påverkar konsumenters attityder och uppfattning av varumärkespersonlighet. Studien bidrar också med riktlinjer för hur de visuella aspekterna av varumärket kan användas som en strategisk tillgång som stärker företagets varumärkeskapital. Mer specifikt erbjuds en inblick för både varumärkeschefer och grafiska formgivare i hur de visuella elementen i logon kan tillämpas för att skapa önskade gensvar hos konsumenter och utveckla företagets varumärkespersonlighet.</p>	
<b>Nyckelord:</b> Logo design, visuell kommunikation, varumärkespersonlighet, företagets visuella identitet, färgassociationer	

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## **1 INTRODUCTION**

In a fast-changing business environment, where new companies are competing for recognition in a sea of startups and SME's, differentiation is an important factor (Bresciani & Eppler 2010). Consumers' relationships with companies and brands are becoming more personal and are often perceived as a reflection of self-identity (Bengtsson & Östberg 2006). Therefore, a brand image and brand personality that reflects the company values by creating desired brand associations in consumers' minds, is a valuable asset for increasing brand equity. Especially for companies with small revenues or undeveloped brand communities, customer-based brand equity (CBBE) can be used to attract new customers (Lieven 2017). CBBE was conceptualized by Keller (1993) as "the differential effect of brand knowledge on consumer response to the marketing of the brand".

Brand personality is defined as "the concept of assigning human personality traits to the brand" (Aaker 1996) and is considered an important aspect for differentiation and enhancement of brand image associations (Aaker 1996) brand-consumer relationships, brand attachment and brand trust (Valette-Florence et al 2011), and ultimately increasing brand equity (Aaker & Joachimstahler 1999, Keller 1993).

As a part of a company's visual identity, brand logos are essential brand elements for differentiation, recognition and attracting customers (Airey 2015) especially in the early stages of a company, when no CBBE has been obtained through marketing efforts (Machado et al 2015). Logos are the visual representation of a company (Park et al 2013) and can influence customer bonding even before any promotional activity has taken place (Henderson & Cote 1998, Bresciani & Ponte 2017). In logo design, the most important factors for increasing recognition is considered to be the use of shapes, colors and typography (Airey 2015, 29). The role of the logo as a brand symbol makes it an especially powerful element influencing brand personality because of its strong associations and possibility to be controlled (Aaker 1996, 148).

As essential elements in the logo, color and shape combinations contribute to creating brand associations and perceptions of brand identity in consumers' minds (Park et al 2013). Their collaborative impact on brand associations such as brand personality, is therefore an important aspect to consider when choosing or designing new brand logos (Henderson & Cote 1998, Hynes 2009, Ridgway & Myers 2014), especially in newly established companies looking to gain recognition and create a memorable presence on the market (Bresciani & Ponte 2017).

### **1.1 Research problem**

The concept of brand personality has as Aaker & Fournier (1995) proposes, been studied in relation to brand names, symbols and logos and what role these brand elements play in developing brand personality. Brand logos' impact on brand personality has been studied by examining separate logo elements such as color (Labrecque & Milnes 2012, Ridgway & Myers 2014), the use of metaphors (Noble et al 2013), symmetry (Bajaj & Bond 2018) and typeface (Grohmann et al 2013). Grohmann (2008) examines how the logo characteristics by Henderson & Cote (1998) influence brand personality and claims that natural, elaborate, coherent and round logos for instance have and influence on the brand personality trait sincerity. Shapes and colors are the only two essential elements in a logo. Typeface, being the third main logo element is sometimes excluded in the logo design, leaving the icon (shape and color) as the only elements representing the brand (Aaker (1996, 84).

While logo color and logo shape associations separately have been studied to some extent, none of the previous studies have compared the logo elements color and shape and examined their collaborative effect on consumer brand perceptions. Labrecque and Milnes (2012) confirms this by suggesting that additional research to their study about logo color should include the study of logo shapes. In addition, most research focus on the design dimensions developed by Henderson & Cote (1998) (e.g. naturalness, symmetry and harmony) without considering consumer associations of the basic geometric shapes that exist in most visual designs. By studying how shape and color in logo design separately and collaboratively influence customer perceptions of brand personality, this study hopes to give further implications to designers and marketers, especially in newly founded companies and start-ups, about how to choose and design logos that reflect a certain brand personality and evoke desired customer responses.

### **1.2 Study objectives**

The aim of this study is to examine how color in combination with a circular logo shape influence consumers' perceptions of brand personality. By adapting a novel logo approach, the study will examine how consumers respond to visual elements in the logo before any previous interaction with the brand has taken place. The study aims to investigate the following: Is the shape in the logo enough to generate a perception of brand personality? The study also examines whether the addition of certain colors will influence or change the brand personality perception. Additionally, appropriateness of the colored logo versions will be evaluated in order to find which color-shape combination is perceived as most appropriate in relation to a certain brand personality.

The study hopes to deepen the knowledge about the effect of using color in the logo design versus using a monochrome logo and how the shape and color elements are perceived both separately and collectively in relation to brand personality. The theoretical framework of brand personality is based on Aaker's (1997) Brand Personality Scale.

### **1.3 Research questions**

Based on the aim of the study, the research questions are as follows:

**RQ1:** *Is the circular shaped logo related to the perception of brand personality without the influence of color?*

**RQ2:** *Does the addition of color influence the perception of brand personality in the logo?*

**RQ3:** *Which logo version is perceived as the most appropriate in relation to each brand personality dimension?*

### **1.4 Delimitations**

The study is limited to examining adult consumers' perceptions of brand personality in a logo that is not associated with any previous brand recognition. The concept of brand personality is based on the brand personality dimensions of Aaker (1997). The study is conducted in a quantitative manner, examining the appropriateness of the brand personality traits in regards of the logo shape and colors. By not choosing a qualitative research method, no data about the consumer's underlying thought process when evaluating the logo will be obtained. This type of data was however not perceived as necessary for answering the research questions. The study focuses on a rather small sample size, but with respondents from many different geographical regions in Europe.

The study is delimited to examining three logo colors as well as a monochrome logo. A circular shaped logo was chosen as the geometric shape element. Other basic geometric shapes and logo elements such as typeface and brand name will not be examined, even though previous research have proven them to have an impact on customers' brand associations (Grohmann et al 2013, Bresciani & Ponte 2017).

The study is also delimited to examining only single colored logos with standard web colors from the RGB Color Table. The colors chosen for the study are the primary colors blue, yellow and red. As seen in Labrecque and Milnes (2012) sample of 100 leading

brands, the majority of brand logos consist of a single color or one dominant color and one accent color. The results of the study will therefore only give implications for single-colored logos since the combination of several colors in the logo may result in different brand personality perceptions.

The logo shape used in this study is a circular shape. No organic shapes with pictorial elements are used in order to eliminate real images creating associations that may affect the perceptions of brand personality in the logos, as can be seen in the results of Hynes' (2009) study.

### **1.5 Research approach**

The study examines the research questions from a consumer perspective. Bresciani and Ponte (2017) seeks to fill in the gap between previous theoretical and graphic design expert-based approaches in logo design, with a more customer-centric approach. The study aims to assess the effect of logo design without influences of brand awareness, by introducing customers to unfamiliar logos by start-up companies. This current study will take on the same novel methodology approach as Bresciani and Ponte (2017), but instead of examining consumer affect in combinations of brand name and icon, this study will focus on brand logo color and shape associations within the theoretical framework of brand personality.

The logo colors and shape studied are chosen based on the criteria that previous researchers have viewed these types of as particularly relevant in logo design purposes. The colors used in the study were chosen from the RGB Color Table, where they are represented with the HTML names and HEX codes: red: #FF0000, yellow: #FFFF00, green: #008000, blue: #0000FF. These hues are located in the middle of the light/dark color spectrum and are standard web colors. Studies in color preference show that the most preferred hues are: blue, green, purple, red and yellow (Whitfield and Wiltshire, 1990; Bottomley & Doyle 2006). The logo shape chosen is the circular shape, which is frequently used in logo design purposes. The characteristics of the logo are similar to Henderson & Cote's (1998) guidelines for low-investment logos, since these types of logos are desired to evoke similar consumer responses of false recognition and positive affect without the necessity of any previous marketing efforts.

The logo was retrieved from a real start-up company, and its colors were modified to represent the colors chosen for the study. An online survey was distributed to consumers in the European countries, examining perceptions of brand personality in the logo shape, logo color and shape, as well as the appropriateness of the colors in relation to a specific

brand personality dimension. A quantitative research approach is adapted in order to gain generalizable insights from a broader population with a similar cultural background.

## **1.6 Definition of terms**

### *Corporate visual identity (CVI)*

The main components of corporate visual identity are a name, symbol and/or logo, typography, color, slogan and other additional graphic elements (Van den Bosch et al 2005). CVI is usually what provides recognizability to the company and communicates its organizational characteristics.

### *Brand personality*

Aaker (1997) defines brand personality as “the set of human characteristics associated with a given brand”. Brand personality is a reflection of customers’ feelings about brand activities, marketing efforts and communicated values. Advertising is considered especially influential in creating brand personality. Through different techniques in marketing communications such as personification, anthropomorphization (transforming objects etc. into human forms, personalities) and use of brand characters, advertisers can provide different personality traits to the brand. (Keller 2003, 86)

### *The Brand Personality Scale*

Aaker (1997) developed a framework and scale for measuring brand personality across product categories called the Brand Personality Scale (BPS). The scale consists of five dimensions of brand personality, which are based on the “Big Five” human personality traits in psychology research, as well as on personality scales used in previous marketing research and by practitioners within the field of marketing and advertising.

### *Logo*

The modern definition of a logo is it being the visual representation of a brand (Park et al 2013). Logos are considered the most visible and frequent reminders of what a brand stands for (Wheeler 2013, 32). A logo consists of the graphical elements icon, color and sometimes also brand name (typography) (Pittard et al 2007).

### *Logo design*

The design of the logo affects what type of associations are created in consumers' minds (Kohli 2002). In a well-designed logo, the graphic elements alone should evoke associations correlating with the desired organizational characteristics (Van Riel 2001).

#### **1.7 Structure of the paper**

The rest of the thesis will be structured as follows: first, the concept of brand personality will be presented and its proven impact on brand equity will be studied in order to understand the relevance of the concept. Marketing communication techniques for creating brand personality such as the use of animism, metaphors and other visual communication techniques will be reviewed to show its connection to corporate visual identity. Aaker's (1997) Brand Personality Scale will be discussed in detail as the theoretical framework for this study.

The representative role of the logo will be explained by the semiotic concepts of iconicity and symbolicity. Previous studies in logo design research, defining logo characteristics, guidelines and customer responses to logo design will be presented, and the relationship between logo design and brand personality will be demonstrated. Thereafter, definitions and associations of the logo elements color and shape in relation to brand personality will be explained based on previous research. Three hypotheses will be formulated.

Secondly, the method section will discuss the research approach and the study design further, as well as the data collection and sampling strategies. Thereafter, the quality of the research methods will be assessed. The results of the analysis will be presented, and the hypotheses will be tested and discussed in relation to the research questions.

Lastly, the paper will conclude with a discussion of the results as well as a summary of the key findings in relation to the study aims and the theoretical framework. Suggestions for further research will be given based on the limitations of the study.

## **2 BRAND PERSONALITY & LOGOS**

In this chapter the concepts of brand personality and brand logo will be reviewed based on previous research within the field. The role of brand personality in customer-based brand equity will be explored, as well as how it is created in consumers' minds and how it can be measured based on the Brand Personality Scale. The concept of corporate visual identity (CVI), visual communication, the relationship between brand personality and brand logo as well as previous studies in brand logo design, with a focus on color and shape, will be reviewed in order to demonstrate theoretical grounds for the hypotheses.

### **2.1 Brand personality as a brand asset**

Marketing researchers agree that strong brands are one of the most valuable strategic assets a company owns (Neumeier 2006, Lieven 2017). Brand equity is defined by Aaker (1991) as “a set of brand assets and liabilities linked to a brand name and symbol, which add to or subtract from the value provided by a product or service”. Aaker's four dimensions of brand equity are: brand loyalty, brand awareness, brand associations and perceived quality. Another aspect of the concept of brand equity is that it also provides value to customers by enhancing the ability to process information, generate confidence in purchase decisions and improve quality of user experiences (Aaker 1991). Keller (1993) proposes a model for conceptualizing customer-based brand equity (CBBE). He defines it as “the differential effect of brand knowledge on consumer response to the marketing of the brand”. Brand knowledge is the key driver for CBBE and is based on brand awareness and brand image. Consumer response to marketing is based on consumer perceptions, preferences and branding activities (e.g. reactions to ads, promotions or brand extensions) (Keller 1993). Companies with smaller revenues, or not yet well-established brand communities, can also attract customers with CBBE (Lieven 2017). Positive CBBE can in the long run lead to more tangible outcomes such as higher revenue streams, lower costs and bigger profits (Keller 1993).

Brand management plays an important role in increasing brand equity. Aaker and Joachimstahler (1991) claim that most strong brands go beyond the functional benefits to also deliver emotional benefits as a means to self-expression. They propose that brand managers implement a system for measuring intangible brand assets such as brand personality, image and brand symbols in order to fully understand how to leverage the brand assets (Aaker & Joachimstahler 1991). Brand personality has also proven to have an impact on some of the concepts in Keller's (1993, 2003) CBBE-model, such as brand-consumer relationships, brand attachment and brand trust (Valette-Florence et al 2011). Multiple studies about the relationship between brand personality and brand equity has

concluded that brand personality has a significant impact on brand equity (Aaker & Joachimstahler 1991, Aaker & Fournier 1995, Valette-Florence et al 2011, Su & Tong 2016).

### ***2.1.1 The symbolic meaning of brand personality***

The consumption of brands has a symbolic meaning that is connected to self-identity. People's choice of clothing brands has a tendency to reflect the social group in which they belong. Wearing a tennis-shirt with the Ralph Lauren logo might portray the person as "upper class" and "business-minded", while a person wearing a sweater with the Nike logo might be perceived as "sporty". In this way, consumers express themselves through purchasing brands that are reflective of their own actual or aspired personality and self-identity. (Bengtsson & Östberg 2006)

Aaker (1997) confirms that the symbolic use of brands is possible because of consumers' tendency to identify brand with human personality characteristics. The theory of brand personality was first defined in the 1970's by Stephen King with J. Walter Thompson communication agency. He recommended a strategy for achieving brand differentiation by assigning human personality traits to the brand (Slade-Brooking 2016, 56).

Social psychologist Jennifer Aaker (1997) defines brand personality as "the set of human characteristics associated with a given brand". To differentiate brand personality and brand image, brand image conveys physical and functional associations of a brand, while brand personality indicates emotional associations (Keller 2003, Geuens et al 2009). Brand personality will affect brand image over time and make it more stable (Aaker 1996). Brand personality is essential for understanding customer perceptions and attitudes towards the brand (Aaker 1996, 150). However, brand imagery and personality do not always agree with each other. In for example food product-categories, where performance is a key attribute affecting customers' decision-making, the brand personality might be less connected to imagery. In categories such as cosmetics, beverages or cars, where imagery is important to consumer decisions, brand personality has also been proven to be more strongly connected to imagery. (Keller 2003, 86-87)

Everything the brand does and communicates to their customers has an impact on perceived brand personality. The brand personality is a reflection of customers' feelings about brand activities, marketing efforts and communicated values. Advertising is considered especially influential in creating brand personality. Through different techniques in marketing communications such as personification, anthropomorphization (transforming objects etc. into human forms, personalities) and use of

brand characters, advertisers can provide different personality traits to the brand. (Keller 2003, 86)

Aaker (1996) identifies three models for how brand personality leads to brand equity: the self-expression model, relationship basis model and functional benefit model. Brands can be used to express the consumer's self-identity; either their actual identity or one they aspire, through the feelings they evoke, symbolic meaning connected to self-identity or by becoming a part of the extended self (Aaker 1996, 153-157). People can also feel connected to the brand by viewing it as a relationship with a friend or an active partner (Aaker & Fournier 1995). Brand personality is then representing the nature of the relationship. (Aaker 1996)

A different role of brand personality is representing functional benefits and brand attributes. The personality traits then convey a perception of product quality, trustworthiness or other beneficial aspects related to functional attributes. This brand personality model is relying on the brand having a clear visual image or symbol to communicate personality characteristics. An example is the Michelin man, whose tough and eager personality reflects the strength, energy and safety (Keller 2003) of Michelin tires. (Aaker 1996, 168)

#### *2.1.1.1 The brand as a character, partner and person*

Creating brand personality involves the personification of a brand (Allen & Olson 1995; Aaker & Fournier 1995). Aaker & Fournier (1995) examine three different perspectives on brand personality: the brand as a character, a partner and a person. They study how brand personality is impacting the brand, the benefits of having a brand personality and what types of marketing activities facilitates or changes it. The perspective of a brand as a character can be explained by the narrative theory approach (Allen & Olson 1995; Aaker & Fournier 1995), which is described as a framework for understanding how consumers shape their perception of a brand's personality through brand characters and behaviors. The approach gives implications for how consumers understand personality traits and brand meaning, techniques used by advertisers for creating brand personality as well as how to measure brand personality from a consumer perspective. (Allen & Olson 1995; Aaker & Fournier 1995)

Consumers tend to respond well to narratives, or stories, when defining perceptions of brand personality. In this way, portraying the brand as a character in a story facilitates the creation of behaviors linked to a certain personality trait. For instance, advertisement can make the brand seem "alive" by actually showing the effects of the product, where

the brand is portrayed as the hero of the story (Allen & Olson 1995; Aaker & Fournier 1995). The relationship people have with brands has been defined from the perspective that consumers view the brand as an active, contributing partner (Fournier 1995; Aaker & Fournier 1995). This can be explained in reference to animism, which is the concept of giving objects “a soul” and “treating them as living creatures” (Noble et al 2013).

Animistic metaphor thinking can be linked to the concept of brand personality, meaning that different types of metaphors are used to represent the brand in symbolic, linguistic or visual ways. Noble et al (2013) validates this: “Metaphors are a powerful marketing tool as an efficient way to convey a great deal of meaning to consumers, including expressing product benefits, points of differentiation, “...” and even brand personality”. Anthropomorphism takes this concept a step further, where human qualities are applied to non-human objects. Animal-based and human-based metaphors used in marketing purposes can evoke a higher level of emotional and cognitive responses in consumers than non-metaphoric brands. (Noble et al 2013)

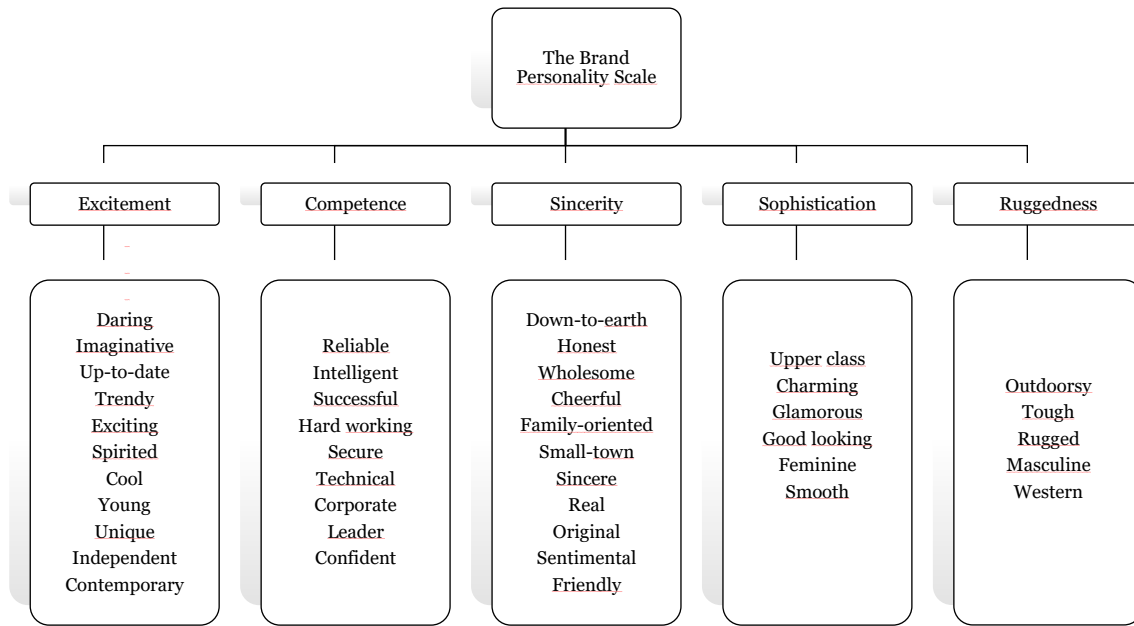
When the brand is viewed as a partner, it is perceived as an active part of a relationship between the person and the brand. In this aspect, everything the brand does, from advertising campaigns to discount sales or changes in visual layout, can be considered behaviors affecting the brand personality (Fournier 1995). When the customer views the brand as a partner, his or her relationship with the brand becomes more personalized and dyadic and emotional, creating stronger feelings of attachment towards the brand (Malär et al 2011).

Viewing the brand as a person, involves assigning human personality traits to it (Aaker & Fournier 1995). Consumers tend to view brands as celebrities or known historical figures (Rook 1995). Previous research state that the more accurately a brand can be described with the same human characteristics as the consumers’ own actual or ideal self, the greater is the preference for the brand (Malhotra 1988, Sirgy 1982; Aaker 1997). The different personality traits linked to the brand can derive from almost any interaction the consumer has with the brand. Different people associated with the brand can influence brand personality traits. For instance, the personality of the “typical user” of a certain brand, the CEO, employees and product endorsers can be reflected in the perceived brand personality. Brand personality traits can also be linked to a brand in more indirect ways through for example the attributes of the product, the product category, price, advertising style, brand name, symbol or logo. (Aaker 1997)

### **2.1.2 The Brand Personality Scale**

In order to understand how brand personality is constructed in consumers' minds, it needs to be measured. Aaker (1997) developed a framework and scale for measuring brand personality across product categories called the Brand Personality Scale (BPS). Beside its practical benefits, the scale also facilitates the understanding of the symbolic use of brands and when and why consumers buy brands as a means of self-expression. The scale consists of five brand personality dimensions, which are based on the Big Five human personality traits in psychology research, as well as on personality scales used in previous marketing research and by practitioners within the field of marketing and advertising. Aaker's (1997) study defines five dimensions of brand personality: *sincerity*, *excitement*, *competence*, *sophistication* and *ruggedness* (Figure 1). The first three of these dimensions derive from human psychology research's Big Five, while the two latter represent personalities that individuals don't necessarily have but tend to desire (Aaker 1997). The dimensions *sincerity*, *excitement* and *competence* can in this way be described as anthropomorphic, where human qualities are applied to non-human objects. This concept was previously discussed in chapter 2.1.1.1. The brand personality dimensions are represented by personality facets, which are described by different brand personality traits. These will be described in the next chapter in order to provide a more detailed framework and understanding of the five dimensions.

While several studies have focused on defining the construct for brand personality, few have focused on how the perception of brand personality is shaped in consumers' minds. A study by Maehle et al (2011) aims to identify what type of brands consumers tend to associate with each brand personality dimension and discover the characteristics of the dimensions from a consumer perspective. In order to examine consumer perceptions of brand personality in logos, it is important to understand how Aaker's (1997) dimensions are perceived in consumers' minds and how they connect certain personality traits to certain types of brands.



**Figure 1 The Brand Personality Scale (own figure) based on Aaker (1997).**

The brand personality dimensions will be discussed more in depth in the upcoming section of this study.

### 2.1.2.1 *Excitement*

Brand excitement is connected to an extrovert, social, active and energetic brand personality (Aaker 1997). On Aaker's (1997) BPS, the dimension is assigned the personality facets *daring*, *spirited*, *imaginative* and *up-to-date*. This brand personality dimension is highly linked to consumer identity, i.e. certain brands are used by consumers to enhance desired, exciting personality traits in the consumers themselves. A determining factor for excitement is aesthetics. For instance, cars with cool designs, beverages used at important social events and fashionable, up-to-date clothes are associated with exciting brands. While brands in the fashion industry, cars and beverages are mostly linked to excitement, some technology brands, such as Apple, are also perceived as exciting because of their appealing designs. (Maehle et al 2011)

Besides unique, creative and up-to-date design, an exciting brand personality can derive from the user experience and the emotions evoked in that situation. Maehle et al (2011) finds that many consumers argue that "exciting brands offer them exciting experiences". User imagery, characteristics of the "typical" brand user and advertising play a big role in influencing excitement. The brand is often represented by young people having fun or engaging in an exciting activity. (Maehle et al 2011)

Unexciting brands can be found in almost any product category. What these brands have in common is that they are perceived as boring, common, mass-produced and not related to any exciting activities. Many of the brands are used in consumers' everyday lives but have a boring or old-fashioned design and lack of personality. For instance, food brands like Danone yoghurt and WASA bread are too simple to be exciting. Consumers' cannot connect them to any exciting events, but simply to everyday activities like having breakfast. (Maehle et al 2011)

#### 2.1.2.2 Competence

Brand competence is linked to responsibility, dependability and security (Aaker 1997). It is assigned the personality facets *reliable*, *intelligent* and *successful* on Aaker's (1997) BPS. Consumers tend to link competent brands to high-quality associations (Maehle et al 2011). Technology and car brands are common in this brand personality dimension, and the company behind the products, their history and beliefs influence the consumer perceptions. Maehle et al (2011) exemplifies this with the company Nivea, which has a long history in the skin-care industry and has been used by people all over the world for many years. Even though the brand has a considerable amount of product extensions they are still recognized by their blue, classical color and products for the whole family. Their broad product-line, consistent brand image and long history generates a competent brand personality. In the tech-industry, Microsoft is an example of a company that is perceived as highly competent because of its leading position on the market. (Maehle et al 2011)

Common characteristics for incompetent brands are that the products don't function well or that consumers repeatedly encounter problems in their interactions with the brand. Copy-cat brands, such as cheaper versions of big food and beverage brands are generally perceived as more incompetent, since low price is associated with low quality. In conclusion, the functional aspects of a brand are what mostly influence the perception of competence as well as a consistent performance over time. (Maehle et al 2011)

#### 2.1.2.3 Sincerity

The personality facets assigned to brand sincerity on Aaker's (1997) BP Scale are: *down-to-earth*, *honest*, *wholesome* and *cheerful*. This dimension captions the idea of warmth and acceptance (Aaker 1997) and is also usually connected to trustworthiness (Maehle et al 2011). Many of the brands associated with sincerity are those that consumers encounter in their everyday lives. They use them on a regular basis and develop loyalty towards them. These types of brands are usually in the food, cosmetics, beverage and

supermarket categories. A positive service experience is what tends to drive the perception of sincerity in these cases.

Family-oriented brands also tend to be perceived as sincere, since they focus on activities for different generations and contribute to creating memories for the whole family. Technology brands that offer a high quality and meet consumer expectations are usually also put in this dimension. For instance, mobile and car brands don't necessarily have to offer exciting features to attract consumers, as long as they are of high quality, reliable and generate positive consumer experiences. Lastly, Maehle et al (2011) finds organizations with high moral values and idealistic purposes to be associated with sincerity. These types of brands were for example the Red Cross and UNICEF. (Maehle et al 2011)

Brands perceived as insincere, are especially those that have been involved in events that have caused them a lot of negative publicity. Unethical behavior, misleading marketing or bad product quality are examples of activities causing the brand to appear insincere in consumers' minds. Withholding information about negative health effects is also a determining factor. For instance, Maehle et al (2011) finds that McDonalds, even though marketing themselves as a family-oriented business, is perceived as insincere by some consumers because of its glorifying advertising techniques, making the unhealthy food look better than what it is. False promotion and bad product performance also makes the brand seem more insincere, as well as too exclusive brands that cannot be obtained by normal people. (Maehle et al 2011)

#### 2.1.2.4 *Sophistication*

Sophistication is a dimension that is not directly linked to common human personality traits, but to desired ones like upper class, glamorous and sexy (Aaker 1997). On Aaker's (1997) BPS, sophistication is assigned the personality facets *upper class* and *charming*. Maehle et al (2011) finds that brands perceived as highly sophisticated are mostly clothes, cosmetics and car brands that are somewhat more exclusive and high end. Aesthetics and design has a considerable influence on consumers' perception of sophistication. Designer clothes and luxury cars are perceived as glamorous and reflective of a sophisticated, wealthy lifestyle. The design is often elegant and simple, while the quality and price is high. (Maehle et al 2011)

Advertising of sophisticated brands is usually made by endorsers, who can be celebrities or other influential people. For instance, the car brand Aston Martin is perceived as sophisticated because James Bond drives an Aston Martin. James Bond's image of

sophistication is transferred on to the car brand. In the cosmetics category however, exclusivity is not the denominator for sophistication, but femininity and beauty. Maehle et al (2011) finds that femininity is linked to sophistication in other product categories as well, such as car brands designing cars for women with a feminine, elegant look. (Maehle et al 2011)

Unsophisticated brands on the other hand, are usually either low end, cheap brands or brands that are considered too common and “everyday” for being able to reach any level of sophistication. Mass-produced brands are also generally perceived as less sophisticated. A lack of elegance, charm and femininity makes the brand less sophisticated according to Maehle’s et al (2011) study. Therefore, masculine brands such as Marlboro and Levi’s tend to be perceived as unsophisticated. (Maehle et al 2011)

#### 2.1.2.5 *Ruggedness*

The brand personality dimension ruggedness is the second dimension that is not linked to the Big Five human personalities. It is described to glamorize strength and masculinity and is assigned the personality facets *outdoorsy* and *tough* on the BPS (Aaker 1997). While the sophistication dimension is connected to feminine brand features, ruggedness is represented by masculine brands such as Marlboro, Gillette, Harley Davidson and car brands like Jeep and Land Rover (Maehle et al 2011). The masculine nature of these brands, along with their portrayal of an adventurous, outdoorsy and tough lifestyle is what influences the perception of ruggedness.

Advertising of these types of brands usually features masculine men, symbols for the Western “macho” culture such as cowboys and big vehicles, as well as sports and outdoor activities. (Maehle et al 2011)

Brands with strong female associations such as certain clothes and cosmetics brands are perceived as non-rugged. The same applies to brands oriented towards children and families, like toy brands and family-oriented, kids-friendly restaurant chains. (Maehle et al 2011)

#### 2.1.2.6 *Relevance and criticism of the BPS*

The Brand Personality Scale by Aaker (1997) is still one of the most well-known and used methods for measuring brand personality. However, some scholars criticize the framework for being too broad and question whether it should be used when examining a more specific product category, or a specific consumer culture. Others question whether human personality traits really can be assigned to non-human entities. The

reliability of some scale items has also been questioned in regard to their relevance in modern society. Especially the brand personality dimensions ruggedness and sophistication have received critique for having attributes related to gender, social class and ethnicity, such as feminine, upper-class and Western (Azoulay & Kapferer 2003).

Eisend & Stokburger-Sauer (2013) revisits Aaker's BP Scale and investigate its reliability, stability and generalizability. They find that the reliability is higher in the dimensions with a higher number of personality traits assigned to them (e.g. sincerity). The findings still support the concept of transferring human personality traits to brands and validates that the scale can be used across different cultures and brand categories, since minor to no variations in different data aggregations can be found. (Eisend & Stokburger-Sauer 2013)

## **2.2 Corporate visual identity and communication**

Corporate visual identity (CVI) is considered an essential strategic asset for creating brand personality associations in consumers' minds. As Maehle et al (2011) finds in their study, many of Aaker's (1997) brand personality dimensions are highly influenced by the aesthetics and design of the brand and enhanced by advertising and visual communication techniques.

Van den Bosch et al (2005) states that "corporate visual identity consists of a name, a symbol and/or logo, typography, color, a slogan and – very often – additional graphical elements". CVI is usually what provides recognizability to the company and communicates its organizational characteristics. Developing CVI requires knowledge and examination of the corporate identity, its history, culture, strategy and structure. By strategically designing a consistent and transparent CVI that fits the company, it can be used to build a favorable corporate reputation. Elements in the corporate identity mix influencing reputation are: behavior, communications and symbolism. (Van den Bosch et al 2005)

The logo is an essential part of a company's CVI and is one of the most important visual representations of the brand (Park et al 2013). In order to understand the role of the logo and how it is perceived in consumers' minds, its symbolic and iconic value needs to be examined. Semiotics, or "the study of signs" is an approach to studying visual communication in commercial purposes, which can be applied to logo research as well.

### **2.2.1 The study of signs**

Visual signs have been used for identification and advertising purposes throughout history (Beasley & Danesi 2002, 4). Identification marks have been used by both

individuals and movements; Chinese emperors were identified with the image of a dragon, while the cross has become an international sign for the Christian church. The function of these visual signs is about more than identification: they convey information about the carrier and become symbols for their values. The cross is a representative symbol of the Christian values sacrifice and victory over death. (Park et al 2011)

A company's marketing communication through visual identity and advertising was studied as early as in the 1950's, by Roland Barthes, who introduced a new approach to studying marketing messages and techniques with the help of theoretical tools in semiotics (Beasley & Danesi 2002, 19). Semiotics is referred to as the "study of signs" (Beasley & Danesi 2002) and has since the 1950's become a widely used theoretical approach to studying marketing messages and the meaning of visual elements in advertising. The starting point of Barthes' approach is that the interpretation of brand names, logos, ads, package designs and commercials can be seen as two-levelled. The first level consists of different elements such as images, words, colors etc. being put together in a creative fashion in order to create a personality for the product or brand. This "surface"- level of interpretation is called the *denotative* level. The concealed meaning of the elements lies in the *connotative* level, which is where different marketing messages can be found. (Beasley & Danesi 2002, 20).

Peirce's Sign Theory divides signs into three different types: icons, indexes and symbols. While icons have physical resemblance to what's being portrayed, index shows evidence of what's being represented. For instance, an image of smoke would indicate fire. A symbol usually has no resemblance to what they represent. This association is something that is learned over time or by cultural norms. A sign can have both iconic and symbolic representation, which means there is not always only one exclusive type per sign. Beasley and Danesi (2002, 40) exemplifies this by referring to the cross sign in Christianity, where the shape of the cross is iconic, representing the cross where Christ was crucified, while the sign simultaneously is a symbol for the Christian church.

Many logos are iconic (Beasley & Danesi 2002): the images and shapes used in logos represent a different meaning on a connotative level. Symbolism is also present in most logos, for instance in connotations regarding color and objects. These notions of semiotic analysis will be discussed in further detail in order to facilitate the understanding of how the elements of color and shape can create different associations in consumers' minds when related to brand personality.

### *2.2.1.1 Iconicity*

An icon is a sign that resembles the subject that it refers to. Iconicity is often used in advertising context as a strategic marketing technique, as can be seen in logos and branding. Iconic techniques in logos and brand names can for instance be different suggestive shapes and onomatopoeic words (Beasley & Danesi 2010, 40). An icon with the shape of a triangle on top of a square, can for example refer to a house, creating associations of homeliness (Hynes 2009). Through repeated exposure, some icons in branding can become so well-recognized that they don't need to include the company name or any specific ad text. Aaker (1996, 84) states that when the relationship between the brand icon and the brand identity elements are evolving over time, the icon captures the identity of the brand even more effectively. The customer recognizes the brand within the first glance. Examples of this can be seen in big global brands such as Nike and Apple. Nike's "swoosh" logo is an example of both a suggestive shape and an onomatopoeic word referring to speed and activity (Beasley & Danesi 2010, 62, Wheeler 2013, 50).

### *2.2.1.2 Symbolism*

A symbol is a sign that has a conventional or irregular relation to the subject it is referring to. In other words, symbolism is when certain types of objects, colors, shapes etc. have underlying symbolic meanings based on cultural context or tradition. The use of symbols in representation is called symbolicity (Beasley & Danesi 2010, 41). For instance, the symbolic meaning of specific colors is often unconscious and happens at a connotative interpretation level. Colors can be connected to certain times of the year, traditions, values and belief systems. Beasley & Danesi (2010, 45) state that in the connotative symbolism of ads, the colors white and black next to each other suggest a conflict or struggle between the light and the dark side; with white symbolizing "innocence" and "purity", while black symbolizing "corruption", "sinister" and "impurity". The ability to generate these types of underlying meanings and connotations is why symbols are such powerful elements in an advertising and branding context (Beasley & Danesi 2010, 40-41).

According to Aaker (1996, 85) the most meaningful brand symbols are those involving a metaphor, where either the symbol itself or a characteristic (such as shape or color) is representing a functional, emotional, or self-expressive benefit that the consumer can identify with. The brand symbol can be a powerful influence especially on brand personality because of its strong associations and possibility to be controlled (Aaker 1996, 148). While some icons may need time to gain its iconic meaning and recognition

in a branding context, symbols already convey deeper meanings that can be transferred onto the brand identity.

### **2.2.2 *The role of the logo***

The modern definition of a logo is it being the visual representation of a brand (Park et al 2013). Logos are considered the most visible and frequent reminders of what a brand stands for (Wheeler 2013, 32) and are used to differentiate the brand from competitors, enhance customer commitment and improve company performance (Park et al 2013). By connecting the consumer to the brand, logos are considered important visual communication tools for enabling favorable interactions (Park et al 2013), leading to positive brand associations and ultimately building a strong brand identity (Aaker 1996, 84). As a pictorial counterpart to the brand name, logos are created to reflect or simulate aspects of the brand they are representing. Successful logos are especially effective in enhancing brand recognition (Beasley & Danesi 2002, 62).

International brands need to speak many different languages in order to sell their products globally. Since visual symbols are easily identified and does not require any translation, logos are valuable assets for crossing language and cultural barriers. As worldwide brand symbols (Park et al 2011), they enable the company to compete globally while maintaining a consistency in the brand identity. (Airey 2015, 11)

From a design perspective, a logo is the graphic design used by the company to identify itself. It consists of common graphic elements such as icon, color and brand name (typeface) (Pittard et al 2007). Scholars have agreed that the logo design should generate emotions of familiarity, induce brand meanings and values and evoke positive affect (Peter 1989; Vatorella 1990; Pittard et al 2007). Consumer perceptions of a logo can evoke different types of aesthetic responses which can be both positive and negative (Bloch 1995; Pittard et al 2007). Van Riel (2001) agrees that in a well-designed logo, the graphic elements alone should evoke associations correlating with the desired organizational characteristics. However, the reputation of a company, and the value of the logo, can be enhanced considerably if all the elements in the corporate visual identity mix (symbol, behavior and communication) work in a combined effort to portray a unified corporate identity with desired company characteristics (Van Riel 2001).

## **2.3 Brand logo design**

Designing a logo is considered more of an art than a practice with clear guidelines. Therefore, many logo designs may be unrecognizable or hurt the brand image by being unable to evoke the appropriate associations in consumers' minds (Kohli 2002).

Research within the field of brand logo design is still limited, but since the beginning of the 21<sup>st</sup> century scholars have gained an interest in studying logo elements and their impact on consumer perceptions and behaviors. Many of the studies are inspired by one of the most acknowledged contributions to corporate logo design research, namely Henderson & Cote's (1998) study, where the authors identify 13 different logo design dimensions impacting consumer logo responses. The dimensions are only related to the design of the icon and not to other logo elements such as color and typeface. The findings of the study show that the most relevant logo design dimensions are: harmony, elaboration, parallels, repetition of elements, proportion, roundness and naturalness.

The study of Henderson and Cote (1998) opened up the field of logo design research and was followed by in-depth studies based on the dimensions and logo characteristics found (Bresciani & Ponte 2017). The more recent research includes studies about consumer responses to logo icon naturalness (Machado et al 2015), proportions (Pittard et al 2007), roundness (Zhang et al 2006), color and meaning (Hynes 2009) and symmetry (Bajaj & Bond 2018). Customers' preferences for logo design has been in focus for researchers, since the liking of the logo is what mainly generates responses of positive affect. However, the liking may be affected by previous experiences of the brand, which is why Bresciani & Ponte (2017) focus on examining consumer preferences for new brand logo designs. The authors find that the most important characteristic determining attractiveness in unknown logos is the combination of both logo icon and brand name. They also found that black logos were preferred over blue and orange ones. This current study has adapted Bresciani & Pontes (2017) novel logo approach in order to eliminate the influence of previous brand experiences.

### **2.3.1 Brand logo responses**

Different logo design dimensions and characteristics generate different types of aesthetic responses in consumers. The response dimensions to logos found by Henderson & Cote (1998) are: *correct recognition*, *false recognition*, *affect*, and *familiar meaning*. The study shows that when the logo design consists of representative and organic elements that are familiar or have some sort of meaning to the consumer, more positive affect and correct recognition is evoked than when using abstract symbols. "Affect refers to the overall liking for the logo, and meaning refers to the ability of a logo to capture a clear connotation of the product or the company" (Kohli et al 2002, 60). The affect for the logo is higher when the logo design contains harmony, i.e. the elements are balanced and symmetric. In addition, the findings show that even though simplification of logos have become more common, moderately elaborate designs are still more affectively pleasing to consumers. (Henderson & Cote 1998)

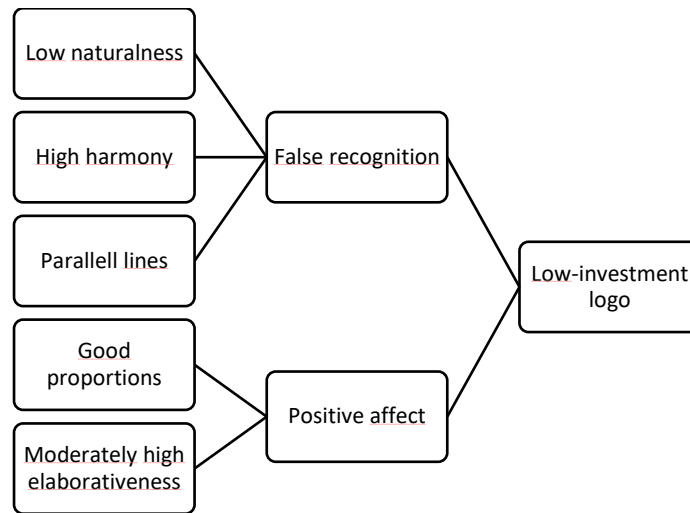
False recognition is when the consumer believes to have seen the logo in the past, even if they actually have not. Logo characteristics of false recognition are those that make logos less distinctive to confuse the consumer. According to Henderson & Cote (1998), these characteristics are a lack of naturalness, high harmony and multiple parallel lines. A lack of naturalness makes the logo less memorable than highly natural symbols, high harmony makes the logo icon less distinctive, and multiple parallel lines to makes it harder to distinguish symbols in the logo. (Henderson & Cote 1998)

Natural logos can be considered counterparts to abstract logos. In semiotics, abstractness and figurativeness are opposites, reflecting how much the sign depicts objects from the natural and sensitive world. Abstract signs do not have any associations to the sensitive world, meaning the objects are harder to link to real objects found in the environment (Machado et al 2013). The response of positive affect in logos with high naturalness is confirmed by Machado et al (2013), who also find that unknown natural logos can create almost similar affect responses as well-known abstract logos. However, Henderson and Cote (1998) identify a group of logos that are both low in naturalness and generate positive affect responses. These are classified as low-investment logos.

#### *2.3.1.1 Low-investment logos*

Low-investment logos create responses of both false recognition and positive affect. These types of logos can be desirable especially in companies with a small advertising budget that still want to create a sense of recognition in their visual communication (Henderson & Cote 1998). In a new company, low-investment logo characteristics can be beneficial when designing novel logos, considering they draw attention to the business without depending on previous recall of the brand or logo. Logo characteristics for low-investment logos are: high harmony, low naturalness, parallel lines, good proportions and moderately high elaborativeness. These guidelines were taken into consideration when choosing the logo for this study.

Henderson and Cote's (1998) classification of low-investment logos, with logo characteristics influencing consumer responses of false recognition and positive affect, can be seen in the figure (2) below.



**Figure 2 Logo characteristics and responses in low-investment logos (own figure) based on Henderson & Cote (1998).**

In terms of brand personality in low-investment logos, not many studies have examined this relationship. However, based on the study by Machado (2018) and Henderson and Cote (1998), low-investment logos might generate more associations to brand personality than other types of abstract logos, since they create a sense of recognition and positive effect in the consumers' minds.

### **2.3.2 Logo design and brand personality**

Brand symbols such as logos have an important impact on consumer perceptions of brand personality because of their strong associations and possibility to be controlled (Aaker 1996, 148). During the last decade logo design and its impact on brand personality have been studied more frequently, but the research in this area is still limited. Grohmann (2008) studies how the logo design characteristics identified by Henderson and Cote (1998) impact consumer perceptions of brand personality. For instance, they find that logos that are highly round, elaborate, natural and coherent are usually associated with the sincerity dimension on Aaker's (1997) BPS (Grohmann 2008).

Ridgway (2011), Labrecque & Milnes (2012) and West & Österberg (2016) examine how colors in brand logos influence brand personality perceptions among consumers. Ridgway's (2011) study is later followed by an additional article by Ridgway & Myers (2014), focusing on brand personality perceptions of colors used in fashion brands. West & Österberg's study is in contrast to the others, conducted with a qualitative approach among Swedish consumers. All studies show that color in logo design has a considerable impact on perceived brand personality in relation to Aaker's (1997) BP dimensions. The findings from these studies will be discussed later in this paper as part of the theoretical framework for color association's in logos.

One of the most recent studies examine how symmetry in logo design impact brand personality perceptions. In contrast to previous studies showing that high harmony, balance and symmetry in logos enhance positive affect (Henderson & Cote 1998, Henderson et al 2004), Bajaj & Bond (2018) examine whether lower symmetry in logos will generate higher perceptions of brand excitement. The study shows that asymmetry in brand elements is indeed associated with higher arousal in consumers, supporting the theory that symmetry is not always a desirable factor for brands with an exciting brand personality (Bajaj & Bond 2018).

### **2.3.3 Colors in brand logos**

The meaning of color has been widely studied in a psychological context. Color has not received much attention in CVI research, but outside of marketing research, there has been evidence of colors being highly capable of generating emotional responses (Hynes 2009). As discussed earlier, semiotic research views colors as highly symbolic. When they are used in commercial purposes, different meanings can be interpreted on a connotative level (Beasley & Danesi 2002, 41). Theories about how different colors are perceived by people and what type of emotions and associations they evoke, are therefore also of great importance in a design context (Budelmann et al 2010). For instance, schools and hospitals tend to have teal-colored interiors to make people feel calm, while restaurants might choose red interiors to make customers feel hungry. Some color associations vary depending on culture and time. Therefore, it's important to take these aspects into consideration when choosing design colors (Budelmann et al 2010, 18).

The development of color preferences can be explained by the Associative Learning Theory (Grossman & Wisenblit 1999). Consumers' associations of colors usually derive from their previous experiences and interactions. Associative learning happens when an individual makes associations based of occurrences in their environment (Ridgway & Myers 2011; Grossman & Wisenblit 1999). In this way, some colors become linked to certain brands over time. The color combination of red and yellow is for example instantly associated with McDonalds in many consumers' minds (Ridgway & Myers 2014). New brands may not be able to rely on this type of associative learning, but as this study investigates, logo colors associated with certain brand traits and personalities in the past, may affect the perception of new brands as well.

Color in logo design has an important impact on recall, recognition and plays a role in creating a lasting identity, imagery and symbolic value. In Bottomley & Doyle's (2006) study about the effect of colors and products on logo appropriateness, the colors are divided into two categories: functional and sensory-social. Some colors create functional

image associations, while others convey sensory-social benefits. Black, gray, green and blue are usually related to functional attributes, while red, yellow, pink and purple generate a sensory-social image. The appropriateness of color in a company's logo and products depends on its corporate identity, line of business, product offerings etc. A company with functional products, benefits from using colors with functional associations and vice versa. (Bottomley & Doyle 2006).

If an organization selects a color inappropriate to its overall image, consumers will receive conflicting signals and a weaker perception of the corporate identity. A color that supports corporate image will on the other hand be a valuable asset in enhancing visual recognition and creating competitive advantage (Hynes 2009). Therefore Hynes (2009) argues that both design (shape) and the color of corporate logos demand a strategic approach. (Hynes 2009; Balmer & Gray 2000, 1998)

In the upcoming section, the color associations of the most commonly used colors (which also are included in this study) will be discussed and previous findings about their relationship to certain brand personalities will be presented.

### 2.3.3.1 Red

Previous studies have shown that especially warm colors like red, orange and yellow tend to evoke active emotions (Clark & Costall 2008, Levy 1984). Red is in many cases described as the most active color (Clarke & Costall 2008, Bottomley & Doyle 2006; Adams & Osgood 1973) and belongs to the sensory-social color category (Bottomley & Doyle 2006). The color is commonly associated with emotional aspects of a brand, such as passion, romance, love, energy and excitement (Ridgway & Myers 2011), sexuality and sensuality (Beasley & Danesi 2002, 41). Hynes (2009) find that red has an impact on appetite and the feeling of hunger. Negative emotional associations of red are feelings of anger and rage. Nouns linked to the color red are fire, heat and blood (Clark & Costall 2008).

Ridgway and Myers (2014) link the color red to the brand personality dimension *competence* on Aaker's (1997) BPS, since seven traits (independent, reliable, hard working, secure, successful, leader) from the dimension were associated with the color. However, Labrecque and Milne (2012) find a positive relationship between red and the brand personality dimension *excitement*, which also was the expected but not supported result in Ridgway and Myers' (2014) study about fashion brand logos. This can be seen as evidence that other factors such as type of brand/organization, culture, hue and saturation may impact the color associations (West & Österberg 2016).

### 2.3.3.2 *Blue*

The color blue is often associated with low anxiety and evoking soothing and comfortable emotions. Clarke and Costall (2008) find that common emotional connotations of blue are calm, peaceful and relaxing. In Hynes' (2009) study, the color blue in logos is linked to the words "protective" and "stable". Blue is commonly associated with coldness, water, the sea, the sky (Clark & Costall 2008), paradise, tranquility and mysticism (Beasley & Danesi 2002, 41). According to Bottomley and Doyle (2006), the color tends to be linked to functional associations of a company and its products.

Ridgway (2011) find that blue is most commonly linked to the personality trait "trustworthy" among consumers. It is also substantially associated with eight of the brand personality traits of the *competence* dimension on Aaker's (1997) BPS (reliable, hard working, secure, intelligent, corporate, successful, leader and confident). Similar results, linking blue to the competence dimension, can be found in the studies of Labrecque and Milne (2012) and West and Österberg (2016). This also supports Bottomley and Doyle's (2006) categorization of blue being a functional color associated with functional benefits such as competency, durability and reliability.

### 2.3.3.3 *Yellow*

Yellow is a color associated with happiness, liveliness (Beasley & Danesi 2002, 41) warmth, homeliness, energy (Clarke & Costall 2008), playfulness, fun and friendliness (Hynes 2009). It is a warm, active color, along with red and orange. However, Clarke and Costall (2008) find that yellow tends to be less associated with heat and fire (as in the case of red) and more with warmth and sunshine.

Brand personality traits on Aaker's (1997) BPS that are mostly associated with yellow are cheerful and friendly (Ridgway 2011, Hynes 2009). Even though cheerful belongs in the *sincerity* dimension, Ridgway (2011) find that the color is mostly associated with traits in the *excitement* dimension of brand personality, with eight traits of the dimension (friendly, trendy, exciting, spirited, cool, young, imaginative and unique) being associated with yellow. West & Österbergs (2016) study supports these results. The results of Labrecque and Milne (2012) are somewhat different: while they find a relationship between brand excitement and the warm colors red and orange, they do not find any relationship with yellow. They find a partial support for a relationship between brand sincerity and yellow. Based on the results of these studies, yellow can be associated with both the excitement and sincerity dimensions on the BPS.

#### 2.3.3.4 Green

The color green is along with blue a calming color, associated with peace, nature (Clarke & Costall 2008), environment, sustainability (Ridgway & Myers 2014; Hemphill 1996), health and vitality (Hynes 2009). The color can also be associated with negative emotions such as envy, insecurity and naiveté (Beasley & Danesi 2002, 41). Neutrality and peacefulness were frequently associated with the green by the consumers in Clarke and Costall's (2008) study, which may derive from the strong linkage between green and nature, evoking emotions of security (Hynes 2009).

Ridgway (2011) find that green is mostly associated with the brand personality trait healthy. On Aaker's (1997) BPS, green can be linked to seven traits in the *sincerity* dimension (down-to-earth, small town, family, sincere, honest, real and wholesome) and four in the *ruggedness* dimension (outdoorsy masculine, tough and rugged) (Ridgway 2011). The two most highly ranked traits related to green in Ridgway's (2011) study are down-to-earth and outdoorsy, which means that green can be related to both of the brand personality dimensions sincerity and ruggedness. According to West & Österberg (2016), green is also mostly associated with the personality trait down-to-earth. Labrecque and Milne (2012) expect green to be associated with ruggedness, but no such evidence is found in their study. In Ridgway & Myers (2014) study about fashion brand logos, the green logo is however mostly associated with ruggedness. This can yet again be explained by the type of brand, field, organization and cultural aspect having an impact on perceived brand personality in the logo color.

**Table 1 Summary of associations of colors and connections to brand personality dimensions.**

<b>COLOR</b>	<b>ASSOCIATIONS</b>	<b>BRAND PERSONALITY DIMENSIONS</b>
Red	Excitement, passion, romance, love, energy, anger, heat, blood	Excitement, Competence
Blue	Calming, peaceful, relaxing, protective, stable, sea, sky, water	Competence
Yellow	Happy, cheerful, warmth, homely, energy, fun, friendly, sunshine	Sincerity, Excitement
Green	Nature, peaceful, sustainability, health, vitality, environment, security, down-to earth	Sincerity, Ruggedness

To summarize, previous studies have shown that many of the basic colors can be linked to certain brand personality dimensions, based on what type of concepts they are associated with. Both external associations, deriving from previous perceptions of the color, as well as other brand characteristics, influence how consumers relate logo color to brand personality.

#### **2.3.4 *The perception of shapes in brand logos***

Logo shapes and their impact on customer perceptions has been studied on very few occasions. However, in psychology research shapes and figures have been studied in a similar manner as colors, in order to convey human associations and perceptions of these everyday visual elements. Shapes have proven to generate different types of emotions, meaning and affect in people. For instance, downward-pointing, angular shapes are generally perceived as threatening, while curvilinear shapes such as circles and ovals are perceived as pleasant (Larson et al 2012). These findings have been explained by people associating the shapes with human facial expressions. Angry faces contain more angles (e.g. downward-pointing eyebrows) while happy faces contain roundness (e.g. smiles and round cheeks). (Larson et al 2012)

In logo design, the shape of the logo has mostly been examined by studying angular versus circular logos (Zhang et al 2006, Lieven et al 2015, Palumbo et al 2015, Jiang et al 2016). The previous studies have shown that logos with angular shapes are related to masculine brand perceptions (Lieven et al 2015), durability and hardness-related attributes (Jiang et al 2016) and confrontational associations (Zhang et al 2006). Circular logos are on the other hand related to brand femininity (Lieven et al 2015), comfortableness, softness-related attributes (Jiang et al 2016) and compromising associations (Zhang et al 2006).

The logo used in this study can be classified as a circular, curved shape. Therefore the following section will focus on defining these attributes and how they previously have been studied and perceived by the public.

##### **2.3.4.1 *Circles and curved shapes***

In semiotics, circles, ovals and ellipses are round shapes that are generally perceived as the symbolic eternity since the shapes don't have ends. Circles are also symbols for the earth, sun and other planets, while ellipses can be seen as symbolizing the universe. These shapes are therefore often associated with mystery and magic. Another common association is femininity, which derives from their round form – creating a sense of softness and mildness. (Lieven et al 2015, Jiang et al 2016)

Several studies in aesthetics have shown that a curved contour line is preferred by observers over angular lines (Palumbo et al 2015, Bar & Neta 2006). This was the case even with abstract geometric shapes as well as in cases where the observer was not familiar with the shape or object beforehand. The liking of curved lines also seems to be cross-cultural and can be detected in early stages of human development. (Palumbo et al 2015, Gómez Puerto et al 2013)

Palumbo et al (2015, 10) finds that “people tend to like curved abstract shapes because they are implicitly associated to safe and positive concepts”. The study compares people’s perceptions of curved irregular polygons versus angular irregular polygons. The researchers suggest that the curved lines in the shape might be the aesthetic quality that triggers the preference, but it might also be affected by second-order associations.

To relate circular-curved shaped to Aaker’s (1997) brand personality dimensions, Grohmann (2008) found that round logos resulted in higher perceptions of brand sincerity. However, high levels of roundness resulted in lower perception of brand competence and did not seem to affect perceptions of brand excitement.

### ***2.3.5 The relationship between colors and shapes***

In order to understand how consumers perceive different combinations of colors and shapes in the logo, it is also important to examine general associations of color-shape relationships, especially those that are perceived as more appropriate than others. The artist Kandinsky (1947) conducted a study in the Bauhaus movement, where he found relations between different geometric shapes and certain colors. This was according to Kandinsky, explained by the relation between angles and colors. The strongest relations could be found between yellow and triangle, red and square, and blue and circle. Some scholars have however obtained different results since (Albertazzi et al 2013; Jacobsen 2002).

Albertazzi et al (2013) examines Kandinsky’s theory, and whether the general population make the same types of shape-color associations. Their findings show that the triangle is indeed associated with yellow, and the square with red. In contrast to Kandinsky’s study, they find that the circle is not associated with blue, but with yellow. The square is also strongly associated with blue in addition to red. The square-blue relationship is also supported in the study by Chen et al (2015). The color red also ranked relatively high in relation to the triangle, in addition to yellow. (Albertazzi et al 2013)

The authors added several geometric shapes to the study such as hexagons, ovals and three-dimensional shapes like pyramids and cones. They found that two-dimensional shapes relate to certain color temperatures on a “warmth continuum”. The parallelogram was the coolest, while the circle and triangle was the warmest shape. The square, oval and hexagon were placed in the middle of the continuum. For instance, the hexagon was associated with a color somewhere in between red and blue – red being a warm color and blue a cold color. (Albertazzi et al 2013)

### **2.3.6 Hypotheses development**

In order to answer the research questions, four hypotheses were developed based on previous studies and findings. Hypotheses H1a, H1b and H1c examine **RQ1: Is the circular shaped logo related to the perception of brand personality without the influence of color?**

Grohmann (2008) finds that logos that are highly round, elaborate, natural and coherent are usually associated with brand sincerity on Aaker’s (1997) Brand Personality Scale. Brand sincerity captures the idea of warmth and acceptance (Aaker 1997) and is also usually connected to trustworthiness (Maehle et al 2011). It is assigned the personality facets down-to-earth, honest, wholesome and cheerful on the BPS. Curved shapes tend to create similar associations of safety and positiveness in consumers’ minds (Palumbo et al 2015). Therefore, when examining how people rate the circular shape in the logo without the influence of color, the hypotheses are as follows:

**H1a: The circular shape is related to the perception of brand sincerity in the monochrome logo.**

Grohmann (2008) found that roundness in logos lowers the perception of brand competence and does not affect the perception of brand excitement either positively or negatively. The personality facets assigned to these dimensions have neither proven to be specifically associated with curved or circular shapes. The following hypotheses are therefore:

**H1b: The circular shape is not related to the perception of brand competence in the monochrome logo.**

**H1c: The circular shape is not related to the perception of brand excitement in the monochrome logo.**

Hypothesis 2 (H2) examines **RQ2: *Does the addition of color influence the perception of brand personality in the logo?*** Ridgway (2011), Labrecque & Milnes (2012) and West & Österberg (2016) among others have found strong associations between colors and perceptions of brand personality in logos. Comparing the results of the monochrome logo with colored versions should therefore show an increase in the overall perception of brand personality. Therefore:

**H2: The colored versions of the logo are more strongly associated with a specific brand personality than the monochrome logo version.**

The third hypothesis and its sub hypotheses (H3a, H3b, H3c) examine which color is most appropriate for the logo, i.e. is most strongly associated with a specific brand personality dimension. It seeks to answer **RQ3: *Which logo version is perceived as the most appropriate in relation to each brand personality dimension??***

Previous research shows that the color red is associated with brand excitement (Clarke & Costall 2008, Bottomley & Doyle 2006; Adams & Osgood 1973). Blue has been strongly associated with personality traits within the brand competence dimension (Labrecque & Milne 2012, Ridgway 2011, Clarke & Costall 2008, Bottomley & Doyle 2006) and yellow has previously been linked to both brand excitement (West & Österberg 2016, Ridgway 2011) and brand sincerity (Labrecque & Milne 2012).

A conclusion made from examining correlations in color and shape associations found in previous studies, is that the color yellow and the circular shape both have been proven to increase the perception of brand sincerity (Labrecque & Milne 2012, Grohmann 2008). Therefore:

**H3a: The use of yellow in the circular logo (in comparison to red and blue) will lead to the highest perception of brand sincerity.**

No proven correlations in the positive affect of circular shapes and the colors red and blue on perceptions of brand excitement and competence can be found in previous research. However, relying on the result of Grohmann (2008), round shapes does not influence brand excitement neither positively nor negatively, while many studies show that the color most frequently associated with excitement is red (Clarke & Costall 2008, Bottomley & Doyle 2006; Adams & Osgood 1973). Therefore, one can conclude:

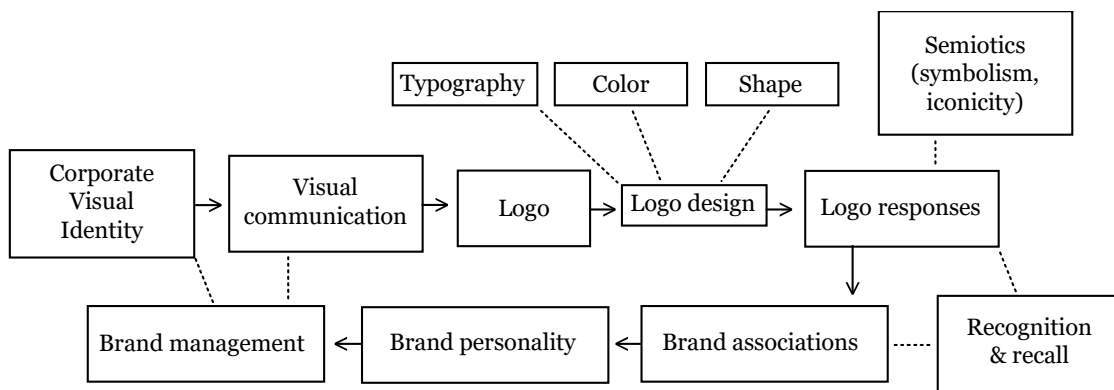
**H3b: The use of red in the circular logo (in comparison to yellow and blue) will lead to the highest perception of brand excitement.**

Examining the appropriateness of the color blue and the circular shape logo is the most contradictory, since blue is strongly associated with brand competence (Labrecque & Milne 2012, Ridgway 2011, Clarke & Costall 2008, Bottomley & Doyle 2006), while round shapes have proven to lower the perception of competence (Grohmann 2008). To examine the relationship, the following hypothesis was developed to be tested:

**H3c: The use of blue in the circular logo (in comparison to yellow and red) will lead to the highest perception of brand competence.**

#### 2.4 Summary of theoretical framework

A conceptual model was developed in order to demonstrate the connections between the concepts of corporate visual identity and brand personality and their respective importance within brand management (Figure 3).



**Figure 3** Overview of the theoretical framework (own model).

To summarize the theoretical framework, corporate visual identity is what creates recognition for the company and visualizes organizational characteristics. This is done through different forms of visual communication, the most common ones being the logo, typography in the brand name and other graphic elements. The logo, being the representative sign of the company, consists of the elements color and shape, as well as typography if the brand name is included in the design. Customer responses in the logo elements can be explained by their symbolic and iconic value, as well as associations related to culture and background. According to the study of semiotics and associative learning theory, different colors and shapes evoke different responses of recognition and recall in people. When being related to visual brand assets, these responses lead to brand associations. As brands and companies are being more and more perceived as a representation of the consumers' self-identity, brands also tend to be associated with human personality attributes, either ones that consumers already possess, or ones that

they desire. This phenomenon has therefore become an essential aspect in brand management.

### **3 METHOD**

In this chapter, the research design and approach of the study will be explained. The choice of methodology, logo colors and logo shape will be defined and argued for. Thereafter, the research approach will give an understanding of how the research questions will be studied and answered, as well as how the hypotheses will be tested. The data collection method and sampling strategy will be explained and followed by the method for analyzing the results.

#### **3.1 Research approach**

The purpose of this study is to examine how color in combination with circular shapes impact consumers' perceptions of brand personality in novel logos. It also examines the differences in how monochrome logos and colored logos are perceived in relation to brand personality. In order to achieve this, an exploratory research approach based on quantitative survey methods was chosen.

A quantitative research method was used in similarity with previous studies in consumers' brand personality perceptions of logos (Grohmann 2008, Ridgway 2011, Labrecque & Milne 2012, Ridgway & Myers 2014). A qualitative research approach to this study would have resulted in in-depth data from a smaller number of observations, which would not have been ideal for the purpose of this study, since the aim is to find more generalizable associations. The choice of a quantitative approach can also be supported by the notion that the examined logo responses are limited to the Brand Personality dimensions found by Aaker (1997), which does not leave room for additional interpretations or open-ended questions.

The study takes on a deductive approach, starting with examining previous research in order to later test the theory with a new research strategy (Saunders, Lewis & Thornhill 2015). To test the theory, hypotheses are developed based on previous findings about how colors and shapes are related to brand personality perceptions in logos. Quantitative data is gathered to examine whether the hypotheses are supported or not. In deductive research, it is important that concepts are operationalized in a way that allows them to be measured (Saunders Lewis & Thornhill 2015). As the authors argue, "problems as a whole are better understood if they are reduced to the simplest possible elements". The concept of brand personality is defined based on previous marketing and consumer studies and the broader perspective is then reduced to the single comprehensive study of Aaker (1997), in which a measurement for the concept, the Brand Personality Scale is presented. By adapting this type of structured methodology, a higher degree of

replication can be achieved, which is a prerequisite for research reliability (Saunders Lewis & Thornhill 2015).

### **3.2 Research design**

The research design is inspired by studies such as Ridgway (2011) and Grohmann 2008, where the authors, based on previous research findings, test logos and colors by asking consumers to rank them on Aaker's (1997) Brand Personality Scale. In similarity, this study takes on a quantitative survey strategy with closed questions, where respondents are asked to rank the brand personality traits in relation to the logo shape and color on a 1-5 Likert scale. Surveys are often used in studies with a deductive approach since they allow the researcher to control the research process to a higher degree than with other methods. The data collected are standardized and can be easily compared (Saunders, Lewis & Thornhill 2015).

As this study is limited to examining novel, circular shaped logos, a logo by a startup company fulfilling these criteria was chosen. The method of using an unfamiliar logo to avoid any other preliminary perceptions of the brand is adapted by the studies of Henderson & Cote (1997) and Breasciani & Ponte (2017). The logo was edited in Adobe Illustrator CC 2019 to create one monochrome version as well as three colored logo versions. No changes regarding the shape of the logo were made in order to maintain most of the original design chosen by the start-up company.

The initial design if this study included three different logo shapes, one circular and two angular ones. The initial intent was to examine brand personality in circles, squares and triangles and how the colors blue, yellow, red and green influenced the perceptions of all of Aaker's (1997) five brand personalities when added to the logo. However, it was later decided that this would have made the study too extensive, since three separate surveys (one per logo version) required three times the sample size. Due to difficulties in data collection, the decision to only investigate the circular shape in combination with three standard colors was made. Two of the brand personality dimensions (ruggedness and sophistication) were also excluded from the research, since they had not previously been associated with the colors in this study and did not derive from human psychology research of personality concepts (see chapter 2.1.2).

The survey was tested in a pilot study, where a few participants representing the desired respondent were asked to separately answer the questions and then give feedback about the layout of the questionnaire as well as thoughts about their answers. The

questionnaire was later distributed online after being altered based on the feedback and results of the pilot study.

### ***3.2.1 Selection of colors***

The colors that are studied in relation to the logo shape and brand personality dimensions in this study were chosen from the RGB Color Table, where they are represented with the HTML names and HEX codes: red: #FF0000, yellow: #FFFF00, blue: #0000FF. These hues are located in the middle of the light/dark color spectrum and are standard web colors. As previous studies have shown, the temperature of the logo color has an impact on consumer perceptions (Bottomley & Doyle 2006, Clark & Costall 2008), cold colors being associated with functional and calming attributes, while warm color are linked to sensory-social and active attributes. Therefore, both warm colors (red and yellow) and cold colors (blue) are represented in this study.

Previous studies have used other color systems like the Pantone Color System (Ridgway & Myers 2014), but the standardized web colors were chosen since they are well represented in a digital environment and easy to access in editing software and web design tools. West and Österberg (2016) also use web colors, retrieved from Microsoft Word's own color system.



**Figure 4**      **The colors chosen for this study.**

### ***3.2.2 Selection of shape***

The variation of different types of shapes is almost endless, but all shapes can however be classified as circular, angular or a combination of the two (Jiang et al 2016). The initial design of this study included all three basic geometric shapes, both angular and circular: a circle, square and triangle. However, after careful consideration the angular shapes were excluded and only the circular logo was chosen to be tested in relation to the brand personality dimensions and colors. Therefore, the findings of this study can only be applied to the theory of circular shapes and not angular ones.

The circular shape was chosen for this study since it is one of the most represented shapes in design purposes and is often perceived differently in comparison to angular shapes (Zhang et al 2006, Lieven et al 2015, Palumbo et al 2015, Jiang et al 2016). Circular shapes have also proven to be associated with more positive attributes than angular ones, and the perceptions are less affected by other factors such as recognizability and different cultural associations (Palumbo et al 2015, Gómez Puerto et al 2013).

### **3.2.3 Selection of logo**

The logo chosen for this study was retrieved from the website AngelList, which is a portal created for start-ups, investors and job-seekers. The site is a valuable database for newly founded companies and is widely used by start-ups that are seeking external funding. Since this study focuses on studying circular shaped logos, a logo with these attributes was chosen. The logo is originally used by the software company Stride Software, and was founded in 2016 in Palo Alto, CA (Angellist, 2020). The color of the original logo is green. The original logo can be seen in Appendix 2.

In order to limit the possibility of recognition on perceived brand personality in combination with certain colors, the logo chosen for this study is low in naturalness, meaning it contains abstract elements that are difficult to associate with real objects. For instance, a logo consisting of a pictorial icon of a house in combination with the color blue or green, is more likely to create immediate associations with homely, dependable, reliable personality traits because of the house being a symbol for these traits (Hynes 2009).

Naturalness is however a key element in creating positive affect in logos (Henderson and Cote 1998, Machado 2013). Abstract logos, also classified as low-investment logos (Henderson & Cote 1998), that tend to be less liked by consumers, should therefore contain other characteristics such as *high harmony*, *moderate elaborateness*, *good proportions* and *parallel lines* in order to create positive affect (Henderson & Cote 1998). Therefore, a criterium when choosing the logo was that it should contain at least some of these characteristics creating positive affect in low-investment logos (see figure 2).

### **3.2.4 Questionnaire design**

The questionnaire was designed based on examining three of Aaker's (1997) brand personality dimensions (competence, sincerity and excitement) that have been defined earlier in the theory section of this study. 31 dependent variables (personality traits) assigned to one of the three brand personality dimensions, were studied and measured on a 1-5 point Likert scale. Likert scales are one of the most commonly used

measurement methods when studying consumer responses towards brands and advertising. This type of method is considered to be especially suitable for this purpose, since it allows consumers to self-report their degree of agreement or disagreement in regard to a series of statements about the study subject (Kimmel 2018:237). The response options in the questionnaire are adapted from Ridgway (2011), asking the respondent to evaluate the appropriateness of the personality traits in relation to either the shape or the shape and color combined: 1= "Not at all appropriate", 2= "Not so appropriate", 3= "Somewhat appropriate", 4= "Appropriate", 5= "Very appropriate".

Demographic category questions about the respondents' gender, age, nationality and education were added, as well as two control questions that were adapted from Bresciani & Ponte (2017). The first control question is a color blindness test to examine whether the participants are able to view the colors correctly. The participants are asked to identify a number within an image constructed of multicolored dots. The method is a commonly used one for examining color blindness and the control image used in the survey is taken from the Colormax colorblindness test. A second control question asking whether the respondent has seen the logo before is also added in order to eliminate cases with previous associations of the brand that may affect the respondent's current perception.

To examine **RQ1**: *Is the circular shaped logo related to the perception of brand personality without the influence of color?* the questionnaire presents the respondent with a monochrome logo version and asks them to rank the appropriateness of *the shape of the logo*. The 31 traits related to Aaker's (1997) sincerity, competence and excitement dimensions and are presented in random order. This section examines the respondents' perceptions of brand personality in the logo shape without the influence of color.

To examine **RQ2**: *Does the addition of color to the circular logo influence the overall perception of brand personality in the logo?* and **RQ3**: *Which logo version is perceived as the most appropriate in relation to each brand personality dimension?* the respondents are presented with a blue, red and yellow logo version and are asked to separately rank the appropriateness of the *color and shape combinations* in relation to the 31 brand personality traits. This section examines whether the colors influence the perception of brand personality when used as an element in the logo. In addition, a comparison will show which logo versions are considered as most appropriate in relation to a certain brand personality dimension.

### ***3.2.5 Sampling strategy***

The sampling was conducted in a self-selective manner, meaning the respondents were allowed to themselves identify their desire to take part in the research (Saunders Lewis & Thornhill 2015). The need for cases and the study objectives were advertised online on social media and graduate student forums, to find individuals who were interested in taking part of the survey. In this way, the aim was to find respondents who were interested in visual communication and would be more willing to devote time to the survey and be more detail-oriented and thoughtful when examining and interpreting the logo elements presented to them. This sampling strategy can also be supported by the notion that the study is examining consumer perceptions on an individual level and not any specific consumer groups. Another criterion for the sample was that the individuals needed to physically be able to view the logo in the same way as most of the human population. Therefore, a color blindness test was added to exclude people with visual impairment.

Lastly, differences in age and cultural background that could affect the perceptions were taken into consideration. The sampled individuals needed to be adults (over the age of 18) and be from a European country. The reason for not excluding individuals from regions outside of Finland is because previous research has shown that color connotations in European countries are relatively homogenous when comparing with other cultures, although some diversity is still existing between the countries. A sample population that is too homogenous is not desirable, since there in that case would only be need for one sample. Diversity is therefore important for estimating an average mean value (Bradley 2010). Based on this reasoning, limiting oneself to only one country would have been unnecessary for the purpose of this study. The survey was therefore distributed in international student forums and graduate research groups, in order to reach out to a broader population outside of Finland and the Nordics.

### ***3.2.6 Defining research variables***

The study uses a 4x1 factorial design, where two independent variables were combined in order to study main effects and interaction effects (Sproull 1988). According to Cozby et al (1989) this type of experimental design allows a study to examine real-world situations closely, since a combination of independent variables are a common occurrence. Four levels of logo color where combined with one level of logo shape, resulting in four groups: (1) circle, no color, (2) circle, blue, (3) circle, yellow, (4) circle, red (table 2).

**Table 2 Independent variable groups.**

<b>Independent variables</b>	<b>Logo color 0 (no color)</b>	<b>Logo color 1 (blue)</b>	<b>Logo color 2 (yellow)</b>	<b>Logo color 3 (red)</b>
<b>Logo shape</b>	Group 1: Circle No color	Group 2: Circle Blue	Group 3: Circle Yellow	Group 4: Circle Red

Main effect indicated whether or not the logo color made a difference on the dependent variable: perceived brand personality, and whether or not the logo shape made a difference. Interaction effect was studied in order to examine whether some colors and produced more change in the dependent variable than others.

The dependent variable, perceived brand personality, was categorized according to the brand personality dimensions sincerity, competence and excitement (Aaker 1997). When studying the main effect and interaction effect of the logo shape and colors, the three brand personality dimensions were treated as separate dependent variables in order to examine possible differences and changes in each dimension. They were assigned personality traits based on Aaker's (1997) Brand Personality Scale. The brand personality dimension sincerity was operationalized in the questionnaire with 11 personality traits: *down-to-earth, honest, wholesome, cheerful, family oriented, small-town, sincere, real, original, sentimental and friendly*. The competence dimension was operationalized with 9 personality traits: *reliable, intelligent, successful, hardworking, secure, technical, corporate, leader and confident*. Lastly, the excitement dimension was operationalized with 11 personality traits: *daring, imaginative, up-to-date, trendy, exciting, spirited, cool, young, unique, independent and contemporary*.

### **3.3 Data collection**

The collection of data was done via Survey Monkey, an online survey tool that is well suited for presenting visual images to the respondents and was also evaluated as the most user-friendly option for situations where the respondents were asked to form opinions about all 31 brand personality traits in an easy and efficient way.

A pilot test for assessing validity was conducted prior to administering the questionnaire in order to refine the structure and content so that there would be no problems recording the data (Pallant 2010, Saunders, Lewis & Thornhill 2015). The respondents chosen for

the test were similar to those in the real study. The test was conducted in an informal manner, where the participants first were asked to answer the questionnaire and later share their thoughts about the design of the survey as well as their logo associations. After the pilot test, a few details were changed, and additional information was added to the survey questionnaire.

As previously mentioned, the initial research design included three separate questionnaires to investigate three different logos. The questionnaires were first distributed online and advertised on Facebook through graduate students' survey groups as well as on personal Facebook accounts, from the 14. of June 2018 to the 30. of August. Due to too low response rates, it was decided that the study needed to be limited to examining only one logo version. Two of the questionnaires were excluded and the one left was re-opened, having 30 fully completed responses at that time. The re-opening of the questionnaire was made in the beginning of April 2019 and was kept open for four weeks. This resulted in 135 responses in total, with 53 fully completed responses and a completion rate of 39 %. The difficulties in data collection and small sample size will be further discussed and the consequences for reliability will be evaluated in chapter 3.6.

### **3.4 Data preparation**

In preparation for the analysis, uncompleted answers were excluded from the data set and a few cases were also filtered out because the respondents did not fulfill the sample criterion related to demographic background, logo recognition and color blindness. Four cases were removed from the sample due to the respondent failing the color blindness test. No cases were excluded due to previous logo recognition. This resulted in 53 responses that could validly be used in the final analysis. There was only one case of missing data in the demographic variables, related to age. This small amount of missing data was considered as normal and ignorable, so no actions to correct the variables were taken.

The demographic variables age, gender and education were recoded into numerical type data. The dependent variables for measuring brand personality were prepared for analysis by grouping the scores for each brand personality trait according to the brand personality dimensions sincerity, competence and excitement on Aaker's (1997) Brand Personality Scale and calculating the mean values for each dimension. This resulted in a set of 4x3 new variables, each representing the total mean score related to the appropriateness of the combination of brand personality dimension and logo color and shape (table 3).

**Table 3 The new variables to be analyzed.**

<b>Independent variable</b>	<b>Dependent grouped variables</b>	<b>New variable</b>
Logo shape (+ no color)	Sincerity scores (incl. 7 variables)	Brand sincerity in logo shape
	Competence scores (incl. 9 variables)	Brand competence in logo shape
	Excitement scores (incl. 13 variables)	Brand excitement in logo shape
Logo shape + blue	Sincerity scores (incl. 7 variables)	Brand sincerity in blue logo
	Competence scores (incl. 9 variables)	Brand competence in blue logo
	Excitement scores (incl. 13 variables)	Brand excitement in blue logo
Logo shape + yellow	Sincerity scores (incl. 7 variables)	Brand sincerity in yellow logo
	Competence scores (incl. 9 variables)	Brand competence in yellow logo
	Excitement scores (incl. 13 variables)	Brand excitement in yellow logo
Logo shape + red	Sincerity scores (incl. 7 variables)	Brand sincerity in red logo
	Competence scores (incl. 9 variables)	Brand competence in red logo
	Excitement scores (incl. 13 variables)	Brand excitement in red logo

Grouping the dependent variables according to the dimensions of the Brand Personality Scale made the data set easier to handle and analyze. 31 personality traits were narrowed down to three dimensions per logo version (with the exclusion of 2 traits, see chapter 4.2), which resulted in a total of 12 new variables representing the mean scores for each brand personality dimension in the four logo versions.

### **3.5 Data analysis**

The quantitative method chosen for this study included a set of statistical analyses in order to examine and compare the relationships between the variables. The analyses conducted in this study were a confirmatory factor analysis, paired samples t-tests and frequency in descriptive statistics.

To examine the reliability and suitability of Aaker's (1997) scale items as well as possibly reduce the data set, a confirmatory **factor analysis** was conducted prior to testing the hypotheses (Pallant 2010). The purpose of the analysis was to validate the creation of the new variables based on the brand personality dimensions.

The new variables were then compared with each other by conducting **paired samples t-tests**. T-tests are commonly used when comparing means between two groups. A paired-samples-test is used when there is one group with data from two different occasions or conditions (Pallant 2010). This analysis was considered as suitable for comparing the mean scores related to the different brand personality dimensions within the same logo version.

**Frequency in descriptive** statistics were also evaluated in order to find the most appropriate color (=highest mean score) for each brand personality dimension, when added to the logo shape. **Paired samples t-tests** were again carried out to compare the highest mean scores and check for significance.

### **3.6 Assessing research quality**

In order for a study to be credible, the research design needs to be evaluated in regard to its reliability and validity. In other words, the possibility to getting the answer wrong needs to be reduced (Saunders, Lewis & Thornhill 2015, 100). The quality of this study will be assessed based on these two quality determinants in the upcoming section.

Content validity of the research is concerned with whether the measures and items used in the questionnaire provide the right kinds of answers needed for the purpose of the study and in order for the research questions to be answered (Saunders, Lewis & Thornhill 2016, 450). The measures and items used in this study were chosen based on pre-existing literature in order to meet content validity standards. The theories and findings from previous studies were carefully examined and analyzed in order to find appropriate measures to apply to the current study, that would generate desirable answers to attain the study aims. The questionnaire was designed based on these observations and was further tested for functionality in a pilot test prior to public distribution.

Construct validity is concerned with whether the scale items are able to measure the construct they are intended to measure (Saunders, Lewis & Thornhill 2016, 450). In this study, the scale items were obtained from Aaker's (1997) Brand Personality Scale, which is one of the most used scales for measuring brand personality. The validity and reliability of the scale was previously discussed in chapter 2.1.2.6. In summary, the scale

has been investigated by researchers whose findings support the concept of transferring human personality traits to brands and validates that the scale can be used across different cultures and brand categories. Eisend & Stokburger-Sauer (2013) find that the reliability is higher in the dimensions with a higher number of personality traits assigned to them (e.g. sincerity). The current study measures three of the five brand personality dimensions. The dimensions ruggedness and sophistication, that were excluded from the scale in this study, contain the lowest number of personality traits.

Since the scale was modified, construct validity was further assessed with a confirmatory factor analysis of the scale items and by checking Cronbach's alpha. The results from the factor analysis indicated that two of the scale items needed to be removed as they did not meet the standards for reliability. After this, Cronbach's alpha showed very good internal consistency of the items (see chapter 4).

Reliability of the research design is concerned whether the measures will generate similar results on other occasions and when observed by other observers. In addition, the research should contain transparency in research methods and strategies used to analyze the raw data and obtain the results (Saunders, Lewis & Thornhill 2015). The data obtained in this study may have been affected by the choice of distribution channels as well as the problems that occurred during data collection. Since social media and online research forums were used to distribute the questionnaire, the respondents were obtained in a self-selective manner, leaving less control to the researcher to choose the respondents beforehand. However, with control questions in the questionnaire it was possible to filter out respondents that did not fit the desired respondent profile.

The biggest threat to reliability was the time gap in the data collection as well as the problems with the low response rate. Since the questionnaire was distributed to the channels on two occasions due to low response rate in the first distribution period, this could have resulted in different types of responses than what would have been acquired during a shorter period of time. However, the biggest issue was that the response rate still was quite low after the second distribution period, resulting in only 53 fully completed answers. A larger sample size would have been desired in order to make the results of the study more generalizable. In order for the results to still meet reliability standards, the findings of this study will be evaluated and compared in the light of previous research, based on which final assumptions and conclusions will be made.

## **4 ANALYSIS & RESULTS**

In this chapter, the results of the empirical study will be analyzed and presented. The quantitative data were analyzed using IBM SPSS version 26. The questions in the focal study were measured on a 5-point Likert scale. First, an overview of the descriptive statistics will be presented, where after the data will be checked for basic statistical assumptions. The use of Aaker's (1997) brand personality dimensions will be evaluated in a confirmatory factor analysis, based on which the scales are created. Thereafter, the reliability of the scale is further investigated. Results from mean scores and paired samples t-tests are presented and the hypotheses will be tested. A short summary will give an overview of the results in relation to the hypotheses and research questions.

### **4.1 Descriptive statistics**

The total sample size of  $N=53$  was determined after the color blindness and logo recognition screenings. The survey data of 53 respondents were thereafter carried out for the final analysis. In this section, the characteristics of the data set will be described, and data quality/basic assumptions will be checked.

#### **4.1.1 Demographics**

Out of all respondents, 77,4 % (41 respondents) were female and 22,6 % (12 respondents) male. The survey also provided a binary gender choice "other", but none of the respondents identified themselves with this option.

Data regarding the age of the respondents were collected with an open-ended question. The responses were later binned into four groups with equal width in SPSS. The age group 20-26-year-olds was the largest, representing 66 % of the respondents, with the youngest respondent being 20 years old. 24,5 % of the respondents were between the ages 27-38 and 7,5 % were over the age of 51, with the oldest respondent being 62 years old. None of the respondents fell into the age group 38-50-year-olds. One respondent chose not to answer the question, resulting in one case of missing data, which was ignored since it did not affect the final analysis.

The median age of all respondents ( $N=52$ ) who answered the age question was 25 years, while the average mean was 28 years. Even though most age groups were represented in the data set, the largest number of cases belonged to the youngest age group 20-26-year-olds. As Hair et al (2011, 315) states, a substantially skewed distribution is indicated by a value larger than +1 or smaller than -1. The skewness value for age was 2.7, meaning the distribution was positively skewed to the younger age groups. This may be explained by

the choice of distribution channels for the survey, which were mostly social media and graduate research forums.

Nationality was examined by closed-ended responses. All Nordic countries (Finland, Sweden, Iceland, Norway and Denmark) were individually represented, and one option was added for the rest of Europe. Most of the respondents (52,8 %, 28 respondents) were from Finland, while the rest if the Nordics were represented by Sweden (3,8 %, 2 respondents) and Denmark (3,8 %, 2 respondents). 39,6 % (21 respondents) of the total sample represented other parts of Europe. While the demographic data does not show a more detailed distribution between the European countries in regard to the respondents' nationality, it can be concluded that the sample still contains a considerable amount of heterogeneity when comparing the number of Nordic respondents (60,4 %) to respondents from other European countries (39,6 %).

The effect of the choice of distribution channels could also be recognized in the data regarding educational background. Most of the respondents (58,5 %) had completed a lower university degree, while 32,1 % withheld a higher university degree. 9,4 % of the respondents had not only completed high school (see Table 4 for summary of demographics).

**Table 4 Summary of sample demographics.**

<b>DEMOGRAPHICS</b>	<b>Total sample N=53</b>	
<b>GENDER</b>	<b>n</b>	<b>%</b>
Female	41	77,4
Male	12	22,6
<i>N=53</i>		
<b>AGE</b>	<b>n</b>	<b>%</b>
20-26	35	66,0
27-38	13	24,5
38-50	0	0,0
51-62	4	7,5
Not specified	1	1,9
<i>N=53</i>		
<b>NATIONALITY</b>	<b>n</b>	<b>%</b>
Finnish	28	52,8
Swedish	2	3,8
Danish	2	3,8

Other European <i>N=53</i>	21	39,6
<b>HIGHEST EDUCATION</b>	<b>n</b>	<b>%</b>
High School	5	9,4
Bachelor's degree	31	58,5
Master's degree <i>N=53</i>	17	32,1

The typical respondent profile for this survey was a female between the age of 20-26 years, with a university degree. The sample is representative of both people from the Nordics as well as from other parts of Europe. The sampling strategy to use distribution channels that targeted more international respondents was in this way an accurate choice in order to create more heterogeneity within the sample population.

#### ***4.1.2 Checking the basic statistical assumptions***

A series of tests were conducted in order to check that the data met the basic statistical assumptions of quantitative research. In line with Pallant (2010) assumptions of normality, linearity and homoscedascity were checked.

To asses whether the data was normally distributed, skewness and kurtosis values were examined as well as histograms, Kolmogorov-Smirnov statistics and boxplots. A normality test of the dependent variables showed that the items were both positively and negatively skewed, although none of them had a skewness value larger than +1 or smaller than -1, meaning no items had a substantially skewed distribution. Most of the items had a kurtosis value close to, or under 0, indicating that the distribution was relatively flat (Pallant 2010, 57). However, none of the items had kurtosis values smaller than -1, which according to Hair et al (2011, 315) would be an indicator that the curve is too flat. The skewness and kurtosis levels were also supported by examining the histograms for the dependent variables, on which most of the data were distributed towards the middle of the x-axis. The results from the Kolmogorov-Smirnov statistics showed that none of the dependent variables violated the assumption of normality (Sig.value >0.05). Based on these examinations of the data, it was concluded that the dependent variables met the criterion for normality (Pallant 2010).

Any possible outliers were also examined, since many statistical techniques are sensitive to them. There are many different types of outliers to look for; some are data collection or data entry errors, while others are extreme values from an accurate observation that can distort the findings by having a considerable impact on the mean value (Hair et al

2011, 316). By investigating the boxplots of the dependent variables, one outlier could be detected in one of the scale items. However, this case was not marked with an asterisk, indicating it was not an extreme point (Pallant 2010, 64). After examination and analysis of the 5 % Trimmed Mean, it was concluded that this specific case was merely a difference in opinion by one respondent and did not have a considerable effect on the mean value. Therefore, no measures were taken to remove the case.

#### **4.2 Confirmatory factor analysis**

In order to evaluate the reliability of the scale items by Aaker (1997) and summarize them into more manageable measures, a confirmatory factor analysis was conducted for the scores of the monochrome logo version before color was added. The aim was to test whether the items in this study could be related to the same dimensions of brand personality as in Aaker's (1997) study, and thereby confirm the re-use of the scale.

Initially, all 31 items of the Brand Personality Scale (BPS) were subjected to principal component analysis (PCA) using SPSS version 26. The number of factors were pre-determined to three factors, each representing one of the brand personality dimensions: sincerity, excitement and competence. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity, were used for verifying the suitability of using the data set in a factor analysis (Pallant 2010, 193). The KMO value of the data set was  $>0.6$  (in this case 0.68), and Bartlett's Test was significant ( $p=0.000$ ), indicating factor analysis was appropriate. According to Pallant (2010), at least some correlation coefficients with a value of 0.3 or above should be detected in the correlation matrix in order for the analysis to be validated. Most values in the correlation mix were indeed  $>0.3$ .

The items were analyzed with a pre-determined 3-factor solution and Oblimin rotation method, which resulted in three components with an eigenvalue above 2, with a 55,8 % total variance explained. The Pattern and Structure Matrix showed that most the items had factor-loadings above 0.5, which would indicate a strong relationship between the item and the factor components (Pallant 2010). However, two items, *real* and *sentimental*, had loadings under 0.5 and were therefore eliminated from the data set in order to refine the scale and increase the variance explained.

The factor analysis was re-run after the two items were excluded from the data set, resulting in three components with an eigenvalue above 2, with a 57,4 % total variance explained. Component 1 contributed 34,1 %, component 2 contributed 14,9 % and component 3 contributed 8,4 % to the total variance. The rotated solution revealed that

the three components all showed a number of strong loadings and all variables were loading substantially on one component (see table 5).

**Table 5 Results of confirmatory factor analysis.**

ITEM / FACTOR	Factor 1: Excitement	Factor 2: Competence	Factor 3: Sincerity
Unique	<b>.833</b>	-	-.305
Exciting	<b>.783</b>	-	-
Trendy	<b>.701</b>	-	-
Cool	<b>.690</b>	.323	-
Imaginative	<b>.674</b>	-	-
Original	<b>.672</b>	-	-
Spirited	<b>.603</b>	-	-
Cheerful	<b>.584</b>	-	.438
Daring	<b>.576</b>	-	-
Uptodate	<b>.563</b>	-	-
Young	<b>.552</b>	-	.482
Independent	<b>.533</b>	.347	-
Contemporary	<b>.533</b>	.306	-
Leader	-	<b>.819</b>	-
Corporate	-.319	<b>.803</b>	-
Technical	-	<b>.800</b>	-
Hardworking	-	<b>.771</b>	.328
Confident	-	<b>.684</b>	-
Secure	-	<b>.666</b>	-
Successful	.301	<b>.568</b>	-
Reliable	-	<b>.549</b>	.515
Intelligent	-	<b>.540</b>	-.442
Friendly	-	-	<b>.690</b>
Sincere	-	-	<b>.681</b>
Downtoearth	-	-	<b>.669</b>
FamilyOriented	-	-	<b>.639</b>
Wholesome	.305	-	<b>.635</b>
Smalltown	-	-	<b>.597</b>
Honest	-	.376	<b>.572</b>

To summarize, the results from the factor analysis confirmed the appropriateness of the scale items and validated their relation to the brand personality dimensions by Aaker (1997), with the exception of two cases. Since the brand personality trait *real* and *sentimental* did not have a strong relationship with any of the brand personality dimensions, these items were excluded from the data set before proceeding with the hypothesis testing.

#### **4.2.1 Reliability of the scales**

To further evaluate the reliability of the scales and check for internal consistency of the items, Cronbach's Alpha and mean inter-item correlations were investigated. According to Pallant (2010, 101), Cronbach's Alpha coefficient should ideally be above 0.7, however with scales containing less than ten items, the values tend to be quite low. In these cases, it is recommended to also report the mean inter-item correlation value, which should be between 0.2 and 0.4 (Pallant 2010; Briggs and Cheek 1986). Since the scales used in this study contained 13, 9 and 7 items, both of these values were investigated when assessing reliability.

The Cronbach's Alpha coefficient for the Brand Personality Scale was 0.89, indicating very good internal consistency of the items (Pallant 2010, 104). The mean inter-item correlation reported a value of 0.39, with values ranging from 0.92 to 0.71. This suggests a quite strong relationship between the items.

The results from the reliability assessment showed that the scale was reliable and could be used for further analyses.

#### **4.3 Hypotheses testing with mean scores and t-tests**

A series of t-tests were carried out to compare the respondent's perception of brand personality in the different logo versions. The mean scores were compared in order to test the hypotheses related to the research questions of this study. The following hypotheses H1a, H1b and H1c, examine whether the logo shape can be related to the brand personality dimension without the influence of color. Hypothesis 2 examines whether there is a stronger perception of brand personality in the logo when color is added. Finally, hypotheses H3a, H3b and H3c tests which color is most appropriate in relation to a certain brand personality dimension.

The appropriateness of the brand personality/color was determined based on the Likert-scale scores: 5=very appropriate, 4=appropriate, 3=somewhat appropriate, 2=not so appropriate, 1=not at all appropriate.

##### **4.3.1 Hypotheses about brand personality perceptions of logo shape without the influence color**

The perceptions of brand personality in the logo shape were examined in order to find mean values over 3.00, which would indicate that the circular logo shape is associated with one or more brand personality dimensions, without the element of color influencing the perception.

**H1a: The circular shape is related to the perception of brand *sincerity* in the monochrome logo.**

The mean score of the brand sincerity perception related to the logo shape reported a value of  $M=2.6$ ,  $SD=0.76$ , meaning it ranked under the score of 3=somewhat appropriate. Therefore, H1a was not supported (see table 6).

**H1b: The circular shape is not related to the perception of brand *competence* in the monochrome logo.**

The mean score of the brand competence perception related to the logo shape reported a value of  $M=2.74$ ,  $SD=0.83$ , meaning it ranked under the score of 3=somewhat appropriate. Therefore, H1b was supported (see table 6).

**H1c: The circular shape is not related to the perception of brand *excitement* in the monochrome logo.**

The mean score of the brand excitement perception related to the logo shape reported a value of  $M=2.53$ ,  $SD=0.84$ , meaning it ranked under the score of 3=somewhat appropriate. Therefore, H1c was supported (see table 6).

The results of the hypothesis testing showed that the circular shape was not related to any of the brand personality dimensions in the monochrome logo version, answering **RQ1: *Is the circular shaped logo related to the perception of brand personality without the influence of color?*** None of the brand personality dimensions were positively related to the logo, since all of the mean scores ranked lower than 3=somewhat appropriate.

**Table 6 Mean scores of brand personality perceptions of logo shape in the monochrome logo.**

Variable	Monochrome logo	
	<i>M</i>	<i>SD</i>
Brand excitement	2.57	0.84
Brand sincerity	2.60	0.76
Brand competence	2.74	0.83

\* $M > 3$ =somewhat appropriate.

### 4.3.2 Hypotheses about whether the addition of color influence perceptions of brand personality in the logo

The means of the brand personality scores of the monochrome logo version and the colored logo versions were compared in a series of paired samples t-tests, to test whether the addition of color had an impact on the brand personality perceptions. In order to test hypothesis 2, the mean scores from each separate brand personality dimension was compared with the mean from the colored logo versions.

**H2: The colored versions of the logo are more strongly associated with a specific brand personality than the monochrome logo version.**

#### *Brand excitement*

A paired samples t-test was conducted to evaluate the impact of the addition of color on the overall perception of brand excitement. The results from the t-test showed a significant increase from the monochrome logo's brand excitement score ( $M = 2.52$ ,  $SD = 0.84$ ) to the yellow logo's brand excitement score ( $M = 3.19$ ,  $SD = 0.78$ ),  $t(52) = -5.51$ ,  $p < 0.001$  (two-tailed). The mean increase in the brand excitement scores was 0.66 with a 95 % confidence interval ranging from -0.90 to -0.42. According to Pallant (2010, 251), a probability (p)-value less than 0.05 indicates that there is a significant difference in the two scores.

The results from the t-test indicated that the addition of the color yellow positively affects the perception of brand excitement in the logo. Effect size ( $d$ ) was calculated in order to further investigate the magnitude of the intervention's effect (Pallant 2010, 252) and evaluated according to Cohen's (1988, 284-287) guidelines for effect size: 0.01=small effect, 0.06=moderate effect, 0.14=large effect. The eta square statistic was in this case 0.83, indicating a large effect size (see table 7).

**Table 7 The influence of the color yellow on perception of brand excitement.**

Variable	Monochrome logo		Yellow logo		$p$	$d$
	$M$	$SD$	$M$	$SD$		
Brand excitement	2.57	0.84	3.19	0.78	0.00	0.83

\* $p < 0.05$  (two-tailed).

A significant increase could also be found from the monochrome logo's brand excitement score ( $M = 2.53$ ,  $SD = 0.84$ ) to the red logo's brand excitement score ( $M = 2.78$ ,  $SD = 0.83$ ),  $t(52) = -2.19$ ,  $p < 0.04$  (two-tailed). The mean increase in the brand excitement

scores was 0.26 with a 95 % confidence interval ranging from -0.49 to -0.02. The eta squared statistic (0.31) indicated a large effect size.

With the p-value of less than 0.05 and an effect size of 0.31, the results from the t-test indicated that the addition of the color red positively affects the perception of brand excitement in the logo (see table 8).

**Table 8 The influence of the color red on perception of brand excitement.**

Variable	Monochrome logo		Red logo		<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Brand excitement	2.57	0.84	2.78	0.83	0.03	0.31

\**p* < 0.05 (two-tailed).

While significant differences in brand excitement perceptions were found in both the yellow and red logo versions in comparison with the monochrome version, no significant differences could be found in the blue logo version ( $M=2.52$ ,  $SD=0.72$ ),  $t(52) = 0.07$ ,  $p > 0.05$  (two-tailed). Therefore, no conclusions about the impact of the color blue in relation to brand excitement could be made.

#### *Brand sincerity*

A paired samples t-test was conducted to evaluate the impact of the addition of color on the overall perception of brand sincerity. The results from the t-test showed a significant decrease from the monochrome logo's brand sincerity score ( $M = 2.60$ ,  $SD = 0.76$ ) to the blue logo's brand sincerity score ( $M = 2.35$ ,  $SD = 0.78$ ),  $t(52) = 2.5$ ,  $p < 0.02$  (two-tailed). The mean decrease in the brand sincerity scores was 0.25 with a 95 % confidence interval ranging from 0.050 to 0.46. The eta squared statistic (0.32) indicated a large effect size.

The results from the t-test showed that the addition of the color blue negatively affects the perception of brand sincerity in the logo (see table 9).

**Table 9 The influence of the color blue on perception of brand sincerity.**

Variable	Monochrome logo		Blue logo		<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Brand sincerity	2.60	0.76	2.35	0.78	0.02	0.32

\**p* < 0.05 (two-tailed).

A significant increase could be found when comparing the monochrome logo's brand sincerity score ( $M = 2.60$ ,  $SD = 0.76$ ) to the yellow logo's brand sincerity score ( $M = 2.87$ ,  $SD = 0.74$ ),  $t(52) = -2.14$ ,  $p < 0.04$  (two-tailed). The mean increase in the brand sincerity scores was 0.27 with a 95 % confidence interval ranging from -0.52 to -0.02. The eta squared statistic (0.36) indicated a large effect size.

The results from the t-test showed that the addition of the color yellow positively affects the perception of sincerity in the logo (see table 10).

**Table 10**      **The influence of the color yellow on perception of brand sincerity.**

Variable	Monochrome logo		Yellow logo		<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Brand sincerity	2.60	0.76	2.87	0.74	0.04	0.36

\* $p < 0.05$  (two-tailed).

While significant differences in brand sincerity perceptions were found in both the blue and yellow logo versions in comparison with the monochrome version, no significant differences could be found in the red logo version ( $M=2.43$ ,  $SD=0.82$ ),  $t(52) = 1.37$ ,  $p > 0.05$  (two-tailed). Therefore, no conclusions about the impact of the color red in relation to brand sincerity could be made.

### *Brand competence*

A paired-samples t-test was conducted to evaluate the impact of the addition of color on the overall perception of the brand competence. The results from the t-test showed a significant increase from the monochrome logo's brand competence score ( $M = 2.74$ ,  $SD = 0.83$ ) to the blue logo's brand competence score ( $M = 3.00$ ,  $SD = 0.85$ ),  $t(52) = -2.70$ ,  $p < 0.01$  (two-tailed). The mean increase in the brand competence scores was 0.26 with a 95 % confidence interval ranging from -0.45 to -0.07. The eta squared statistic (0.31) indicated a large effect size.

The results from the t-test showed that the addition of the color blue positively affects the perception of competence in the logo (see table 11).

**Table 11** The influence of the color blue on perception of brand competence.

Variable	Monochrome logo		Blue logo		<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Brand competence	2.74	0.83	3.00	0.85	0.01	0.31

\**p* < 0.05 (two-tailed).

A significant increase could also be found from the monochrome logo's brand competence score ( $M = 2.74$ ,  $SD = 0.83$ ) to the red logo's brand competence score ( $M = 3.20$ ,  $SD = 0.73$ ),  $t(52) = -3.91$ ,  $p < 0.001$  (two-tailed). The mean increase in the brand competence scores was 0.45 with a 95 % confidence interval ranging from -0.22 to -3.91. The eta squared statistic (0.59) indicated a large effect size.

The results from the t-test showed that the addition of the color red positively affects the perception of competence in the logo (see table 12).

**Table 12** The influence of the color red on perception of brand competence.

Variable	Monochrome logo		Red logo		<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Brand competence	2.74	0.83	3.20	0.73	0.00	0.59

\**p* < 0.05 (two-tailed).

While significant differences in brand competence perceptions were found in both the blue and red logo versions in comparison with the monochrome version, no significant differences could be found in the yellow logo version ( $M=2.64$ ,  $SD=0.75$ ),  $t(52) = 0.92$ ,  $p > 0.05$  (two-tailed). Therefore, no conclusions about the impact of the color yellow in relation to brand competence could be made.

In conclusion, a comparison of the brand personality perceptions in the monochrome logo and the colored versions, indicated that the addition of colors influenced the perception of brand personality in two out of three cases. Therefore, H2 is partially supported.

To answer **RQ2**: *Does the addition of color to the circular logo influence the overall perception of brand personality in the logo?* it can be concluded that some colors indeed influence the perception, either negatively or positively, while others do not.

### 4.3.3 Hypotheses about the most appropriate logo version (color+shape) in relation to a specific brand personality dimension

To find the logo version perceived as most appropriate in relation to a specific brand personality dimension, frequency in descriptive statistics was investigated. The two highest mean scores related to each separate brand personality dimension were then compared in a paired samples t-test in order to test the hypotheses and find significant differences between the scores.

**Table 13** Summary of color-brand personality mean scores.

Variable	Blue logo	Yellow logo	Red logo
	<i>M</i>	<i>M</i>	<i>M</i>
Brand excitement	2.52	<b>3.19</b>	<b>2.78</b>
Brand sincerity	2.35	<b>2.87</b>	<b>2.43</b>
Brand competence	<b>3.00</b>	2.64	<b>3.20</b>

\* $M > 3$ =somewhat appropriate.

#### **H3a: The use of yellow in the circular logo (in comparison to red and blue) will lead to the highest perception of brand sincerity.**

By comparing the brand sincerity scores (see table 13), the blue logo had the lowest mean score of 2.35, the red logo had a mean score of 2.43 and the yellow logo had the highest mean score of 2.87. A paired samples t-test was carried out to evaluate the difference between the brand sincerity scores of the red logo and the yellow logo.

A significant difference could be found between the red logo's brand sincerity score ( $M = 2.43$ ,  $SD = 0.82$ ) to the yellow logo's brand sincerity score ( $M = 2.87$ ,  $SD = 0.74$ ),  $t(52) = -3.38$ ,  $p = 0.001$  (two-tailed). The mean increase in the brand sincerity scores was 0.44 with a 95 % confidence interval ranging from -0.71 to -0.18. The eta squared statistic (0.56) indicated a large effect size (see table 14).

Since yellow was perceived as the most appropriate color for the logo in relation to brand sincerity, H3a is supported.

#### **H3b: The use of red in the circular logo (in comparison to yellow and blue) will lead to the highest perception of brand excitement.**

The mean score for brand excitement in the blue logo was the lowest, with a mean of 2.52, while the red logo had a mean score of 2.78. The highest mean score was detected

in the yellow logo ( $M=3.19$ ). A paired samples t-test was carried out to evaluate the difference between the brand excitement scores of the red logo and the yellow logo.

A significant difference could be found between the red logo's brand sincerity score ( $M = 2.78$ ,  $SD = 0.83$ ) to the yellow logo's brand sincerity score ( $M = 3.19$ ,  $SD = 0.78$ ),  $t(52) = -3.45$ ,  $p = 0.001$  (two-tailed). The mean increase in the brand sincerity scores was 0.40 with a 95 % confidence interval ranging from -0.64 to -0.17. The eta squared statistic (0.51) indicated a large effect size (see table 14).

Since yellow was perceived as the most appropriate color for the logo in relation to brand excitement,  $H3b$  is not supported.

**H3c: The use of blue in the circular logo (in comparison to yellow and red) will lead to the highest perception of brand competence.**

A comparison of the brand competence mean scores (see table 13) showed that the yellow logo had the lowest mean score of 2.64, while the blue logo had a mean score of 3.00, and the highest mean score was achieved by the red logo ( $M=3.20$ ). A paired samples t-test was carried out to evaluate the difference between the brand competence scores of the blue logo and the red logo.

No significant difference could be found between the blue logo's brand competence score ( $M = 3.00$ ,  $SD = 0.85$ ) and the red logo's brand competence score ( $M = 3.20$ ,  $SD = 0.73$ ),  $t(52) = -1.71$ ,  $p > 0.05$  (two-tailed) (see table 14).

The results indicated that both the red and blue logo are perceived as equally appropriate in relation to brand competence. Therefore,  $H3c$  is not supported.

**Table 14** Summary of results from t-tests, evaluating significant differences between the two highest mean scores in relation to each brand personality.

Variable	Red logo		Yellow logo		<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Brand sincerity	2.43	0.82	2.87	0.74	0.001	0.56
Brand excitement	2.78	0.83	3.19	0.78	0.001	0.51
Brand competence	3.00	0.85	3.20	0.73	0.09	0.25

\* $p < 0.05$  (two-tailed).

To answer **RQ3**: *Which logo version is perceived as the most appropriate in relation to each brand personality dimension?* it can be concluded that the yellow logo is most appropriate in relation to brand excitement and brand sincerity, while the red and blue logos are perceived as most appropriate in relation to brand competence.

#### 4.4 Summary of results

The results of the study related to hypotheses can be seen summarized in the table (15) below. In hypothesis 1, H1b and H1c were supported, while H1a was not supported. Hypothesis 2 was partially supported. In hypothesis 3, H3a was supported, while H3b and H3c were both not supported.

**Table 15** Summary of results from the hypothesis testing.

<b>Hypothesis</b>	<b>Result</b>
<b>H1a:</b> The circular shape is related to the perception of brand sincerity in the monochrome logo.	Not supported
<b>H1b:</b> The circular shape is not related to the perception of brand competence in the monochrome logo.	Supported
<b>H1c:</b> The circular shape is not related to the perception of brand excitement in the monochrome logo.	Supported
<b>H2:</b> The colored versions of the logo are more strongly associated with a specific brand personality than the monochrome logo version.	Partially supported
<b>H3a:</b> The use of yellow in the circular logo (in comparison to red and blue) will lead to the highest perception of brand sincerity.	Supported
<b>H3b:</b> The use of red in the circular logo (in comparison to yellow and blue) will lead to the highest perception of brand excitement.	Not supported
<b>H3c:</b> The use of blue in the circular logo (in comparison to yellow and red) will lead to the highest perception of brand competence.	Not supported

The results of the data analyses and the hypothesis testing and will be further related to the research questions and discussed in the upcoming chapter.

## **5 DISCUSSION**

In this chapter, the results from the analysis will be further discussed and the key findings will be related to previous research literature, the research questions and aim of the study. Implications about how the findings contribute to the field of study will be presented and the limitations of the study will be discussed, based on which recommendations and suggestions for further research will be given.

### **5.1 Key findings on consumer perceptions of brand personality in logo shape and color**

The aim of this study was to examine how color in combination with a circular logo shape influence consumers' perceptions of brand personality. By adapting a novel logo approach, the study examined how consumers respond to visual elements in the logo before any interaction with the brand has taken place. More specifically, the study investigated whether the shape in a monochrome logo can be related to brand personality (RQ1) and whether the addition of certain colors will influence or change the brand personality perception (RQ2). Moreover, the study sought to find which colored logo versions the consumers perceived as most appropriate in relation to a specific brand personality dimension (RQ3).

In the upcoming sections, the findings of this study will be discussed in relation to the purpose of the study, research questions and theoretical framework. First, the findings regarding the monochrome logo version and brand personality perceptions of logo shape will be discussed, where after the discussion will continue to examine the findings from the colored logo versions. Thereafter, the findings regarding the appropriateness of the logo versions in relation to the brand personality dimensions will be discussed and the impact of shape and color elements on brand personality perceptions in the logo will be summarized.

#### ***5.1.1 The circular logo shape and its influence on brand personality perceptions***

A key purpose of this study was to examine whether the logo shape alone can be related to brand personality in consumers' minds. A monochrome logo was presented to the study sample, asking them to rate the appropriateness of brand personality traits in regard to the shape of the logo. The results revealed that the circular logo shape chosen for this study was not strongly related to any of the three brand personality dimensions sincerity, competence and excitement. This would indicate, that in this particular logo,

the choice of a circular shape is not effective for creating desired perceptions of brand personality in consumers' minds.

Previous studies have however found some significant connections between round logo shapes and brand personality. Grohmann (2008) finds that logos that are based on Henderson & Cote's (1998) logo guidelines, with characteristics of roundness, elaborateness, naturalness and coherency are associated with brand sincerity. Palumbo et al (2015) also finds similar associations of safety in relation to curved shapes. The findings in this study can therefore not support previous findings in regard to brand sincerity perceptions of circular shaped logos.

In line with Grohmann (2008), who found that high levels of roundness resulted in lower perception of brand competence and did not affect perceptions of excitement, this study also finds that the circular shaped logo does not positively influence either of these brand personality dimensions and is not strongly related to any of the brand personality traits.

To summarize, the findings from this study give further support to previous research in some aspects, while other aspects are not supported. Based on merely these results, it can be concluded that the circular shape alone is not an influential element in the logo for creating associations of brand competence, excitement or sincerity.

### ***5.1.2 The influence of the addition of colors red, blue and yellow on brand personality perceptions***

The study sought to examine whether the addition of color would influence the perception of brand personality in the logo. The colors red, blue and yellow were separately added to the logo shape and the respondents were asked to rank the appropriateness of brand personality traits in relation to the shape and color combinations. The results revealed that in most cases, the addition of color resulted in stronger perceptions of brand personality than in the monochrome logo.

#### *Influences on brand excitement*

The findings showed that brand excitement was perceived to a higher degree than in the monochrome version, when the colors yellow and red were added as visual elements. However, the color blue did not have a significant impact on the perception of brand excitement. As previous studies have shown, both yellow and red have been associated with attributes related to the brand excitement dimension. The strongest connection has been found with the color red and brand excitement. The color associations of red tend to consist of active and exciting and passionate attributes (Clarke & Costall 2008,

Bottomley & Doyle 2006, Ridgway 2011). The theory that the color red is an influential logo element for evoking perceptions of brand excitement in consumers' minds, is supported by the findings of this study.

Yellow has also previously been connected to brand excitement (Ridgway 2011, West & Österberg 2016), with color associations of happiness, liveliness, warmth and energy (Beasley & Danesi 2002, Clarke & Costall 2008). The results of this study support the previous findings of yellow being an influential logo element for generating perceptions of brand excitement.

The color blue has in previous research proven to be associated with rather different attributes than the colors yellow and red. Most of these attributes, such as reliability, security and trustworthiness fall into the brand competence dimension (Ridgway 2011, Labrecque and Milne 2012, West & Österberg 2016). In similarity with previous studies, the results of this study support the fact that blue is not an influential logo element for evoking perceptions of brand excitement.

#### *Influences on brand sincerity*

In regard to brand sincerity, the results of the study showed that the addition of the color yellow influenced the perception of brand sincerity more positively than in the monochrome logo version, while the addition of blue resulted in a more negative perception of brand sincerity than in the monochrome version. The addition of red did on the other hand not have a significant influence on brand sincerity. Yellow has in some previous studies been connected to brand sincerity (Labrecque and Milne 2012), while blue and red have not previously been connected to this specific brand personality. Therefore, the findings regarding color and perceptions of brand sincerity in this study are in line with the theoretical framework. No previous studies have however shown that the addition of the color blue would have a negative influence on the perception of brand sincerity, which was the case in this current study. As a conclusion, the results of the study indicate that yellow is an influential logo element for evoking perceptions of brand sincerity, while blue is an influential logo element for reducing perceived brand sincerity.

#### *Influences on brand competence*

Brand competence in the logo was positively influenced by the addition of the colors red and blue, while yellow did not have significant influence on the perception of brand competence when compared to the results from the monochrome logo version. These

results are in coherence with previous studies, where blue has frequently been related to brand competence (Ridgway 2011, Labrecque and Milne 2012, West & Österberg 2016) and some studies has shown that red is also related to this brand personality dimension (Ridgway & Myers 2014). Previous studies have not found that the color yellow would be related to brand competence. As a conclusion, the results of the study indicate that the the colors blue and red are influential elements for evoking perceptions of brand competence when being added to the logo.

Although the previously discussed results showed that the colored logo versions in general evoke stronger perceptions of brand personality than the logo shape alone, this study also sought to examine the degree of appropriateness in the combination of the circular shape and colors in regard to brand personality. The following section will therefore present the logo versions that were perceived as most appropriate in relation to a specific brand personality.

### ***5.1.3 The most appropriate logo versions in regard to the brand personality dimensions***

In order to further investigate how the circular shape and different color additions in the logo were perceived in relation to brand personality, the highest degree of appropriateness for each logo version was examined. The respondents were asked to rate the appropriateness of the color and shape combination in relation to the brand personality traits. The two highest mean scores for each logo were tested for significance. The results revealed that the yellow logo version was the most appropriate in two of the brand personality dimensions, while the blue and red logo version were both considered as the most appropriate choices for the same brand personality dimension.

#### *The yellow circular logo*

The findings showed that the color yellow in combination with the circular shape was perceived as the most appropriate logo version in relation to both brand excitement and brand sincerity. As previously mentioned, research has found a relationship between the color yellow and these two brand personality dimensions. According to previous studies about shapes, the circular shape has also been connected to similar attributes related to brand excitement and brand sincerity. For instance, Palumbo et al (2015) finds that circular shapes are associated with safe and positive concepts, indicating associations related to the above-mentioned brand personalities, while Grohmann (2008) finds a positive relationship between circular shapes and brand sincerity. However, in

contradiction to previous studies, this study did not find the circular shape alone to be associated with brand sincerity, but only after the color yellow was added to the shape.

The perceived appropriateness might also be affected by previous associations of the color-shape combinations. Therefore, it is also important to examine general associations of color-shape relationships, especially those that are perceived as more appropriate than others. According to Albertazzi (2013), circular shapes tend to be mostly associated with warm colors such as red and yellow – yellow being the color most frequently associated with circles. This combination can also be supported by studies in semiotics, relating the yellow circle to familiar objects such as the sun and moon (Beasley & Danesi 2002). The results of this study can therefore also support general perceptions of the appropriateness in the circle-yellow combination.

#### *The blue circular logo*

While the yellow logo version was the most appropriate fit for both brand excitement and sincerity, the blue and red logo versions were both perceived as the most appropriate fit for brand competence. The combination of the circular shape and the color blue was the anticipated best fit for brand competence, based on previous findings about color-shape appropriateness. As previously mentioned, the color blue has frequently been related to this brand personality dimension (Labrecque & Milne 2012, West and Österberg 2016). According to Bottomley and Doyle's (2006) categorization, blue is a functional color associated with functional benefits such as competency, durability and reliability, which also supports its appropriateness in relation to brand competence.

The results of this study show that the circular shape alone could not be positively related to brand competence before the color blue was added to the shape. This finding is supported by Grohmann (2008), who finds that circular shapes can even be negatively affecting perceptions of brand competence. Based on this, the assumption is that the blue color was the element more predominantly influencing perceived brand competence in this specific shape-color combination. However, further research should be made in order to confirm this assumption.

To relate the circle-blue combination to general associations of color-shape relationships, Kandinsky (1947) did find blue to be most appropriate color in combination with the circle. However, more recent studies have not supported this finding (Jacobsen 2002, Albertazzi 2013). Instead, Albertazzi (2013) and Chen et al (2015) finds that blue is most commonly associated with angular, square shapes. Comparing the differences in perceived brand competence in blue circular shapes versus

blue square shapes would therefore have been necessary in order to further investigate the impact of the logo shape. This was also one of the preliminary intents of this current study, which however due to lack of data had to be excluded from the research. In the upcoming chapter for suggestions for further research, this will be discussed more in-depth.

### *The red circular logo*

A somewhat surprising finding was that the red logo was not perceived as the most appropriate in relation to brand excitement. Bottomley and Doyle's (2006) study about brand color appropriateness categorizes red as a sensory-social color, commonly associated with emotional aspects of a brand. The personality traits characterizing brand excitement are also related to mostly emotional aspects (daring, cool, imaginative, spirited). However, in similarity with this study, other previous research has also found a stronger relationship with yellow and brand excitement (Ridgway 2011, West & Österberg 2016), despite the fact that general color associations of red as well as the color's generally high association with circular shapes (Albertazzi 2013), makes the color hypothetically seem like the most appropriate fit for this brand personality.

The red-circle combination was however perceived as the most appropriate fit in relation to brand competence, along with the blue-circle combination. The appropriateness of the color red is coherent with the previous study of Ridgway and Myers (2014), who finds that seven traits from the brand competence dimension (independent, reliable, hard working, secure, successful and leader) were associated with the color red. However as previously mentioned, the results of this study do not find a strong association of brand competence in the circular shape alone, before color has been added. Therefore, in similarity with the blue logo, the assumption is that the red color was the element more predominantly influencing perceived brand competence in this specific circle-red logo combination. However, further research should be made in order to confirm this assumption.

Interestingly, when examining the means of the scale items (see Appendix 4), blue is more strongly associated with brand personality traits within the competence dimension that are related to functional attributes, such as reliable, technical and corporate, while red is more strongly related to attributes connected to power, leadership and success. This might be explained by Bottomley & Doyle's (2006) findings that blue is a functional color while red is sensory-social and usually associated with emotional benefits of the brand.

## 5.2 Summary of key findings

The key findings can be summarized according to the three research questions of this study. The circular shape of a monochrome logo version was examined in order to answer **RQ1: *Is the circular shaped logo related to the perception of brand personality without the influence of color?*** The study did not find any strong associations of brand competence, excitement and sincerity in the circular logo shape alone. Therefore, it can be concluded that the logo shape is not related to the perception of brand personality without the influence of color. However, contradictory to this, some previous studies have shown that circular shapes are related to brand personality perceptions.

The colors yellow, red and blue were separately added to the circular shaped logo in order to investigate **RQ2: *Does the addition of color influence the perception of brand personality in the logo?*** The results of the study showed that yellow and red positively influenced the perception of brand excitement. Yellow positively influenced the perception of brand sincerity, while blue had a negative influence on brand sincerity. Red and blue positively influenced the perception of brand competence. As a conclusion, the results indicated that in some but not all cases, the addition of color did influence the perception of brand personality, either positively or negatively.

The logo versions perceived as most appropriate in relation to the brand personality dimensions were examined in order to answer **RQ3: *Which logo version is perceived as the most appropriate in relation to each brand personality dimension?*** The results showed that the yellow logo version was perceived as the most appropriate in relation to brand sincerity and brand excitement, while both the red and blue logo versions were perceived as most appropriate in relation to brand competence. These findings supported the results of previous studies.

**Table 16** Summary of key findings

Monochrome logo (no color + circular shape)	No significant relation to brand personality
Red logo (red + circular shape)	Most appropriate for brand competence Positively influencing brand excitement
Yellow logo (yellow + circular shape)	Most appropriate for brand sincerity Most appropriate for brand excitement
Blue logo (blue + circular shape)	Most appropriate for brand competence Negatively influencing brand sincerity

The main findings of the current study (see table 16) mostly coincide with previous studies within the same field. The results show that the element of color have a big influence on brand personality perceptions in the logo. The shape alone is in most cases not a predominantly influential element for brand personality, but the findings still suggest that it may have an impact when combined with certain colors and the combination of the two elements is perceived as appropriate. This will be further discussed in the upcoming chapter.

### **5.3 Theoretical contributions**

This thesis contributes to brand personality research by following Grohmann's (2008) study about how brand elements influence the formation of consumer's brand personality perceptions. As suggested by Grohmann (2008), further research should investigate the use of color and multiple brand elements' interactive effect on brand personality. While several previous studies examine only one brand element, this study also focuses on the interaction between the two elements color and shape and how they both separately and collectively influence consumer perceptions of brand personality in the company logo.

Selecting visual brand elements that support the corporate image is according to Hynes (2009) a valuable strategic asset in enhancing visual recognition and creating competitive advantage. If an organization selects visual elements inappropriate to its overall image, consumers will receive conflicting signals and a weaker perception of the corporate identity. The findings of this study confirm the importance of selecting appropriate elements that represent the company in a desired way. It also contributes to the field of visual communication and branding research by suggesting that while color is the predominant element influencing consumer perceptions of brand personality (when compared to the shape), previous associations of color-shape relationships similar to the ones found in semiotic research can also have an effect on how the brand elements are perceived. For instance, the effect of the color yellow might be even stronger when combined with a circle, since these two elements tend to be strongly associated with each other and have symbolic value across cultures. Therefore, the shape of the logo can be considered as important for the overall brand personality perception in the logo, even though it might not always generate strong associations when combined with an inappropriate color. In this study, the yellow circle logo generated high perceptions of both brand excitement and brand sincerity. These dimensions are represented with

attributes of friendliness, activity and happiness that are in line with general associations of the yellow circle element.

In instances when the circular shape was combined with a color that according to general associations of color-shape relationships did not match, the findings of this study suggest that the logo was also more weakly associated with a certain brand personality which may have otherwise been appropriate for the color alone. For instance, the color blue and circles are not generally perceived as an appropriate combination due to circles being mostly associated with warm colors and blue being associated with squares (Albertazzi et al 2013). The blue logo version was also the one that received the lowest overall mean scores out of the colored logos. This might be explained by the use of an inappropriate shape, that caused the consumer to receive conflicting signals and weakened the perception of brand personality (Hynes 2009). The collaborative effect of color and shape that this study has sought to investigate and the relation to general associations of visual elements, is important for the understanding of how these brand elements influence consumer attitudes and perceptions.

Lastly, from a design perspective, the study contributes to the understanding of how graphic elements can be used to evoke desired associations and responses. The results can give implications to graphic designers and managers of newly founded companies about how basic graphic elements can be strategically applied when developing a visual identity. This will be further discussed in the upcoming chapter.

#### **5.4 Managerial implications**

Brand logos are usually the most representative visual element of the brand (Wheeler 2013, 32) and have a strong influence on consumer perceptions and attitudes towards the brand. More established companies have however had time to build a brand image beyond the visual, which also has an impact on how the company logo is perceived. The findings of this study can give implications for companies that cannot yet rely on customer satisfaction and previous brand recognition on how to increase brand equity.

Brand managers as well as graphic designers can gain knowledge and deepen their understanding of how brand personality is perceived by consumers before any other interaction with the brand has taken place. By studying a logo, which according to Henderson & Cote's (1998) logo guidelines falls in the low investment logo category, this study shows that when basic color and shapes are combined appropriately, they can generate perceptions of a desired brand personality. Especially in startups and other new companies with small revenues, the budget spent on designing a logo tend to be held to

a minimum. This study gives practical guidelines to managers and designers of how to strategically and with limited resources design a logo that represents the brand in a desired way and creates both functional and emotional brand connotations and associations in consumers' minds.

As the findings suggest, the more predominant element in the logo is color, while the shape should still be perceived as appropriate and support the color element in order for the logo to have the most impactful effect on consumer responses. The circular shape of the logo alone did not generate strong associations of brand personality before color was added. The yellow color was perceived as appropriate for the circular shape when being related to brand excitement, meaning it was associated with emotional, youthful and active attributes. Yellow was also the most appropriate color when related to brand sincerity, generating associations of honesty and happiness. Red and blue were beneficial colors for communicating brand competence, the color blue being more related to functional attributes such as technical, reliable and corporate, while red was more strongly related to social-sensory attributes such as success and leadership.

### **5.5 Limitations and suggestions for further research**

In similarity to most studies, this study comes with some limitations. The limitations were mostly related to the number of stimuli and data to be examined and analyzed, as well as methodological choices.

Firstly, the sample size was limited due to a lack of respondent engagement, despite the efforts to reduce the number of stimuli and response options as well as the choice to re-distribute the questionnaire. A larger sample size would have resulted in more reliable and generalizable results. In order to increase reliability, the results of this study have been evaluated in relation to findings of previous studies and in most cases evident support for the current results has been found. However, a recommendation is to pay more attention to required sample size and the extent of the research in relation to research goals already at the beginning of the process in order to avoid having to take measures to limit the study at a later point.

Secondly, the concept of brand personality was studied from the perspective of Aaker (1997), since the Brand Personality Scale is the most widely used measure for brand personality. The brand personality dimensions ruggedness and sophistication have however received some critique having attributes related to gender and social class (Azoulay & Kapferer 2003). These dimensions were also excluded from the research since they did not derive from human psychology research and had no previously found

associations with the elements being studied. Further brand personality research could evaluate these dimensions and further test their reliability and relevance in the modern market environment.

Thirdly, as stated earlier in this paper, the initial aim of this study was to include multiple shapes and compare the appropriateness of the color-shape combinations in more than one logo shape. However, due to the difficulties in data collection the study was limited to investigating only the circular shaped logo. As some of the results indicate, further research should be conducted in comparing differences in brand personality perceptions between the same-color-different-shape combinations, in order to study the influence of the logo shape at a more comprehensive level.

Lastly, the study was limited to examining only single-colored logos without any typography elements. This limitation was made due to the intention to investigate novel logos without any previous brand recognition. However, logos with a more complex design such as multi-colored ones including the brand name, should be studied in the future in order to deepen the understanding of how these logo elements are related to brand personality in consumers' minds.

## **5.6 Conclusions**

Corporate visual identity is strongly connected to how the brand is perceived by consumers. The logo, being one of the first visual elements of a brand that consumers interact with, plays a big part in the initial stages of when brand attitudes and associations are formed. The aim of this study was to examine how color in combination with a circular logo shape influence consumers' perceptions of brand personality before any other interaction with the brand had taken place. The study examined whether the perceptions differed when the brand personalities were applied to only the logo shape and when colors were added. It also sought to find which color and shape combinations that were perceived as most appropriate in relation to a specific brand personality. The findings of this study suggest that colors influence the perception of brand personality and certain colors are perceived as more appropriate than others when used in combination with the logo shape.

In conclusion, this study offers insight into consumer attitudes and perceptions of corporate visual identity and how it can be used as a strategic asset in increasing brand equity. More specifically, brand managers as well as designers can gain insight into how visual elements in the logo can be applied to create desired customer responses and influence perceptions of brand personality.

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**APPENDIX 1      TRANSCRIPT OF QUESTIONNAIRE**

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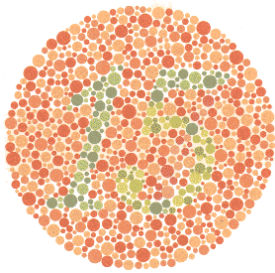
**SECTION 1**

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1. Are you at least 18 years old?

Yes

No



2. What number do you see in the picture above?

76

16

15

75

3. How old are you?

4. What is your nationality?

Finnish

Swedish

Norwegian

Danish

Icelandic

Other European country

5. What is your highest educational degree?

None

Graduated high school or equivalent

Vocational training

Bachelor's degree

Master's degree

Doctoral degree or higher

6. What is your gender?

Male

Female

Non binary

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**"Brand personality is the set of human characteristics or traits that consumers attribute to the brand." (Jennifer L. Aaker 1997)**

**You will now be asked to view four different versions of a real brand logo. The colors have been modified in order to examine brand personality associations of both shape and color.**

**Please view the logos carefully and get accustomed to the response options. Take your time to answer the questions and rate the brand personality traits - however the study should not take longer than approx. 15 min. to complete.**

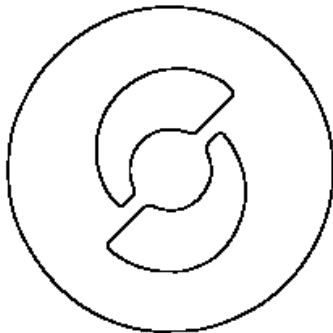
**Thank you for your time!**

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## SECTION 2

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### (1/4) LOGO SHAPE



7. How appropriate is the **shape** of the logo in regard to the following brand personality traits? Please rate on a scale of 1-5.

	1=Not at all appropriate	2=Not so appropriate	3=Somewhat appropriate	4=Appropriate	5=Very appropriate
Down-to-earth					
Unique					
Small-town					
Family-oriented					
Independent					
Honest					
Secure					
Sincere					
Intelligent					

Real					
Successful					
Wholesome					
Friendly					
Young					
Imaginative					
Original					
Cheerful					
Sentimental					
Daring					
Trendy					
Exciting					
Spirited					
Cool					
Up-to-date					
Contemporary					
Reliable					
Hard working					
Technical					
Corporate					
Leadere					
Confidnt					

**(2/4) LOGO COLOR AND SHAPE**

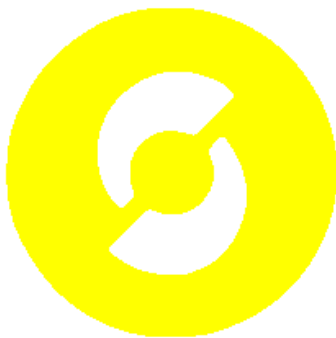


8. How appropriate is the **color** and **shape** combination in the logo in regard to the following brand personality traits? Please rate on a scale of 1-5.

	1=Not at all appropriate	2=Not so appropriate	3=Somewhat appropriate	4=Appropriate	5=Very appropriate
Down-to-earth					
Unique					

Small-town					
Family-oriented					
Independent					
Honest					
Secure					
Sincere					
Intelligent					
Real					
Successful					
Wholesome					
Friendly					
Young					
Imaginative					
Original					
Cheerful					
Sentimental					
Daring					
Trendy					
Exciting					
Spirited					
Cool					
Up-to-date					
Contemporary					
Reliable					
Hard working					
Technical					
Corporate					
Leadere					
Confidnt					

### (3/4) LOGO COLOR AND SHAPE



9. How appropriate is the **color** and **shape** combination in the logo in regard to the following brand personality traits? Please rate on a scale of 1-5.

	1=Not at all appropriate	2=Not so appropriate	3=Somewhat appropriate	4=Appropriate	5=Very appropriate
Down-to-earth					
Unique					
Small-town					
Family-oriented					
Independent					
Honest					
Secure					
Sincere					
Intelligent					
Real					
Successful					
Wholesome					
Friendly					
Young					
Imaginative					
Original					
Cheerful					
Sentimental					
Daring					
Trendy					
Exciting					
Spirited					
Cool					
Up-to-date					
Contemporary					
Reliable					
Hard working					
Technical					
Corporate					
Leadere					
Confidnt					

#### (4/4) LOGO COLOR AND SHAPE



10. How appropriate is the **color** and **shape** combination in the logo in regard to the following brand personality traits? Please rate on a scale of 1-5.

	1=Not at all appropriate	2=Not so appropriate	3=Somewhat appropriate	4=Appropriate	5=Very appropriate
Down-to-earth					
Unique					
Small-town					
Family-oriented					
Independent					
Honest					
Secure					
Sincere					
Intelligent					
Real					
Successful					
Wholesome					
Friendly					
Young					
Imaginative					
Original					
Cheerful					
Sentimental					
Daring					
Trendy					
Exciting					
Spirited					
Cool					
Up-to-date					
Contemporary					
Reliable					
Hard working					
Technical					
Corporate					
Leadere					
Confidnt					

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### SECTION 3

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#### ADDITIONAL INFORMATION

11. Are you familiar with any of the brands and/or logos you have seen in this survey?

Yes

No

**Thank you for participating!**

**APPENDIX 2 ORIGINAL LOGO**

**STRIDE SOFTWARE LOGO (BEFORE MANIPULATION)**



**Source:** AngelList (2018) “Stride Software”,

URL:<https://angel.co/company/stridesoftware> (Retrieved on April 16<sup>th</sup> 2018)

### APPENDIX 3 THE BRAND PERSONALITY SCALE (AAKER 1997)

A BRAND PERSONALITY SCALE  
(Means and Standard Deviations)\*

<i>Traits</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Facet</i>	<i>Facet Name</i>	<i>Factor Name</i>	<i>Mean</i>	<i>Standard Deviation</i>
down-to-earth	2.92	1.35	(1a)	Down-to-earth	Sincerity	2.72	.99
family-oriented	3.07	1.44	(1a)				
small-town	2.26	1.31	(1a)				
honest	3.02	1.35	(1b)	Honest			
sincere	2.82	1.34	(1b)				
real	3.28	1.33	(1b)				
wholesome	2.81	1.36	(1c)	Wholesome			
original	3.19	1.36	(1c)				
cheerful	2.66	1.33	(1d)	Cheerful			
sentimental	2.23	1.26	(1d)				
friendly	2.95	1.37	(1d)				
daring	2.54	1.36	(2a)	Daring	Excitement	2.79	1.05
trendy	2.95	1.39	(2a)				
exciting	2.79	1.38	(2a)				
spirited	2.81	1.38	(2b)	Spirited			
cool	2.75	1.39	(2b)				
young	2.73	1.40	(2b)				
imaginative	2.81	1.35	(2c)	Imaginative			
unique	2.89	1.36	(2c)				
up-to-date	3.60	1.30	(2d)	Up-to-date			
independent	2.99	1.36	(2d)				
contemporary	3.00	1.32	(2d)				
reliable	3.63	1.28	(3a)	Reliable	Competence	3.17	1.02
hard working	3.17	1.43	(3a)				
secure	3.05	1.37	(3a)				
intelligent	2.96	1.39	(3b)	Intelligent			
technical	2.54	1.39	(3b)				
corporate	2.79	1.45	(3b)				
successful	3.69	1.32	(3c)	Successful			
leader	3.34	1.39	(3c)				
confident	3.33	1.36	(3c)				
upper class	2.85	1.42	(4a)	Upper class	Sophistication	2.66	1.02
glamorous	2.50	1.39	(4a)				
good looking	2.97	1.42	(4a)				
charming	2.43	1.30	(4b)	Charming			
feminine	2.43	1.43	(4b)				
smooth	2.74	1.34	(4b)				
outdoorsy	2.41	1.40	(5a)	Outdoorsy	Ruggedness	2.49	1.08
masculine	2.45	1.42	(5a)				
Western	2.05	1.33	(5a)				
tough	2.88	1.43	(5b)	Tough			
rugged	2.62	1.43	(5b)				

\*Based on n = 9, 910

**APPENDIX 4            DESCRIPTIVES FOR THE SUMMATED SCALE ITEMS**
**MONOCHROME LOGO DESCRIPTIVES**

<i>Scale items</i>	<i>Brand personality dimension</i>	<i>Mean</i>	<i>SD</i>
Down-to-earth		2.70	1.119
Family-oriented		2.19	1.066
Small-town		2.19	.982
Honest		2.83	.955
Sincere		2.53	1.067
Real	Sincerity	2.75	1.017
Wholesome		2.62	1.244
Original		2.45	1.186
Cheerful		2.13	1.075
Sentimental		1.87	.941
Friendly		2.77	1.171
Daring		2.17	1.156
Trendy		2.42	1.232
Exciting		2.19	1.110
Spirited		2.36	1.226
Cool		2.45	1.136
Young	Excitement	2.96	1.372
Imaginative		2.57	1.118
Unique		2.43	1.201
Up-to-date		2.58	1.247
Independent		3.04	1.126
Contemporary		3.09	1.181
Reliable		2.85	1.026
Hard working		2.66	1.126
Secure		2.98	1.168
Intelligent		2.74	1.059
Technical	Competence	2.89	1.354
Corporate		2.92	1.299
Successful		2.57	1.065
Leader		2.51	1.085
Confident		2.58	1.184

**BLUE LOGO DESCRIPTIVES**

<i>Scale items</i>	<i>Brand personality dimension</i>	<i>Mean</i>	<i>SD</i>
Down-to-earth		2.26	.880
Family-oriented		2.04	1.018
Small-town		2.25	.979
Honest		2.66	.939
Sincere		2.68	1.070
Real	Sincerity	2.89	.954
Wholesome		2.09	.946
Original		2.19	.900
Cheerful		2.36	.982
Sentimental		1.89	.824
Friendly		2.43	1.029
Daring		2.57	1.152
Trendy		2.55	.932
Exciting		2.40	1.025
Spirited		2.30	1.049
Cool		2.77	.993
Young	Excitement	2.70	1.249
Imaginative		2.28	1.045
Unique		2.17	1.014
Up-to-date		2.74	1.041
Independent		3.08	1.035
Contemporary		2.66	.960
Reliable		3.06	.949
Hard working		2.87	1.093
Secure		2.96	1.037
Intelligent		2.96	1.055
Technical	Competence	3.32	1.252
Corporate		3.21	1.215
Successful		2.77	.974
Leader		2.77	1.171
Confident		3.11	1.155

**YELLOW LOGO DESCRIPTIVES**

<i>Scale items</i>	<i>Brand personality dimension</i>	<i>Mean</i>	<i>SD</i>
Down-to-earth		2.66	1.073
Family-oriented		2.94	1.064
Small-town		2.25	.979
Honest		3.06	.818
Sincere		2.81	1.020
Real	Sincerity	2.77	.993
Wholesome		2.77	1.187
Original		2.87	.981
Cheerful		3.85	1.099
Sentimental		2.32	1.052
Friendly		3.32	.976
Daring		3.21	1.098
Trendy		3.09	1.079
Exciting		3.28	1.231
Spirited		3.09	1.181
Cool		3.15	.969
Young	Excitement	3.70	.952
Imaginative		2.92	1.141
Unique		2.17	1.014
Up-to-date		2.98	1.065
Independent		3.06	.949
Contemporary		3.11	1.121
Reliable		2.91	.986
Hard working		2.58	1.064
Secure		2.49	1.031
Intelligent		2.75	1.125
Technical	Competence	2.34	1.037
Corporate		2.21	1.007
Successful		2.77	1.086
Leader		2.40	1.025
Confident		3.28	1.099

**RED LOGO DESCRIPTIVES**

<i>Scale items</i>	<i>Brand personality dimension</i>	<i>Mean</i>	<i>SD</i>
Down-to-earth		2.21	1.026
Family-oriented		2.38	1.164
Small-town		2.25	.979
Honest		2.85	1.116
Sincere		2.68	1.088
Real	Sincerity	3.00	1.109
Wholesome		2.19	1.178
Original		2.58	1.134
Cheerful		2.70	1.153
Sentimental		2.15	.969
Friendly		2.55	1.084
Daring		3.32	1.123
Trendy		2.70	1.202
Exciting		3.11	1.187
Spirited		2.40	1.098
Cool		2.68	1.173
Young	Excitement	2.72	1.183
Imaginative		2.55	1.066
Unique		2.17	1.014
Up-to-date		2.85	1.215
Independent		3.45	1.102
Contemporary		2.83	1.069
Reliable		3.08	1.089
Hard working		3.32	1.070
Secure		3.17	1.069
Intelligent		2.91	1.097
Technical	Competence	2.83	1.236
Corporate		3.26	1.041
Successful		3.26	1.163
Leader		3.34	1.073
Confident		3.60	1.214