



Master of Science in Marketing  
Major: Market Relationship and Customer Engagement  
Course: Product and Brand Management

BEYOND AESTHETICS: EXAMINING THE  
INFLUENCE OF LOGO LETTER CASE AND  
TYPEFACE ON CONSUMER RESPONSES

Supervisor

Prof. Ernesto Cardamone

Co-Supervisor

Prof. Alba D'Aniello

Candidate

Lusine Apresyan

ID: 778671

Academic Year 2024/2025

## **Abstract**

Regardless of the growing popularity of brands engaging in logo redesigns to optimize their visual identity, the impact of subtle typographical cues in logo designs has received limited attention in the literature. The research aims to fill the gap and study the effect of letter case (uppercase vs lowercase) of textual logos on consumers' purchase intentions, and examine the underlying mechanism explaining the relationship. Through an online experiment, the study shows that the letter case effect depends on the specific type of typeface (serif vs sans serif) used in logo design. Additionally, the study demonstrates that the observed effect is explained through perceived quality and product style, which mediate the relationship. The findings further give insights into the effects of typographical features of logos on product liking, advancing the current literature and providing practical implications for marketing managers and designers.

*Keywords:* brand logo, wordmark, letter case, logo typeface, serif typeface, sans serif typeface, perceived quality, product style, product liking

## **Acknowledgments**

I would like to express my sincere gratitude to my supervisor, Prof. Cardamone, for his guidance and assistance during my research project. I am also deeply grateful to the Ministry of Foreign Affairs and International Cooperation of Italy for awarding me an academic scholarship and making this journey possible. Finally, I would like to thank my family for their support and encouragement throughout my studies.

## Table of Contents

Introduction.....	6
Chapter 1.....	10
1.1. Logos, Main Classifications, and the Role of Brand Familiarity.....	10
1.2. Logo Design Elements Impacting Brand Perceptions.....	11
1.2.1. Shape.....	12
1.2.2. Color.....	13
1.2.3. Dynamism.....	14
1.2.4. Typeface.....	14
1.3. The Significance of Letter Case.....	16
1.3.1. Warmth and Competence Associations.....	16
1.3.2. Gender Perceptions.....	17
1.3.3. Processing Fluency.....	18
Chapter 2.....	20
2.1. Extrinsic Cues and Perceived Quality.....	20
2.2. Logos and Quality Perceptions.....	21
2.3. Logos and Premiumness Perceptions.....	21
2.3.1. Logos' Letter Case Effect on Perceived Premiumness.....	23
2.4. Brand Stereotypes and Perceived Quality.....	24
Chapter 3.....	26
3.1. The Typeface of Logos: Serif and Sans Serif.....	26

Chapter 4.....	29
4.1. Theoretical Framework and Hypotheses Development.....	29
4.1.1. The Moderating Role of Typeface.....	29
4.1.2. The Mediating Roles of Perceived Quality and Product Style.....	30
4.2. Design and Procedure.....	32
4.2.1. Stimuli Development.....	32
4.2.2. Survey Structure.....	33
4.3. Measures.....	35
4.4. Results.....	36
Chapter 5.....	40
5.1. General Discussion.....	40
5.1.1. Theoretical Implications.....	41
5.1.2. Managerial Implications.....	42
5.1.3. Limitations and Future Research.....	43
Conclusion.....	44
References.....	46
Appendix.....	56

## Introduction

While it is widely believed that various brand elements have the power to shape brand identity and impact consumers' perceptions, little is explored on how some subtle elements in branding, and in particular, in logo design, can have the potential to form brand associations and consequently impact consumer decisions. The selection of a carefully designed logo is both critical for new brands, which try to communicate their identity and form favorable impressions among new customers, and established brands, that commonly engage in logo redesigns and updates in their visual identity. One can track frequent logo redesigns by firms over the years, which either recently started to follow the minimalism trends or aim to alter the associations that their brand marks communicate. While redesigns often consist of modifications in the graphical elements of logos, sometimes the changes include alterations in the logos' typography.

The trend of updating logos' letter cases can be noticed in logo updates of such brands, as Jaguar, which now features a blend of lowercase and uppercase letters in its wordmark (see Figure 1). Interestingly, on the other hand, the pattern of shifting to all uppercase letters can be tracked for many high-end brands, possibly intending to communicate prestige and sophistication. Among such brands is Dior, which in 2018 updated its wordmark, shifting to full capitalized letters (see Figure 2). Meanwhile, there is no common direction in logo redesign trends or a common typographical practice by industries when it comes to selecting between lowercase or uppercase marks. Unlike some luxury brands, there are also several high-end or premium brands with all lowercase letters, like miu miu, or dyson (see Figure 3), or competing brands in the same product category that adopt opposing typeface styles (e.g., adidas vs NIKE). This highlights the lack of

comprehensive research and understanding among brand managers on the optimal choice of brand names' letter case.



*Figure 1. Jaguar's logo redesign*

Reprinted from *Jaguar's New Logo: Bold Choices Spark Major Debate*. (2025). DesignMantic.

<https://www.designmantic.com/blog/jaguar-new-logo/>. Copyright by Jaguar. Used under fair use.



*Figure 2. Dior's logo redesign*

Reprinted from *Christian Dior Logo*. (2024). Logos-World.

<https://logos-world.net/christian-dior-logo/>. Copyright by Christian Dior. Used under fair use.



*Figure 3. The logo of dyson*

Reprinted from *Dyson* [Website]. (2025). <https://www.dyson.com>

Copyright by Dyson. Used under fair use.

Apart from updating the letter case, font style changes can also be frequently observed during logo redesigns (see Figure 4). A wide range of brands have recently transformed their wordmarks, opting for rounder or bolder typefaces. While behind these changes can lie the goal of providing the brand a more minimalistic or modern feel, the true impact on consumers still remains vague, considering the limited research in the literature that checks the combined effects of different logo design elements in the marketing context, namely changes in letter case and typeface. This underscores the relevance of in-depth investigation of logos' typographical elements and their effects on consumer responses and marks the need for a comprehensive guideline for brand managers on the most favorable choice of brand name design. The practical importance of the topic is further emphasized considering how less costly updates in such subtle elements, as letter case or typeface style in logos, can have substantial effects on brand perceptions and evaluations, eventually being reflected in actual sales.





*Figure 4. Logo redesigns of major luxury brands*

Reprinted from *Rebranding Luxury Fashion Through Typeface: The Modern Look of Prestige*.

(2023). Lombardo Agency. <https://lombardo.agency/rebranding-luxury-fashion-typeface/>.

Copyright by Lombardo Agency. Used under fair use.

## **Chapter 1**

### **1.1. Logos, Main Classifications, and the Role of Brand Familiarity**

A logo is the main visual representation of a brand, being the key component of corporate visual identity and a critical distinctive communication element reflecting firms' image (Foroudi et al., 2017; Van Riel and Van den Ban, 2001). Logo is defined as a “distinctively styled name and/or symbol applied consistently as the identifier of a product, product line or organisation” (Hutton, 1997, p. 121). It is a visual brand identifier shown to contribute to a favorable corporate reputation among external stakeholders, and enhance customer commitment and financial performance of firms (Park et al., 2013; Simões et al., 2005).

Logos are commonly classified into 3 main categories: logos composed solely of images or graphics, text, or a combination of both (Kumar et al., 2016; Morgan et al., 2021). Mixed logos, which include both visual and textual elements, have been shown to have the highest level of descriptiveness, best conveying the type of product a brand offers (Luffarelli et al., 2019).

On the other hand, the preference toward a certain type of logo depends on the brand familiarity (Morgan et al., 2021). As Morgan et al. note, while image-based logos are shown to be preferred for familiar brands, consumers prefer textual logos when exposed to unfamiliar ones. According to their study, when being exposed to unfamiliar brands, customers lack the brand schema, which could have facilitated the interpretation of graphical logos. Hence, in case of familiar brands, consumers show increased preference for graphical logos due to higher processing fluency of image-based logos, and conversely, show stronger preference for text-based logos for unfamiliar ones.

Generally, the familiarity of logos is shown to be a critical factor in the context of logo design effects on consumers, with several studies showing an enhanced influence of different logo

elements on consumers when they are exposed to unfamiliar brands (Chu et al., 2023; Luffarelli et al., 2019; Van Riel and Van den Ban, 2001). The research by Van Riel and Van den Ban (2001) discussed that familiar logos trigger a more limited number of associations, compared to new, unfamiliar ones. Likewise, a study by Luffarelli et al. (2019) found that positive effects of logo descriptiveness are amplified when consumers are unfamiliar with the brand. In particular, Luffarelli et al. found that while logo descriptiveness positively impacts impressions of authenticity and brand equity, the effect is weaker for familiar brands, suggesting that customers already have existing associations with familiar brands and rely on those when making brand evaluations. Similar findings are suggested by Chu et al. (2023), that showed enhanced positive typeface effects when there is a weak brand attachment between consumers and firms. Hence, given the significance of brand familiarity, in the scope of this research, the focus will be on new-to-market brands, making sure that study participants don't have already formed brand associations with the brand and its offerings.

## **1.2. Logo Design Elements Impacting Brand Perceptions**

While the existing literature on logo design has research covering various elements of logos, research on the impact of letter case is limited. Till now, many have analyzed certain attributes and characteristics in logo design, including shape, color, font, or dynamism, which have been shown to have an effect on the attitude toward the brand, impact brand perceptions, and evoke certain associations (Celhay and Luffarelli, 2024; Cian et al., 2014; Jiang et al., 2016; Song et al., 2022; Henderson et al., 2004).

### **1.2.1. Shape**

The shape of the logo is an element shown to impact consumers' impressions and attitude toward the brand. As highlighted by Jiang et al. (2016), the shape of the logo (circular vs angular) can induce softness or hardness associations, which in turn can impact product or brand judgements. Discussing the perception differences of logo shapes, Li et al. (2023) showed that angular logos are considered more premium in comparison to circular-shaped logos. As the study by Li et al. reports, the increased brand premiumness perceptions in the case of angular logos are due to the increased psychological distance triggered by them. Furthermore, in the context of logo redesigns, Walsh et al. (2010) showed that there is a link between a logo's shape, brand evaluations, and brand attitude. Their findings suggest that if consumers are highly committed to the brand, they will negatively react to modifications in the logo's shape angularity, with negative reactions being amplified with a higher extent of changes. Conversely, consumers with weak brand commitment will respond positively to such changes, forming favorable brand attitudes.

Other attributes, like the presence of frames in logos, are also shown to yield certain brand associations (Fajardo et al., 2016). The research by Fajardo et al. showed that logos with frames can be associated with either protection or confinement, depending on the level of perceived risk. In case of a high perceived risk associated with a purchase decision, the framed logos can feel protective and hence positively reflect on consumers' purchase intentions, while given low levels of risk for a purchase, logo frames lead to confinement associations.

Furthermore, the symmetry of logo design is also evidenced to have an effect on brand evaluations. It is shown that symmetrical logo designs can lead to increased quality perceptions (Wu, 2025). Additionally, the symmetry of logos can impact brand personality associations

(Luffarelli et al., 2019). As the research by Luffarelli et al. suggests, asymmetrical logos are usually perceived as more exciting and can positively impact the evaluations of brands with exciting personalities, while the paper also highlights the importance of the logo-brand congruence.

### **1.2.2. Color**

Some papers in logo design literature emphasize the influence of colors in logos (Celhay and Luffarelli, 2024; Ranaweera and Wasala, 2020; Song et al., 2022; Zeng et al., 2025).

As discussed by Song et al. (2022), the high level of colorfulness of a logo makes consumers perceive the brand to offer a larger variety of products, and the opposite holds true for brands with less colorful logos. This, in turn, results in positive attitudes toward brands featuring colorful logos, considering the moderating role of brand positioning.

The colors in logos are also shown to communicate certain associations about firms' eco-friendliness as discussed by Ranaweera and Wasala (2020). In particular, the study showed that when featuring a high eco-friendly color, namely green, in the logo, consumers tend to consider the brand as more environmentally friendly, and the opposite applies for brands featuring logos in low eco-conscious colors, i.e., red.

A recent study further demonstrated the importance of logos' color lightness and darkness on the perceptions of the brand age and brand attitudes (Zeng et al., 2025). The authors found that dark colors of logos, in comparison to light hues, convey a greater age perception of a brand.

Additionally, the lightness of logos was found to impact consumers' brand attitudes and preferences, suggesting a higher preference for dark-colored logos for traditional brands and light logos for modern ones.

On the other hand, the research by Celhay and Luffarelli (2024) showed that the background color of a logo can evoke positive or negative brand impressions, with black backgrounds amplifying the negative and white backgrounds enhancing the positive meanings associated with a logo.

### **1.2.3. Dynamism**

Some scholars also discussed the effect of logo dynamism, where static logos can evoke perceptions of movement (Cian et al., 2014). The study by Cian et al. showed that movement perceptions can increase engagement with the logo and, as a result, lead to positive attitudes toward the brand. The research by Wang et al. (2023) later demonstrated that logo dynamism is an element used by consumers to make certain quality inferences, which, as pointed by the authors, explains why dynamic logos can lead to enhanced purchase intentions and a more favorable market performance for a brand, when utilized for the right type of products. Specifically, hedonic products were shown to perform better with highly dynamic logos, and conversely, utilitarian products were found to have better market performance when featuring less dynamic logos.

### **1.2.4. Typeface**

Typeface is another element shown to influence consumer impressions and perceptions of brands through their semantic associations (Henderson et al., 2004; Childers and Jass, 2002). Grohmann et al. (2013) showed that brand names' type font characteristics influence brand personality perceptions, with certain font characteristics (natural, harmony, flourish, elaborate,

and weight) making the brand be considered as sincere, exciting, sophisticated, competent, or rugged. The paper by Payne et al. (2013) further discusses the ability of logo design to evoke brand personality ascriptions and to drive positive customer responses. In their study, the authors explored the effects of the three main dimensions of logos, namely elaborateness, naturalness, and harmony, which were shown to not only impact logo personality impressions, but also impact consumers' affective responses and purchase intentions, showing that a carefully chosen typeface can favorably impact consumer judgements.

Letters' height-to-width ratio in logos is another attribute impacting brand attitude, with wide (vs thin) letters leading to higher perceived brand cuteness and more favorable brand attitudes (Xie et al., 2023). As the authors claim, while letter shape can trigger anthropomorphic associations and stimulate perceptions of cuteness, the positive cuteness effects are still dependent on the type of relationship with the brand.

There is also research on the incomplete typeface logos, when there is an intentional incompleteness in the logo, like the blank stripes in the IBM logo (Hagtvedt, 2011). The paper shows that aspects like the incompleteness of the logo's typeface can generate negative impressions about firms' trustworthiness. On the other hand, such incompletenesses in logos can have a positive effect on the perceptions of firms' innovativeness, once again showing the notable influences of logo design elements on consumer impressions and overall success of brands.

A similar study examining the importance of interstitial space in logos with either spacious or compact letter arrangement is addressed by Gupta and Hagtvedt (2021). The authors, focusing on textual logos, demonstrated that the type of letter arrangement in logos can be essential in the formation of attitudes toward the brand. In particular, Gupta and Hagtvedt stated that the

spacious arrangement of letters can have a less favorable influence on perceptions of product safety and brand attitude, while highlighting the possible response variations for people from different cultural backgrounds.

Another stream of literature has explored the significance of handwritten typefaces in logos, demonstrating that handwritten text can humanize products or create the effect of human presence (Guo et al., 2024; Schroll et al., 2018). Unlike machine-written typefaces, having handwritten letters featured on product packaging can create emotional attachment, leading to favorable product evaluations and consumer purchase behavior (Schroll et al., 2018). As the authors claim, this positive effect is particularly significant for new hedonic brands and products, in the case of which there is no consumer-brand attachment already present. A more recent paper has demonstrated that handwritten typefaces can evoke approach behavior and increase a desire to touch the product (Izadi and Patrick, 2020). As highlighted in the study, due to increased engagement with the product, product labels written in handwritten typefaces result in amplified product evaluations compared to typewritten labels.

### **1.3. The Significance of Letter Case**

#### **1.3.1. Warmth and Competence Associations**

Despite not being widely researched, letter case in logos is among the logo design elements shown to form brand perceptions and, consequently, influence consumer behavior. As shown by Teng et al. (2021), logos featuring lowercase letters were demonstrated to convey stronger perceptions of warmth of a brand, while conversely, logos with uppercase letters were shown to communicate more competence of a brand. As the authors state, these brand associations can be



explained through the psychological distance letter case generates toward the brands, with lowercase logos making consumers feel closer to the brand, and uppercase wordmarks inducing a further distance.

Similar findings and the role of psychological distance are reported by Xu et al. (2017), according to which brands with lowercase wordmarks appear friendlier, while uppercase brands are perceived as more authoritative. The authors further discuss the role of perceived strength of a brand, highlighting that brand names in uppercase letters convey a higher degree of strength, in comparison to lowercase logos. Interestingly, as claimed by Xu et al., the friendliness and authority associations evoked by letter case are less intense in case logos are complex, as complexity makes it more challenging for consumers to perceive the meanings found in the design. These findings about higher strength, competence or authority associations triggered by capitalized letters in logos gives ground to assume that the optimal selection of the letter case in textual logo designs can have the power to notably impact overall perceptions about the offered product or the brand itself, including impressions about the expected product quality, or brand excellence.

### **1.3.2. Gender Perceptions**

While various typographical aspects in textual logos, like the letter shape, were reported to evoke certain anthropomorphic associations, a stream of research further highlights the significance of the letter case in conveying signals about the gender of brands (Kim and Maglio, 2021; Wen and Lurie, 2018; Xie, Z. et al., 2023). Overall, the studies suggest that brand names are considered as more feminine when being in lowercase, and on the contrary, they are perceived as more masculine when being written in uppercase letters (Kim and Maglio, 2021; Wen and Lurie,

2018). These brand associations, in turn, are being reflected in the overall evaluations of brands and products, in particular, when taking into account the importance of congruity. In their study, Kim and Maglio state that when the product gender and the gender associations of the letter case match, it results in amplified product evaluations. Hence, when the brand name is presented in lower case, more favorable responses are generated for feminine products, and conversely, there is an improved assessment of masculine products when the wordmark is capitalized. The significance of congruity is further discussed in the study by Wen and Lurie, according to which greater alignment between brand case and the gendered expectations of product consumption benefits leads to better evaluations and, consequently, higher purchase intentions. The impact is explained through the increased processing fluency, which is an underlying mechanism commonly discussed in various other studies analyzing logo effects (Janiszewski and Meyvis, 2001; Labroo and Lee, 2006; Perea et al., 2015).

Apart from logos' letter case, other logo elements, like logos' shape, type font, brand name, and color, have also been shown to communicate gender associations, underscoring how a range of subtle visual cues can shape consumer responses (Grohmann, 2016; Lieven et al., 2015).

### **1.3.3. Processing Fluency**

As discussed previously, a common underlying mechanism explaining the effects of logo designs on consumer perception and judgements is processing fluency, the ease with which a stimulus is noticed and understood (Lee and Labroo, 2004). The study by Lee and Labroo suggests that elevated processing fluency positively impacts product evaluations and brand attitudes. Another study focusing on the analysis of letters for on-screen use showed that uppercase letters are processed faster compared to lowercase or sentence case ones (Pušnik et al., 2016). The

mediating role of processing fluency was also highlighted in the study by Wen and Lurie (2018), which demonstrated how congruence in gender perceptions conveyed by brand letter case and the gender of consumption benefits can yield more favorable consumer responses.

Letter case information was shown to be among the key aspects in the early phase of brand name processing, challenging the previous studies, which suggested that the processing of words is letter case irrelevant (Perea et al., 2015). The study by Perea et al. also highlighted that letter case is critical in the brand identification process, demonstrating that wordmarks presented in their standard letter case configuration result in faster identification times (e.g., IKEA vs ikea).

## **Chapter 2**

### **2.1. Extrinsic Cues and Perceived Quality**

Research has previously shown that various external cues play a critical role in forming consumers' quality judgements of products or brands. Cues like country of origin, price, labeling, or brand names were shown to contribute considerably to consumers' assessment of perceived quality and value (Javeed et al., 2017; Teas and Agarwal, 2000). This is often because consumers don't analyze all the information about a product or brand in detail, but rather base their decisions on mental shortcuts or heuristics. Among such external cues are visual elements, with studies showing that attributes like package size, color, shape, logos and graphics can influence consumers quality evaluations, perceived value and preferences (Chitturi et al., 2022; ST Wang, 2013; Yan et al., 2014). For instance, as demonstrated in the study by Chitturi et al., using the anthropomorphic shape of a water bottle or increasing the product price by 20% can lead to increased quality perceptions. The attitudes toward visual packaging attributes, including logos, have a direct influence on consumers' product quality perceptions and brand evaluations, particularly for food-related products, as stated by ST Wang. The careful design of the product packaging size is another aspect shown to be of critical importance in forming quality assessment of products (Yan et al., 2014). It can be observed from these findings that certain subtle visual elements found on the product or its packaging can directly or indirectly influence consumers' judgements about the quality of a product, and hence shape their behavioral responses. Considering that logos are among the main visual cues and key brand identifiers, more research and understanding are needed to explore how logo elements can induce product liking or quality perceptions.

## **2.2. Logos and Quality Perceptions**

A number of papers have been dedicated to analyzing the impact of logo design on quality assessments. A study by Wu (2025) showed that symmetrical logos can have a positive impact on the perceived quality of a product under low cognitive load. As the author reports, the enhanced quality evaluations are due to increased product stability triggered by symmetrical logos. The placement of the logo is another attribute impacting quality judgements as identified in the study by Dong and Gleim (2018). According to the authors, the high placement of a logo results in more favorable quality perceptions, which consequently leads to higher willingness to purchase and recommend a product. Additionally, a study done in the context of luxury goods showed that amplified brand prominence leads to higher perceived quality, which in turn increases the emotional value derived from the products (Butcher et al., 2016). As the study discussed, status-conscious consumers particularly derive higher emotional values from luxury goods, which leads to elevated purchase intentions. It was additionally found that when brand names are accompanied by proper names (e.g., Louis Vuitton × Richard Prince, Converse × Kim Jones), this leads to more favorable product judgements, showing how brand name composition can influence consumers' quality evaluations (Rathee et al., 2023). As stated by the authors, the effect can be explained by the added human touch that proper names communicate. The study further showed that this effect is particularly enhanced when proper names are featured by low-quality brands.

## **2.3. Logos and Premiumness Perceptions**

Another stream of research has examined the role of logos in evoking perceptions of premiumness, discussing the influences of different attributes, like logos' shape, brand name

length, or other visual cues. In particular, a paper by Li et al. (2023) studied logo shape effects on premiumness perceptions, showing that angular-shaped logos are considered more premium, compared to circular ones. As the authors claimed, this premiumness effect is particularly pronounced for customers seeking to express status. As a consequence, for status-conscious customers, logos' shape not only positively impacts the impressions of brands' premiumness, but also favorably reflects in brand choice and purchase intention.

Additionally, longer brand names were evidenced to boost luxury perceptions of a brand (Pathak et al., 2019). The authors explain the relationship by highlighting the comparable rareness of longer words in everyday life, which gives polysyllabic words - words with more than 2 syllables - the impression of luxury, and hence, makes it more suitable for the use of high-end brands. As the study discusses, by increasing the number of syllables in the words, the level of perceived luxury of a brand tends to increase.

Another element shown to impact premiumness associations is the complexity of logos, as discussed recently by Tang et al. (2025), where complexity is the presence of more visual elements in logos. As demonstrated in the study, while simple logos communicate an approachable image of a brand, on the contrary, complex logos make the brand image more luxurious. As stated in the research, the complexity of logos positively impacts the perceived craftsmanship of products, which in turn elevates the luxury perceptions. In the study, logo complexity was also shown to positively influence consumers' engagement with brands, in particular, increasing the likelihood of consumers following brands' social media pages.

Additionally, not only logo designs have been found to impact premiumness perceptions, but other visual cues, like the integration of visual art on consumer goods, can trigger luxury perceptions, and consequently enhance product evaluations (Hagtvedt and Patrick, 2008). As the

authors suggest, given the presence of art on product packaging, product design, or advertising, consumers tend to project the perceived luxuriness of the artwork to the product itself, which is hence reflected in their product evaluations.

Given the findings that logos can boost quality or premiumness perceptions and, as a consequence, can have an impact on product choice, brand recommendations and emotional connections with products or brands, there is still a need to explore how finer elements and details in logo design can further impact brand evaluations and whether they may interact with accompanying visual cues when shaping consumer impressions and purchasing behavior.

### **2.3.1. Logos' Letter Case Effect on Perceived Premiumness**

Limited research was dedicated to exploring the effects of letter case, a seemingly subtle element in logo design, on consumers' quality or premiumness associations. Among the latest articles on the topic is the paper by Yu et al. (2022), which showed that using uppercase brand names leads to higher perceived premiumness among customers. The relationship is explained through enhanced perceived conspicuousness, highlighting the social signaling preferences of some customers. As the study demonstrated, the positive impact on brand premiumness only takes place for conspicuous types of customers, who place more importance on visibility and status signaling. On the contrary, there is a reverse impact of uppercase wordmarks for consumers with a preference for subtle signaling, in case of which uppercase brand names seem too loud, increasing the perceptions of gaudiness and negatively impacting brand premiumness evaluations. In line with this reasoning, the study further showed that the premiumness effect is also reflected in the purchase intentions, underscoring the importance of the consumption goal. The authors state that purchase intentions are elevated only in the case of having social visibility

as a goal, and conversely, uppercase wordmarks have a negative effect when consumers' goal is to save money.

## **2.4. Brand Stereotypes and Perceived Quality**

As discussed previously, depending on the logo's letter case, brands are perceived as either warm and friendly or authoritative and competent (Teng et al., 2021; Xu et al., 2017). This can be discussed through the lens of Stereotype Content Model, according to which there are two main dimensions for brand stereotyping, warmth and competence (Fiske et al., 2018; Ivens et al., 2015). Extant research exploring the impact of brand stereotypes on consumer responses discusses their potential to drive consumer decision making, such as triggering their purchase intentions. Meanwhile, each study explores the relationship through a unique lens and analyzes a different underlying mechanism. As discussed by Aaker et al. (2010), warmth and competence associations are able to shape impressions about firms and evoke consumers' admiration, consequently impacting their willingness to buy. Further studies found that these brand stereotypes also play a role in forming consumers' feelings toward brands and drive both attitudinal and behavioral responses (Ivens et al., 2015). In the context of brand logo benefits, brand stereotypes are also found to impact the relationship quality between the brand and customers, including favorable changes in dimensions like trust, satisfaction, commitment, and social benefit (Japutra et al., 2018). In parallel, a study by Xue et al. (2020) also considered trust toward brands as a construct being shaped by warmth and competence stereotypes, claiming that brand trust serves as a mediator, enhancing consumers' buying behavior.

When discussing the link between brand stereotypes and their impact on consumers' quality assessments, it is worthwhile to consider the study by Kolbl et al. (2020), which evidenced the



effects of perceived brand warmth and competence on consumers' perceptions of functional, emotional, and social value. As noted by the authors, the functional value encompasses the functional benefits and quality evaluations of a brand. On the other hand, it is commonly believed that the warmth dimension of stereotyping is related to intentions, while competence is about the skills and ability to realize those intentions (Fiske et al., 2007).

In light of this, considering that uppercase letters are shown to communicate competence, which is often associated with capabilities, it can be supposed that brand names with all capitalized letters can communicate enhanced expected quality associations, which can potentially be reflected in consumers' buying behavior.

## Chapter 3

### 3.1. The Typeface of Logos: Serif and Sans Serif

The way brand names are presented typographically in logos, packaging, or other communication elements has been shown to convey signals about brand personality and gender, have the power to induce certain impressions of brands, and shape consumer preferences (Grohmann et al., 2013; Grohmann, 2016; Henderson et al., 2004). As discussed previously, certain aspects in the typeface design of logos, like letters' height to width ratio, the type of letter arrangement or incompleteness in the letters of logos, can impact consumers' attitude toward brands, influencing certain perceptions, like brand cuteness and trustworthiness, and consequently shaping consumers' buying behavior (Gupta and Hagtvedt, 2021; Hagtvedt, 2011; Xie et al., 2023).

It is common to classify typefaces either based on universal characteristics, like symmetry or complexity, or typographical or design features, including aspects like serif vs sans serif, short vs tall, etc (Henderson et al., 2004). Various studies have focused on response differences between serif vs sans serif typeface groups. The primary distinction between these two typeface categories lies in the presence of serifs, or strokes. Serif fonts (e.g. Times New Roman), unlike the sans serif group (e.g. Arial), are composed of serifs, “the small appendages at the end of the strokes” (Moret-Tatay and Perea, 2011, p. 619).

A study by Tantillo et al. (1995) found significant variations in responses to serif vs sans serif font style, showing that the serif group is perceived as more modern, gentle, calm, and elegant, while the sans serif typefaces as more manly, upper-class, and loud. Research also showed that the type of typeface in logos can convey potency or activity brand perceptions, and the correct

typeface selection, considering the promised brand values, can be critical in forming positive attitudes (Zhang et al., 2025). In particular, as observed by the authors, logos featuring serif typefaces can generate more positive attitudes toward the brand through increased brand activity perception, which reflects the extent of the brand's activity, liveness, or motion. Conversely, sans serif wordmarks can elevate brand attitudes through amplified potency perception, which is related to the perceived strength associated with a brand. Additionally, the authors found that brand value moderates the influence of font style on attitudes and perceptions toward brands, demonstrating that in the case of brands offering hedonic values, the serif group of typefaces yields more favorable effects on brand attitudes, while the sans serif group is better to be paired with brands with utilitarian values.

On the other hand, similar to logos' letter case, which was shown to communicate brand gender associations, the typeface of logos is also found to convey certain perceptions of brand gender (Kim and Maglio, 2021; Wen and Lurie, 2018; Zheng et al., 2022). In particular, a study by Zheng et al., analyzing luxury logotypes, suggests that serif typefaces are more visually complex and are perceived as more feminine in comparison to sans serif typefaces, which communicate masculine brand perceptions.

The vast body of literature has shown positive effects of congruence, including better evaluations in case of congruence between product type and brand name letter case, logos and brand personality, fonts and product types (Doyle and Bottomley, 2006; Kim and Maglio, 2021; Luffarelli et al., 2019). It is commonly observed that congruent stimuli are easier to process given higher fluency, which hence leads to more favorable judgements (Schwarz et al., 2021). In light of this, given that both typeface and letter case were shown to communicate certain gender associations, the current study aims to explore the impact of letter case on brand

perceptions and buying behavior, considering the moderating role of logos' typefaces (serif vs sans serif). It is assumed to have amplified effects when the logo elements are congruent (lowercase - serif, uppercase - sans serif).

## **Chapter 4**

### **4.1. Theoretical Framework and Hypotheses Development**

#### **4.1.1. The Moderating Role of Typeface**

Logos' letter case is shown to impact a number of perceptions, influencing brand gender associations, warmth and competence judgements, and overall impressions of brands' perceived friendliness or authority (Kim and Maglio, 2021; Teng et al., 2021; Wen and Lurie, 2018; Xu et al., 2017). Meanwhile, the relationship between logos' letter case and consumer perceptions is more complex, as research shows that typeface is another key element evoking certain impressions of a brand. Serif typefaces have been shown to be perceived as gentle, new, and elegant, while sans serif typefaces communicate louder, or upper-class perceptions (Tantillo et al., 1995). Similar to the logo's letter case, its typeface is also shown to communicate gender perceptions, with serif typeface perceived as feminine and sans serif typeface as masculine (Zheng et al., 2022). In parallel, lowercase letters are believed to convey feminine brand perceptions, while uppercase logos tend to be associated with masculinity (Kim and Maglio, 2021; Wen and Lurie, 2018).

Considering the significance of congruent stimuli and their positive effects on consumer judgements and decisions, it can be supposed that when logos' letter case and typeface evoke congruent perceptions, they will generate an elevated effect on product liking and purchase intentions. In particular, when a logo with a sans serif typeface is in capitalized letters, it will lead to higher purchase intentions than when paired with a serif typeface. Thus, it is hypothesized that:

*H1: The effect of uppercase (vs lowercase) on purchase intention is moderated by the type of typeface. Specifically, for sans serif (vs serif) brand names, uppercase (vs lowercase) logos will generate a more positive effect on purchase intention.*

#### **4.1.2. The Mediating Roles of Perceived Quality and Product Style**

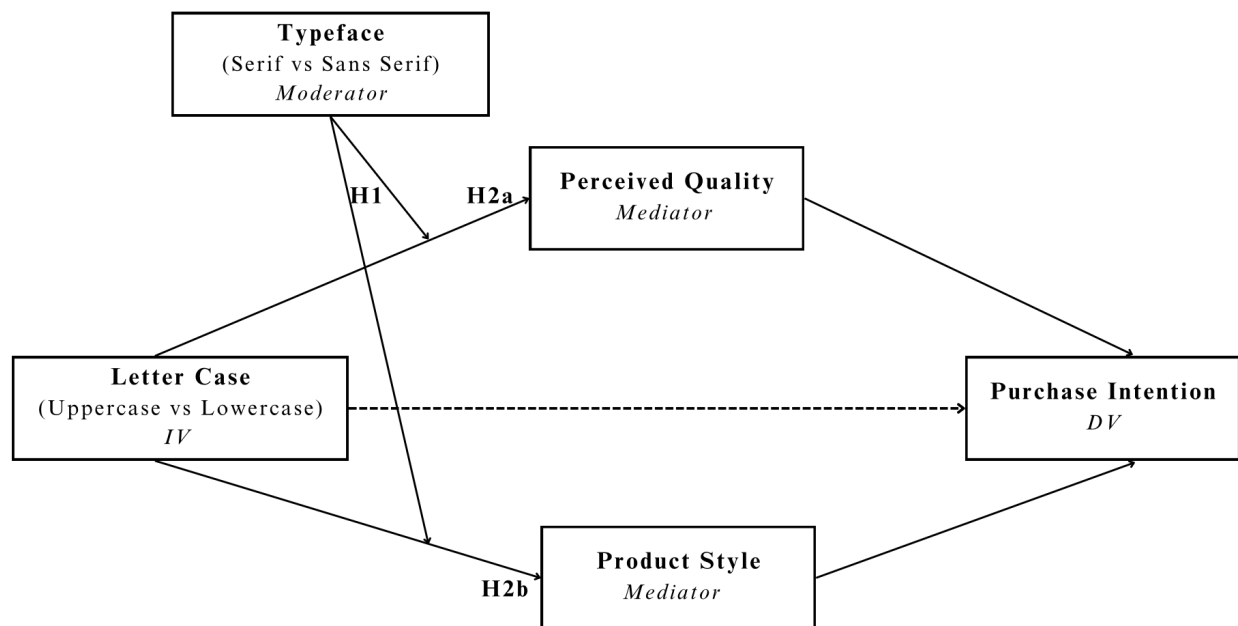
Apart from serving as solely brand identifiers, logos are among the visual cues shaping consumers' expectations and evaluations. Prior research has discussed how various factors in logo design, like symmetry or logo placement, can foster consumers' quality perceptions of a given brand or product (Dong and Gleim, 2018; Wu, 2025). Among these elements, the textual cues of logos and their typographical features, including the type of letter case and typeface, have been examined to impact brand judgements. Specifically, while most research focuses on the impact of uppercase logos in enhancing authority and competence associations, more recent literature has focused on how uppercase brand names can foster perceptions of brand premiumness. (Teng et al., 2021; Xu et al., 2017; Yu et al., 2022). Given the power of capitalized logos to boost competence or premiumness associations, it can be supposed that brand names with all capitalized letters can communicate enhanced expected quality perceptions, which is believed to be one of the critical antecedents of purchase intention (Dodds et al., 1991). Thus, it is hypothesized that:

*H2a: The effect of uppercase (vs lowercase) on purchase intention, moderated by typeface, is mediated by perceived quality.*

Being among the primary visual cues found on products, logo design not only influences quality perceptions but can also convey aesthetic impressions and judgements of product style. Although

direct research addressing the role of logos in shaping perceptions of product style is scarce, prior studies have shown that typographical elements of logos can communicate design-related impressions, like elegance, simplicity, or strength (Tantillo et al., 1995; Zheng et al., 2022; Xu et al., 2017). Recognizing that consumers often rely on visual style cues in assessing products, and considering that product style plays a role in shaping consumers' preferences, it can be hypothesized that:

*H2b: The effect of uppercase (vs lowercase) on purchase intention, moderated by typeface, is mediated by product style.*



*Figure 5. Conceptual model*

## 4.2. Design and Procedure

To test the hypotheses, a 2 (uppercase and lowercase) x 2 (serif and sans serif) between-subjects experiment was conducted, where participants were randomly exposed to one of the four experimental conditions (see Figure 6). Participants were recruited using a convenience sampling method, and after screening for outliers, a total of 131 valid responses were recorded ( $M_{\text{age}} = 26.69$ ,  $SD_{\text{age}} = 7.38$ , 31% male, 67% female, 2% prefer not to say).



*Figure 6. Experimental Conditions*

### 4.2.1. Stimuli Development

#### *Brand Name Selection*

As stimuli, a fictional brand name was used to make sure that respondents didn't have any prior information or biases about the brand. In this way, it would be possible to eliminate extraneous



factors that might potentially affect their perceptions and be able to test the effects of letter case and typeface only. To come up with the fictional brand name, previous literature on brand name length was considered. As longer brand names (tri-syllabic or more) have been shown to communicate premiumness, and mono-syllabic brand names are better fitted for basic brands, in the experiment, a two-syllable brand name, "Bamur", was used (Pathak et al., 2019).

### *Product Selection*

An image of a neutral, unisex product, a white cap, was selected for the study. The goal was to select a product that does not inherently appear as a premium product and is considered equally relevant for both male and female participants. The color selection of the product was white with the goal of having a plain, colorless background for the logo to be displayed on. The image of the product was generated using artificial intelligence, specifically the Chat GPT 4-o model.

### *Typeface Selection*

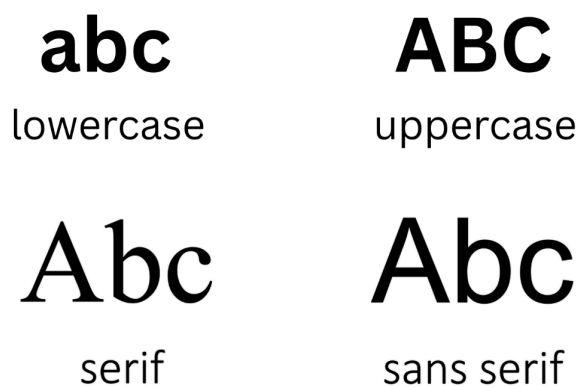
For the typeface selection of stimuli, Times New Roman (serif) and Arial (sans serif) typefaces were used, given their common usage and visual distinction. The logos were designed in black and did not have any background color or frame, considering the previously discussed effects of colors and logo frames on consumer perceptions, and making sure the experiment is free of any other potential logo design elements shown to affect consumer judgements.

## **4.2.2. Survey Structure**

The survey was designed using Qualtrics, and the language of the survey was English.

The first section of the survey introduced the brand "Bamur". Participants were randomly

assigned to one of the 4 conditions, each composed of a unique combination of letter case (uppercase vs lowercase) and typeface (serif vs sans serif). Each participant was first exposed to the brand's logo alone, followed by the image of the product featuring the same logo. The demonstration was timed for 10 seconds to ensure that participants paid adequate attention to the presented image. Next, participants were asked to rate the extent they liked the product, indicate their purchase intention, perceived quality, and rate the style of the product. Afterwards, to confirm that participants could correctly distinguish between the typefaces (serif vs sans serif) and letter cases (uppercase vs lowercase), they were asked to undertake a manipulation check. The section was composed of brief explanatory paragraphs discussing the differences between uppercase and lowercase letters and serif and sans serif typefaces. Each explanation was accompanied by an image to visually illustrate the differences and enhance clarity (see Figure 7). After reviewing the explanations, participants answered two manipulation check questions, assessing whether they correctly identified the letter case and typeface used in the Bamur logo they had previously seen. The survey concluded with demographic questions, gathering data on participants' age and gender.



*Figure 7. Visual illustrations used in the manipulation check*

### 4.3. Measures

Previously validated 7-point Likert scales were used to measure product liking, purchase intentions, perceived quality, and perceived product style. In particular, product liking was assessed using a three-item scale: *“I like this product”*, *“This product appeals to me”*, and *“I have a positive impression of this product”* (1 = strongly disagree, 7 = strongly agree) adapted from a pre-validated scale by Mullen (1995). Purchase intention was measured by a three-item scale adapted from a pre-validated scale by Dodds et al. (1991): *“I would buy this product”*, *“I could consider buying this product”*, *“The probability of buying this product is high”* (1 = strongly disagree, 7 = strongly agree). Perceived quality was measured with a two-item Likert scale adapted from a pre-validated scale by Dodds et al.: *“The likelihood that the product would be reliable is”*, and *“The workmanship of the product would be”* (1=very low, 7=very high). Product style was measured using a pre-validated scale adapted from Belboula et al. (2018): *“This product is very stylish”*, *“This product looks fashionable”*, and *“This product has a nice design”* (1=very low, 7=very high).

For the manipulation check, participants were asked to indicate if the logo they were shown in the beginning of the survey appeared in lowercase or uppercase, and whether it was written with serif or sans serif typefaces, answering to two manipulation check questions on a 7-point scale ranging from *“Definitely lowercase”* to *“Definitely uppercase”*, and from *“Definitely sans serif”* to *“Definitely with serif”*.

All multi-item scales have high internal consistency. The product liking (Cronbach’s  $\alpha = 0.93$ ), purchase intention (Cronbach’s  $\alpha = 0.95$ ), perceived quality (Cronbach’s  $\alpha = 0.83$ ), and product style (Cronbach’s  $\alpha = 0.95$ ) scales all demonstrated strong internal reliability, and removing any item would not substantially improve reliability.

#### 4.4. Results

To examine the effectiveness of letter case and typeface manipulations, two-way univariate ANOVAs were conducted. For the letter case manipulation, results indicated a significant main effect of case ( $F(1, 123) = 63.97, p < 0.001$ ), confirming that respondents were able to correctly perceive uppercase vs. lowercase manipulation. For the typeface manipulation, the main effect of typeface was significant ( $F(1, 125) = 12.70, p < 0.001$ ). While the effect of case was also significant ( $F(1, 125) = 8.21, p = 0.005$ ), more importantly, no significant interaction between letter case and typeface was observed ( $F(1, 125) = 0.06, p = 0.81$ ), confirming that the typeface manipulation was successful and functioned independently.

To analyze the interaction effect of the logo's letter case and typeface on the participants' purchase intention, a two-way ANOVA was run. Even though no significant main effect of typeface ( $F(1, 127) = 3.46, p = 0.07$ ), or letter case ( $F(1, 127) = 0.01, p = 0.94$ ) was observed, there was a significant interaction effect between letter case and typeface on purchase intention ( $F(1, 127) = 7.35, p = 0.008$ ). Consistent with the proposed assumptions, results showed that participants exposed to lowercase logos indicated higher purchase intention when the typeface was serif ( $M = 4.27$ ) versus sans serif ( $M = 2.98$ ), whereas for uppercase logos, this difference reversed (serif:  $M = 3.53$ ; sans serif:  $M = 3.77$ ) (see Figure 8).

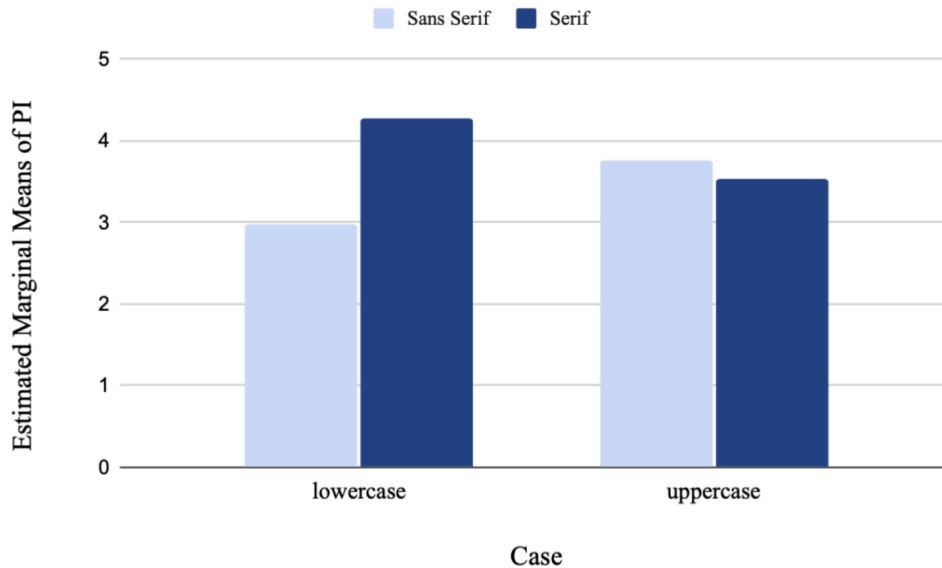


Figure 8. Case  $\times$  typeface interaction effect on purchase intention

A two-way ANOVA also revealed a significant interaction between letter case and typeface on product liking ( $F(1, 127) = 4.36, p = 0.04$ ).

For the analysis of H1, a moderation analysis using PROCESS Model 1 was conducted, testing whether the effect of logo letter case (uppercase vs lowercase) on purchase intention is moderated by typeface (serif vs sans serif). Both letter case ( $b=0.78, t(127) = 2.01, p=0.05$ ) and typeface ( $b=1.29, t(127)=3.19, p=0.002$ ) had a statistically significant and positive effect on purchase intention. More importantly, there is a significant interaction effect ( $b=-1.53, t(127)=-2.71, p=0.008$ ), indicating that typeface moderates the relationship between letter case and purchase intention. For the sans serif typeface, the effect of letter case on purchase intention was positive and significant ( $b = 0.78, p = 0.05$ ). In contrast, for the serif typeface, there is a negative and marginally significant effect ( $b=-0.74, p=0.07$ ). Considering a significant interaction between letter case and typeface ( $p = 0.008$ ), H1 is accepted.

The analysis was replicated to test the moderating effect of typeface on the relationship between letter case and product liking. The results revealed a statistically significant interaction effect ( $b=-1.06$ ,  $t(127)=-2.09$ ,  $p=0.04$ ), indicating that typeface moderates the effect of letter case on product liking.

To test H2a and H2b, a moderated mediation analysis using PROCESS Model 7 was conducted.

For H2a, while there was no statistically significant direct effect of letter case ( $b=0.37$ ,  $t(127)=1.15$ ,  $p=0.25$ ) and typeface ( $b=0.51$ ,  $t(127)=1.54$ ,  $p=0.13$ ), there was a significant and negative interaction effect ( $b=-0.91$ ,  $t(127)=-1.99$ ,  $p=0.05$ ). Although the conditional effects were not statistically significant, their directions differed across typeface conditions: under the sans serif condition, the effect of letter case on perceived quality was positive ( $b = 0.37$ , 95% CI  $[-0.26, 1.00]$ ), whereas under the serif condition, the effect was negative ( $b = -0.55$ , 95% CI  $[-1.20, 0.11]$ ). Perceived quality had a positive and statistically significant effect on purchase intention ( $b=0.31$ ,  $t(127)=3.87$ ,  $p=0.0002$ ). Furthermore, the index of moderated mediation was statistically significant ( $b = -0.28$ ,  $SE = 0.17$ , 95% CI  $[-0.68, -0.005]$ ), indicating that the indirect effect of letter case on purchase intention via perceived quality differed significantly depending on the typeface. Because the confidence interval did not include zero, H2a is supported.

For H2b, while no significant direct effect of letter case was observed ( $b=0.63$ ,  $t(127)=1.59$ ,  $p=0.11$ ), there was a significant and positive effect of typeface ( $b=0.94$ ,  $t(127)=2.30$ ,  $p=0.02$ ) on product style. More importantly, there was a significant interaction effect ( $b=-1.14$ ,  $t(127)=-2.00$ ,  $p=0.05$ ). While the conditional effects were not statistically significant, opposite directions across typeface conditions were observed, indicating the significance of the analysis.

Particularly, the serif typeface had a negative ( $b=-0.50$ , 95% CI  $[-1.32, 0.30]$ ), while the sans

serif typeface had a positive effect ( $b=0.63$ , 95% CI  $[-0.15, 1.41]$ ) on product style. On the other hand, product style had a positive and significant effect on purchase intention ( $b=0.65$ ,  $t(127)=10.02$ ,  $p<0.001$ ). The index of moderated mediation was also statistically significant ( $b = -0.73$ ,  $SE = 0.37$ , 95% CI  $[-1.48, -0.01]$ ), as the confidence interval did not include zero, indicating that the indirect effect of letter case on purchase intention via product style was conditional on typeface. These results provide support for H2b.

The analysis replicated for product liking also revealed a significant interaction effect of letter case and typeface on perceived quality ( $b = -0.91$ ,  $p = 0.05$ ), and a significant interaction effect on product style ( $b = -1.14$ ,  $p = 0.05$ ). Additionally, perceived quality and product style had a positive and significant effect on product liking (respectively,  $b=0.30$ ,  $t(127)=4.11$ ,  $p=0.0001$ ;  $b=0.57$ ,  $t(127)=9.62$ ,  $p<0.001$ ). For both perceived quality and product style, the indexes of moderated mediation were also statistically significant (respectively,  $b = -0.28$ , 95% CI  $[-0.63, -0.01]$ ;  $b = -0.64$ , 95% CI  $[-1.29, -0.01]$ ), confirming that the indirect effects of letter case on product liking via perceived quality and product style were moderated by typeface.

## **Chapter 5**

### **5.1. General Discussion**

The study investigated the impact of logo letter case (uppercase vs lowercase) on consumer purchasing behavior, considering the moderating role of logo typeface (serif vs sans serif), while also exploring the underlying mechanism accounting for the relationship. Drawing from the results, the experiment evidences that neither letter case nor the typeface in logo design has a direct effect on consumers' purchase intentions, but rather, there is a significant interaction effect. Given this, the research demonstrates that neither of these logo design elements works in isolation, but instead they are capable of shaping consumers' purchase intentions jointly.

Particularly, the moderation analysis succeeded to prove that logos' typeface moderates the effects of letter case on purchase intentions, indicating that letter case does not influence consumers' buying intentions uniformly, but the effects vary based on the type of typeface (serif vs sans serif) used in logo design. In accordance with initial assumptions and prior studies that individually studied the gender perceptions conveyed through letter case or typeface, congruent stimuli in logo design were shown to lead to more favorable responses. Specifically, the findings suggest higher purchase intentions when a lowercase logo is written in serif, and an uppercase logo is displayed in sans serif, with each pair previously shown to communicate similar brand gender perceptions, femininity, and masculinity, respectively. Meanwhile, in contrast to the initial assumptions, the lowercase-serif logo combination was found to have a higher positive impact on purchase intention than uppercase-sans-serif logos.

The research further uncovers previously unexplored roles of perceived quality and product style, providing evidence for their mediating role in explaining how and why letter case impacts purchase intentions, depending on the typeface used. Thereby, the study provides insights into



the indirect pathways through which the logo design elements shape consumers' behavioral intentions, underscoring that the effects of the typographical features of logos, namely, letter case and typeface, are mediated rather than direct. Moreover, the findings of the study suggest that letter case and typeface not only have the power to influence purchase intentions, but also product liking, with evidence for moderated mediation, illustrating how these logo design elements are capable of shaping consumers' evaluative judgements, as well.

In summary, the research sheds light on how different typographical features of logo design function jointly. The results of the experiment give insights into the moderating role of typeface in the effects of letter case on consumers' product liking and buying intentions, and reveal the mediating roles of perceived quality and product style, explaining the relationship.

#### **5.1.1. Theoretical Implications**

The current study contributes to the existing literature in various ways. First, the research extends existing literature, checking for the combined effects of distinct typographical elements in textual logos. While some prior research has been dedicated to exploring the effects of letter case or serif vs sans serif typefaces in logos or broader contexts individually, to the best of existing knowledge, no prior studies have covered the combined effects of these attributes in the context of logo design.

Furthermore, the current study introduces a novel underlying mechanism, proposing a new perspective on how letter case and typeface influence consumer evaluations and behavioral intentions. Prior literature has commonly discussed constructs, like processing fluency, perceived cuteness, perceived strength, psychological distance, perceptions of product safety, and perceived conspicuousness as mediators when analyzing the effects of typographical elements in logos

(Gupta and Hagtvedt, 2021; Teng et al., 2021; Wen and Lurie, 2018; Xie et al., 2023; Xu et al., 2017; Yu et al., 2022). Meanwhile, the roles of quality assessments or the stylistic appeal of products have remained underexplored. This study contributes to the existing literature, presenting new mediating variables, namely perceived quality and product style, that serve as novel pathways through which the effects of logos' letter case and typeface elements can be interpreted.

### **5.1.2. Managerial Implications**

The study provides practical implications for marketing managers and designers, demonstrating that the choice of logo design goes beyond mere aesthetics, but rather shapes consumer evaluations and can be a critical factor in their decision-making process. In light of this, the study underscores the need not to underestimate the power of seemingly subtle elements in logo design for boosting product liking and purchases. As the findings confirm, typographical choices in textual logos can be a cost-effective method of boosting perceived quality evaluations and the stylistic appeal of products, eventually positively reflecting on sales. This is particularly relevant for the introduction of new brands, in case of which logos may be among the visual cues customers rely on when forming judgements about brands and their offerings.

Additionally, the research provides a guideline for designers to opt for strategic pairing of letter case and typeface when crafting logos, suggesting more favorable consumer responses when matching lowercase logos with serif and uppercase with sans serif font styles.

### **5.1.3. Limitations and Future Research**

The current study holds a few limitations that can serve as a foundation for future research. First, among the limitations can be the selection of the fictional brand name “Bamur”. Prior research has discussed the effects of sound symbolism and how simple changes in one of the letters in a brand name can generate significantly different meanings or associations, conveying product-related information or fostering impressions of brands’ smoothness or richness (Doyle and Bottomley, 2011; Klink, 2000). Additionally, even though existing research on the length of brand names was considered to make sure it does not sound overly luxurious or mass market, the specific fictional name might still have evoked unintended associations about the brand’s premiumness and hence could have affected respondents’ evaluations. This is particularly relevant given that responses were collected through convenience sampling, with participants coming from different cultural backgrounds. This provides a basis for subsequent studies to examine logo design effects, considering other brand name variations, and checking for any potential differences, while also replicating the studies across different cultural contexts. Furthermore, while the current study focused on logos of new-to-market brands, future research could examine whether the effects of logos’ typographical elements hold true in the context of logo updates and rebrandings of established brands.

Another consideration can be the specific design and presentation of the logo in the experiment. Considering that the main focus was to eliminate other elements to be able to test the effects of exclusively logo typeface and letter case, the logo design was minimal, not containing any other visual elements, such as frames, background color, or other decorative additions. However, a recent study by Tang et al. (2025) claims that, unlike visually complex logos that integrate more visual cues, simple logo designs composed solely of text can convey comparably less luxurious

associations. Given this, the simple logo design in the experimental conditions might have resulted in lower evaluations. Future studies could extend the current analysis to mixed logos, which contain both textual and graphical elements, and check for interaction effects of various logo design elements on consumer responses.

Another potential challenge of the study can be the selection of the product and the particular product image in the experiment. Even though the goal was to select a neutral product, which would have been equally relevant for participants of both genders, having an image of a simple white cap might have unintentionally communicated mediocre quality or been perceived as less stylish, potentially negatively reflecting on participants' evaluations. Future studies could examine the influence of logos' typographical elements, considering broader categories of products, and checking for any response differences for utilitarian and hedonic product types. Additionally, while the current research focuses specifically on products, subsequent research could further investigate whether the findings hold true for brands offering services. Moreover, to ensure the generalizability of the findings, future research could test the effects of serif vs sans serif logos using a wider range of typeface families.

## **Conclusion**

The varying practices of wordmark designs across brands in the same industry or within the same brand category, and the lack of literature exploring the combined effects of typographical elements of textual logos, namely letter case and typeface style, highlights the need for a detailed investigation of the possible influences of such logo elements on consumer responses. Building on prior research, the current study hypothesized and demonstrated that logos' letter case can shape consumers' purchase intentions and product liking; however, with the effects depending on

the type of typeface used. Additionally, it was found that under the moderation of typeface, logos' letter case impacts quality perceptions and products' stylistic appeal, which in turn serve as mediators, being reflected in increased product likings and buying intentions. The findings of the study not only enrich existing literature on the topic, introducing new underlying mechanisms of logo design effects, but also provide important practical implications for marketing and design specialists, serving as a guideline for optimal logo design choices.

## References

- Aaker, J., Vohs, K. D., & Mogilner, C. (2010). Nonprofits are seen as warm and for-profits as competent: Firm stereotypes matter. *Journal of consumer research*, 37(2), 224-237.  
<https://doi.org/10.1086/651566>
- Baek, T. H., Kim, J., & Yu, J. H. (2010). The differential roles of brand credibility and brand prestige in consumer brand choice. *Psychology & Marketing*, 27(7), 662-678.  
<https://doi.org/10.1002/mar.20350>
- Belboula, I., Ackermann, C. L., & Mathieu, J. P. (2018). Product design and hierarchized persuasion process: An application to three household electrical products. *Recherche et Applications en Marketing (English Edition)*, 33(4), 2-23.  
<https://doi.org/10.1177/2051570718787133>
- Butcher, L., Phau, I., & Teah, M. (2016). Brand prominence in luxury consumption: will emotional value adjudicate our longing for status?. *Journal of Brand Management*, 23, 701-715. <https://doi.org/10.1057/s41262-016-0010-8>
- Celhay, F., & Luffarelli, J. (2024). Competent or Sad Blue? Lively or Aggressive Red? Why, How, and When Background Color Shapes the Meanings of Logo Hues. *Journal of Consumer Research*, ucae019. <https://doi.org/10.1093/jcr/ucae019>
- Childers, T. L., & Jass, J. (2002). All dressed up with something to say: Effects of typeface semantic associations on brand perceptions and consumer memory. *Journal of consumer psychology*, 12(2), 93-106. [https://doi.org/10.1207/S15327663JCP1202\\_03](https://doi.org/10.1207/S15327663JCP1202_03)
- Chitturi, R., Londoño, J. C., & Henriquez, M. C. (2022). Visual design elements of product packaging: Implications for consumers' emotions, perceptions of quality, and price. *Color Research & Application*, 47(3), 729-744. <https://doi.org/10.1002/col.22761>

- Chu, X. Y., Tok, D., Zhou, X., & Chen, X. (2023). How companies use typeface design to engage consumers in charitable activities. *Psychology & Marketing*, 40(1), 107-123.  
<https://doi.org/10.1002/mar.21732>
- Cian, L., Krishna, A., & Elder, R. S. (2014). This logo moves me: Dynamic imagery from static images. *Journal of marketing research*, 51(2), 184-197.  
<https://doi.org/10.1509/jmr.13.0023>
- Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of Price, Brand, and Store Information on Buyers' Product Evaluations. *Journal of Marketing Research*, 28(3), 307–319. <https://doi.org/10.1177/002224379102800305>
- Dong, R., & Gleim, M. R. (2018). High or low: The impact of brand logo location on consumers product perceptions. *Food Quality and Preference*, 69, 28-35.  
<https://doi.org/10.1016/j.foodqual.2018.05.003>
- Doyle, J. R., & Bottomley, P. A. (2006). Dressed for the occasion: Font-product congruity in the perception of logotype. *Journal of consumer psychology*, 16(2), 112-123.  
[https://doi.org/10.1207/s15327663jcp1602\\_2](https://doi.org/10.1207/s15327663jcp1602_2)
- Doyle, J. R., & Bottomley, P. A. (2011). Mixed messages in brand names: Separating the impacts of letter shape from sound symbolism. *Psychology & Marketing*, 28(7), 749-762.  
<https://doi.org/10.1002/mar.20410>
- Fajardo, T. M., Zhang, J., & Tsiros, M. (2016). The contingent nature of the symbolic associations of visual design elements: The case of brand logo frames. *Journal of consumer research*, 43(4), 549-566. <https://doi.org/10.1093/jcr/ucw048>
- Fiske, S. T., Cuddy, A. J., & Glick, P. (2007). Universal dimensions of social cognition: Warmth and competence. *Trends in cognitive sciences*, 11(2), 77-83.

- Fiske, S. T., Cuddy, A. J., Glick, P., & Xu, J. (2018). A model of (often mixed) stereotype content: Competence and warmth respectively follow from perceived status and competition. In *Social cognition* (pp. 162-214). Routledge.
- Foroudi, P., Melewar, T. C., & Gupta, S. (2017). Corporate logo: History, definition, and components. *International Studies of Management & Organization*, 47(2), 176-196.
- Grohmann, B. (2016). Communicating brand gender through type fonts. *Journal of Marketing Communications*, 22(4), 403-418. <https://doi.org/10.1080/13527266.2014.918050>
- Grohmann, B., Giese, J. L., & Parkman, I. D. (2013). Using type font characteristics to communicate brand personality of new brands. *Journal of Brand Management*, 20(5), 389-403. <https://doi.org/10.1057/bm.2012.23>
- Guo, Y., Cui, X., & Zhao, Y. (2024). Handwritten typeface effect of souvenirs: The influence of human presence, perceived authenticity, product types, and consumption goals. *Journal of Hospitality and Tourism Management*, 58, 345-353. <https://doi.org/10.1016/j.jhtm.2024.02.009>
- Gupta, T., & Hagtvedt, H. (2021). Safe together, vulnerable apart: How interstitial space in text logos impacts brand attitudes in tight versus loose cultures. *Journal of Consumer Research*, 48(3), 474-491. <https://doi.org/10.1093/jcr/ucab006>
- Hagtvedt, H. (2011). The impact of incomplete typeface logos on perceptions of the firm. *Journal of Marketing*, 75(4), 86-93. <https://doi.org/10.1509/jmkg.75.4.86>
- Hagtvedt, H., & Patrick, V. M. (2008). Art infusion: The influence of visual art on the perception and evaluation of consumer products. *Journal of marketing research*, 45(3), 379-389. <https://doi.org/10.1509/jmkr.45.3.379>



- Henderson, P. W., Giese, J. L., & Cote, J. A. (2004). Impression management using typeface design. *Journal of marketing*, 68(4), 60-72. <https://doi.org/10.1509/jmkg.68.4.60.42736>
- Hutton, J. G. (1997). The influence of brand and corporate-identity programmes on consumer behaviour: A conceptual framework. *Journal of Brand Management*, 5(2), 120-135. <https://doi.org/10.1057/bm.1997.38>
- Ivens, B. S., Leischnig, A., Muller, B., & Valta, K. (2015). On the role of brand stereotypes in shaping consumer response toward brands: An empirical examination of direct and mediating effects of warmth and competence. *Psychology & Marketing*, 32(8), 808-820. <https://doi.org/10.1002/mar.20820>
- Izadi, A., & Patrick, V. M. (2020). The power of the pen: Handwritten fonts promote haptic engagement. *Psychology & Marketing*, 37(8), 1082-1100. <https://doi.org/10.1002/mar.21318>
- Janiszewski, C., & Meyvis, T. (2001). Effects of brand logo complexity, repetition, and spacing on processing fluency and judgment. *Journal of consumer research*, 28(1), 18-32. <https://doi.org/10.1086/321945>
- Japutra, A., Molinillo, S., & Wang, S. (2018). Aesthetic or self-expressiveness? Linking brand logo benefits, brand stereotypes and relationship quality. *Journal of Retailing and Consumer Services*, 44, 191-200. <https://doi.org/10.1016/j.jretconser.2018.06.015>
- Javeed, A., Mohd Mokhtar, S., Lebai, I., & Khan, M. (2017). Perceived product quality: role of extrinsic cues. *J. Manage. Sci*, 11, 195-220.
- Jiang, Y., Gorn, G. J., Galli, M., & Chattopadhyay, A. (2016). Does your company have the right logo? How and why circular-and angular-logo shapes influence brand attribute

- judgments. *Journal of Consumer Research*, 42(5), 709-726.  
<https://doi.org/10.1093/jcr/ucv049>
- Kim, A., & Maglio, S. J. (2021). Text is gendered: the role of letter case. *Marketing Letters*, 32(2), 179-190 <https://doi.org/10.1007/s11002-021-09556-w>
- Klink, R. R. (2000). Creating brand names with meaning: The use of sound symbolism. *Marketing letters*, 11, 5-20. <https://doi.org/10.1023/A:1008184423824>
- Kolbl, Ž., Diamantopoulos, A., Arslanagic-Kalajdzic, M., & Zabkar, V. (2020). Do brand warmth and brand competence add value to consumers? A stereotyping perspective. *Journal of Business Research*, 118, 346-362. <https://doi.org/10.1016/j.jbusres.2020.06.048>
- Kumar, N. V., Kantha, V. V., Govindaraju, K. N., & Guru, D. S. (2016). Features fusion for classification of logos. *Procedia Computer Science*, 85, 370-379.  
<https://doi.org/10.1016/j.procs.2016.05.245>
- Labroo, A. A., & Lee, A. Y. (2006). Between two brands: A goal fluency account of brand evaluation. *Journal of Marketing Research*, 43(3), 374-385.  
<https://doi.org/10.1509/jmkr.43.3.374>
- Lee, A. Y., & Labroo, A. A. (2004). The effect of conceptual and perceptual fluency on brand evaluation. *Journal of Marketing Research*, 41(2), 151-165.  
<https://doi.org/10.1509/jmkr.41.2.151.28665>
- Li, R., Wang, Y., & Zhang, H. (2023). The shape of premiumness: Logo Shape's effects on perceived brand premiumness and brand preference. *Journal of Retailing and Consumer Services*, 75, 103516. <https://doi.org/10.1016/j.jretconser.2023.103516>

- Lieven, T., Grohmann, B., Herrmann, A., Landwehr, J. R., & Van Tilburg, M. (2015). The effect of brand design on brand gender perceptions and brand preference. *European Journal of Marketing*, 49(1/2), 146-169. <https://doi.org/10.1108/EJM-08-2012-0456>
- Luffarelli, J., Mukesh, M., & Mahmood, A. (2019). Let the logo do the talking: The influence of logo descriptiveness on brand equity. *Journal of Marketing Research*, 56(5), 862-878. <https://doi.org/10.1177/0022243719845000>
- Luffarelli, J., Stamatogiannakis, A., & Yang, H. (2019). The visual asymmetry effect: An interplay of logo design and brand personality on brand equity. *Journal of marketing research*, 56(1), 89-103. <https://doi.org/10.1177/0022243718820548>
- Moret-Tatay, C., & Perea, M. (2011). Do serifs provide an advantage in the recognition of written words?. *Journal of Cognitive Psychology*, 23(5), 619-624. <https://doi-org.agbupl.aua.am/10.1080/20445911.2011.546781>
- Morgan, C., Fajardo, T. M., & Townsend, C. (2021). Show it or say it: how brand familiarity influences the effectiveness of image-based versus text-based logos. *Journal of the Academy of Marketing Science*, 49, 566-583. <https://doi.org/10.1007/s11747-020-00760-0>
- Mullen, M. R. (1995). Diagnosing measurement equivalence in cross-national research. *Journal of International Business Studies*, 26(3), 573-596. <https://doi.org/10.1057/palgrave.jibs.8490187>
- Park, C. W., Eisingerich, A. B., Pol, G., & Park, J. W. (2013). The role of brand logos in firm performance. *Journal of business research*, 66(2), 180-187. <https://doi.org/10.1016/j.jbusres.2012.07.011>

- Pathak, A., Velasco, C., Petit, O., & Calvert, G. A. (2019). Going to great lengths in the pursuit of luxury: How longer brand names can enhance the luxury perception of a brand. *Psychology & Marketing*, 36(10), 951-963. <https://doi.org/10.1002/mar.21247>
- Payne, C. R., Hyman, M. R., Niculescu, M., & Huhmann, B. A. (2013). Anthropomorphic responses to new-to-market logos. *Journal of Marketing Management*, 29(1-2), 122-140. <https://doi.org/10.1080/0267257X.2013.770413>
- Perea, M., Jiménez, M., Talero, F., & López-Cañada, S. (2015). Letter-case information and the identification of brand names. *British Journal of Psychology*, 106(1), 162-173. <https://doi.org/10.1111/bjop.12071>
- Pušnik, N., Možina, K., & Podlesek, A. (2016). Effect of typeface, letter case and position on recognition of short words presented on-screen. *Behaviour & Information Technology*, 35(6), 442-451. <https://doi.org/10.1080/0144929X.2016.1158318>
- Ranaweera, A. T., & Wasala, K. (2020). Color matters: the impact of logo color on consumer perceived eco-friendliness. *Expert journal of marketing*, 8(2), 129-139.
- Rathee, S., Yu-Buck, G. F., & Gupta, A. (2023). It is not just a name: Effects of proper name for high-quality versus low-quality brands. *Psychology & Marketing*, 40(7), 1388-1404. <https://doi.org/10.1002/mar.21811>
- Schroll, R., Schnurr, B., & Grewal, D. (2018). Humanizing products with handwritten typefaces. *Journal of Consumer Research*, 45(3), 648-672. <https://doi.org/10.1093/jcr/ucy014>
- Schwarz, N., Jalbert, M., Noah, T., & Zhang, L. (2021). Metacognitive experiences as information: Processing fluency in consumer judgment and decision making. *Consumer Psychology Review*, 4(1), 4-25. [https://doi.org/10.1002/arcp.1067open\\_in\\_new](https://doi.org/10.1002/arcp.1067open_in_new)

- Simões, C., Dibb, S., & Fisk, R. P. (2005). Managing corporate identity: an internal perspective. *Journal of the Academy of Marketing science*, 33(2), 153-168.  
<https://doi.org/10.1177/0092070304268920>
- Song, J., Xu, F., & Jiang, Y. (2022). The colorful company: Effects of brand logo colorfulness on consumer judgments. *Psychology & Marketing*, 39(8), 1610-1620.  
<https://doi.org/10.1002/mar.21674>
- ST Wang, E. (2013). The influence of visual packaging design on perceived food product quality, value, and brand preference. *International journal of retail & distribution management*, 41(10), 805-816. <https://doi.org/10.1108/IJRDM-12-2012-0113>
- Tantillo, J., Lorenzo-Aiss, J. D., & Mathisen, R. E. (1995). Quantifying perceived differences in type styles: An exploratory study. *Psychology & Marketing*, 12(5), 447-457.  
<https://doi.org/10.1002/mar.4220120508>
- Tang, Q., Huang, X. I., & Zhang, K. (2025). Simple or complex logos? The impact of logo complexity on brand luxuriousness perception. *International Journal of Research in Marketing*. <https://doi.org/10.1016/j.ijresmar.2025.04.007>
- Teas, R. K., & Agarwal, S. (2000). The effects of extrinsic product cues on consumers' perceptions of quality, sacrifice, and value. *Journal of the Academy of marketing Science*, 28, 278-290. <https://doi.org/10.1177/0092070300282008>
- Teng, L., Xie, C., Liu, T., Wang, F., & Foti, L. (2021). The effects of uppercase vs. lowercase letters on consumers' perceptions and brand attitudes. *Journal of Business Research*, 136, 164-175. <https://doi.org/10.1016/j.jbusres.2021.07.013>

- Van Riel, C. B., & Van den Ban, A. (2001). The added value of corporate logos- An empirical study. *European journal of marketing*, 35(3/4), 428-440.  
<https://doi.org/10.1108/03090560110382093>
- Walsh, M. F., Page Winterich, K., & Mittal, V. (2010). Do logo redesigns help or hurt your brand? The role of brand commitment. *Journal of Product & Brand Management*, 19(2), 76-84. <https://doi.org/10.1108/10610421011033421>
- Wang, L., Yu, Y., & Li, O. (2020). The typeface curvature effect: The role of typeface curvature in increasing preference toward hedonic products. *Psychology & Marketing*, 37(8), 1118-1137. <https://doi.org/10.1002/mar.21287>
- Wang, X., Liu, H., & Chen, H. (2023). The impacts of logo dynamism and product types on brand market performance. *Journal of Business Research*, 166, 114060.  
<https://doi.org/10.1016/j.jbusres.2023.114060>
- Wen, N., & Lurie, N. H. (2018). The case for compatibility: Product attitudes and purchase intentions for upper versus lowercase brand names. *Journal of Retailing*, 94(4), 393-407.  
<https://doi.org/10.1016/j.jretai.2018.10.002>
- Wu, X. (2025). Beauty of symmetry- The impact of logo symmetry on perceived product quality. *PloS one*, 20(1), e0317229. <https://doi.org/10.1371/journal.pone.0317229>
- Xie, Z., Wang, T., Zhao, J., & Qin, H. (2023). Too thin to be cute: the influence of letter height-to-width ratio on consumer perception. *Journal of Product & Brand Management*, 32(6), 789-798. <https://doi.org/10.1108/JPBM-05-2022-3977>
- Xu, X., Chen, R., & Liu, M. W. (2017). The effects of uppercase and lowercase wordmarks on brand perceptions. *Marketing Letters*, 28, 449-460.  
<https://doi.org/10.1007/s11002-016-9415-0>

- Xue, J., Zhou, Z., Zhang, L., & Majeed, S. (2020). Do brand competence and warmth always influence purchase intention? The moderating role of gender. *Frontiers in psychology*, 11, 248. <https://doi.org/10.3389/fpsyg.2020.00248>
- Yan, D., Sengupta, J., & Wyer Jr, R. S. (2014). Package size and perceived quality: The intervening role of unit price perceptions. *Journal of Consumer Psychology*, 24(1), 4-17. <https://doi.org/10.1016/j.jcps.2013.08.001>
- Yu, Y., Zhou, X., Wang, L., & Wang, Q. (2022). Uppercase premium effect: The role of brand letter case in brand premiumness. *Journal of Retailing*, 98(2), 335-355. <https://doi.org/10.1016/j.jretai.2021.03.002>
- Zeng, S., Wu, S., Yuan, Y., & Xu, X. (2025). Designing Age: The Impact of Logo Color Lightness on Brand Age Perception and Brand Attitude. *Psychology & Marketing*, 42(4), 1188-1200. <https://doi.org/10.1002/mar.22172>
- Zhang, M., Teng, L., Xie, C., Wang, X., & Foti, L. (2025). Serif or sans serif typefaces? The effects of typefaces on consumers' perceptions of activity and potency of brand logos. *European Journal of Marketing*. <https://doi.org/10.1108/EJM-06-2023-0497>
- Zheng, W., Shanat, M. B., & Kanyan, L. R. (2022). The Effect of Serif and San Serif typeface of Luxury Fashion Logotype on Chinese Consumers's™ Brand Perception. *Journal of Business Administration Research*, 11(2), 1-9. <https://doi.org/10.5430/jbar.v11n2p9>

## Appendix

### Demographic Profile of the Sample

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	41	31.3	31.3	31.3
	Female	88	67.2	67.2	98.5
	Prefer not to say	2	1.5	1.5	100
	Total	131	100	100	

Age					
	N	Minimum	Maximum	Mean	Std. Deviation
Age	131	18	57	26.69	7.376
Valid N (listwise)	131				



## Letter Case Manipulation Check (Univariate Analysis of Variance)

Between-Subjects Factors			
		Value Label	N
Case	0	lowercase	62
	1	uppercase	65
Typeface	0	sans serif	66
	1	serif	61

Tests of Between-Subjects Effects					
Dependent Variable: manipulation_check_lettercase					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	270.361 <sup>a</sup>	3	90.12	21.748	<.001
Intercept	1907.438	1	1907.438	460.313	<.001
Case	265.073	1	265.073	63.969	<.001
Typeface	2.429	1	2.429	0.586	0.445
Case * Typeface	3.196	1	3.196	0.771	0.382
Error	509.686	123	4.144		
Total	2725	127			
Corrected Total	780.047	126			
a R Squared = .347 (Adjusted R Squared = .331)					

### Typeface Manipulation Check (Univariate Analysis of Variance)

Between-Subjects Factors			
		Value Label	N
Case	0	lowercase	63
	1	uppercase	66
Typeface	0	sans serif	67
	1	serif	62

Tests of Between-Subjects Effects					
Dependent Variable: manipulation_check_typeface					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	111.156 <sup>a</sup>	3	37.052	7.277	<.001
Intercept	1761.524	1	1761.524	345.971	<.001
Case	41.819	1	41.819	8.213	0.005
Typeface	64.677	1	64.677	12.703	<.001
Case * Typeface	0.298	1	0.298	0.059	0.809
Error	636.441	125	5.092		
Total	2504	129			
Corrected Total	747.597	128			
a R Squared = .149 (Adjusted R Squared = .128)					

### Case x Typeface Interaction Effect on PI (Univariate Analysis of Variance)

Between-Subjects Factors			
		Value Label	N
Case	0	lowercase	64
	1	uppercase	67
Typeface	0	sans serif	68
	1	serif	63

Descriptive Statistics				
Dependent Variable: PI				
Case	Typeface	Mean	Std. Deviation	N
lowercase	sans serif	2.9804	1.61421	34
	serif	4.2667	1.66644	30
	Total	3.5833	1.74978	64
uppercase	sans serif	3.7647	1.68481	34
	serif	3.5253	1.46257	33
	Total	3.6468	1.57193	67
Total	sans serif	3.3725	1.68451	68
	serif	3.8783	1.59446	63
	Total	3.6158	1.65507	131

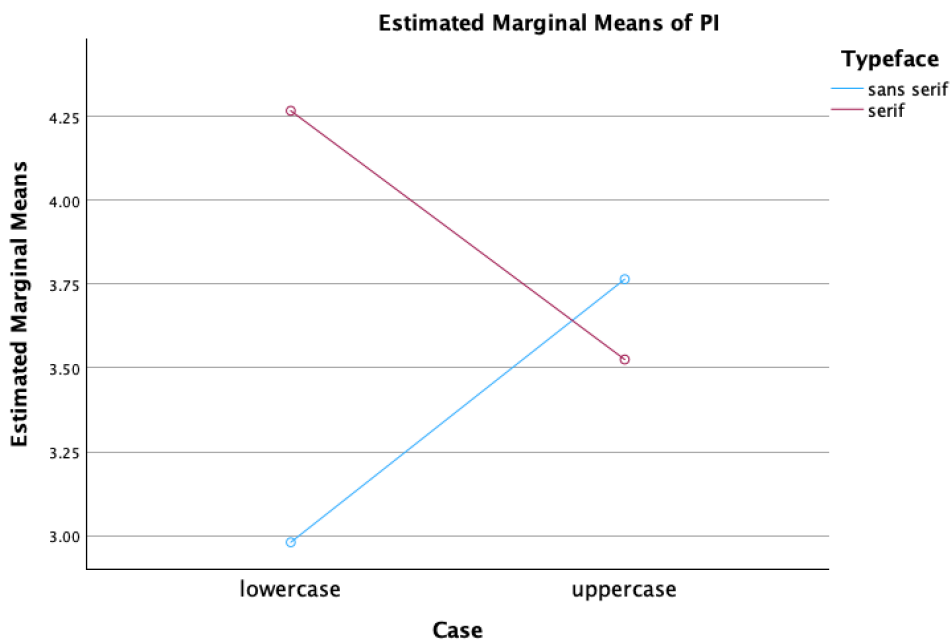
Tests of Between-Subjects Effects								
Dependent Variable: PI								
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>b</sup>
Corrected Model	27.461 <sup>a</sup>	3	9.154	3.537	0.017	0.077	10.612	0.774
Intercept	1725.666	1	1725.666	666.859	<.001	0.84	666.859	1
Case	0.015	1	0.015	0.006	0.939	0	0.006	0.051
Typeface	8.949	1	8.949	3.458	0.065	0.027	3.458	0.455
Case * Typeface	19.009	1	19.009	7.346	0.008	0.055	7.346	0.767
Error	328.645	127	2.588					
Total	2068.778	131						
Corrected Total	356.105	130						
a R Squared = .077 (Adjusted R Squared = .055)								
b Computed using alpha = .05								

### Estimated Marginal Means

1. Case				
Dependent Variable: PI				
			95% Confidence Interval	
Case	Mean	Std. Error	Lower Bound	Upper Bound
lowercase	3.624	0.201	3.225	4.022
uppercase	3.645	0.197	3.256	4.034

2. Typeface				
Dependent Variable: PI				
			95% Confidence Interval	
Typeface	Mean	Std. Error	Lower Bound	Upper Bound
sans serif	3.373	0.195	2.987	3.759
serif	3.896	0.203	3.494	4.297

3. Case * Typeface					
Dependent Variable: PI					
				95% Confidence Interval	
Case	Typeface	Mean	Std. Error	Lower Bound	Upper Bound
lowercase	sans serif	2.98	0.276	2.434	3.526
	serif	4.267	0.294	3.685	4.848
uppercase	sans serif	3.765	0.276	3.219	4.311
	serif	3.525	0.28	2.971	4.079



### Case x Typeface Interaction Effect on Liking (Univariate Analysis of Variance)

Between-Subjects Factors			
		Value Label	N
Case	0	lowercase	64
	1	uppercase	67
Typeface	0	sans serif	68
	1	serif	63

Descriptive Statistics				
Dependent Variable: Liking				
Case	Typeface	Mean	Std. Deviation	N
lowercase	sans serif	3.6176	1.45674	34
	serif	4.8333	1.47716	30
	Total	4.1875	1.57793	64
uppercase	sans serif	4.4608	1.57851	34
	serif	4.6162	1.27236	33
	Total	4.5373	1.4272	67
Total	sans serif	4.0392	1.56615	68
	serif	4.7196	1.36679	63
	Total	4.3664	1.50717	131

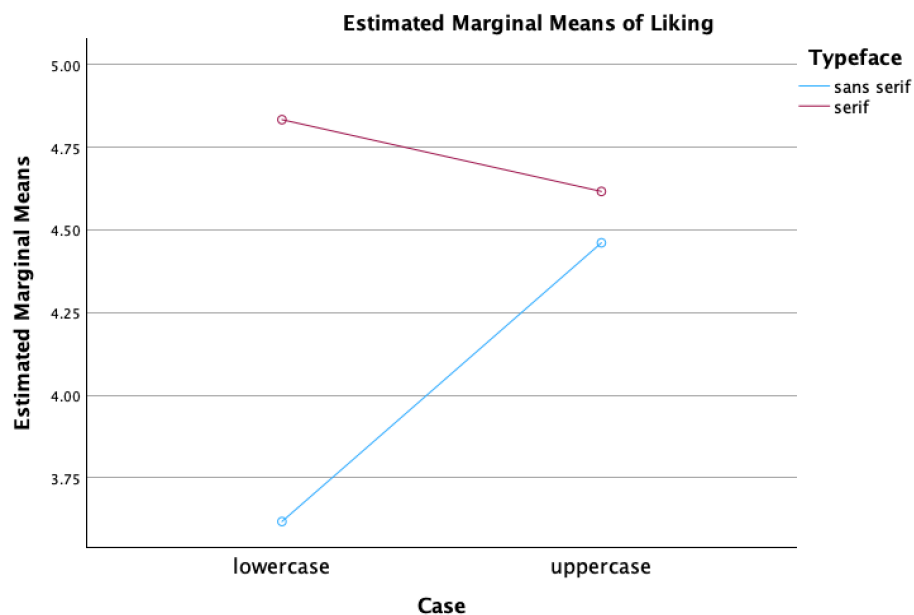
Tests of Between-Subjects Effects								
Dependent Variable: Liking								
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>b</sup>
Corrected Model	27.964 <sup>a</sup>	3	9.321	4.428	0.005	0.095	13.284	0.867
Intercept	2508.807	1	2508.807	1191.821	<.001	0.904	1191.821	1
Case	3.2	1	3.2	1.52	0.22	0.012	1.52	0.231
Typeface	15.35	1	15.35	7.292	0.008	0.054	7.292	0.764
Case * Typeface	9.181	1	9.181	4.361	0.039	0.033	4.361	0.545
Error	267.337	127	2.105					
Total	2792.889	131						
Corrected Total	295.301	130						
a R Squared = .095 (Adjusted R Squared = .073)								
b Computed using alpha = .05								

### Estimated Marginal Means

1. Case				
Dependent Variable: Liking				
			95% Confidence Interval	
Case	Mean	Std. Error	Lower Bound	Upper Bound
lowercase	4.225	0.182	3.866	4.585
uppercase	4.538	0.177	4.188	4.889

2. Typeface				
Dependent Variable: Liking				
			95% Confidence Interval	
Typeface	Mean	Std. Error	Lower Bound	Upper Bound
sans serif	4.039	0.176	3.691	4.387
serif	4.725	0.183	4.363	5.087

3. Case * Typeface					
Dependent Variable: Liking					
				95% Confidence Interval	
Case	Typeface	Mean	Std. Error	Lower Bound	Upper Bound
lowercase	sans serif	3.618	0.249	3.125	4.11
	serif	4.833	0.265	4.309	5.358
uppercase	sans serif	4.461	0.249	3.968	4.953
	serif	4.616	0.253	4.116	5.116





## Moderation Analysis - PI as Dependent Variable (Process Model 1)

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)

Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model : 1

Y : PI

X : Case

W : typeface

Sample

Size: 131

\*\*\*\*\*

OUTCOME VARIABLE:

PI

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.2777	.0771	2.5878	3.5372	3.0000	127.0000	.0167

Model

	coeff	se	t	p	LLCI	ULCI
constant	2.9804	.2759	10.8032	.0000	2.4345	3.5263
Case	.7843	.3902	2.0103	.0465	.0123	1.5564
typeface	1.2863	.4030	3.1921	.0018	.4889	2.0836
Int_1	-1.5257	.5629	-2.7103	.0077	-2.6397	-.4118

Product terms key:

Int\_1 : Case x typeface

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0534	7.3458	1.0000	127.0000	.0077

-----

Focal predict: Case (X)

Mod var: typeface (W)

Conditional effects of the focal predictor at values of the moderator(s):

typeface	Effect	se	t	p	LLCI	ULCI
.0000	.7843	.3902	2.0103	.0465	.0123	1.5564
1.0000	-.7414	.4058	-1.8270	.0700	-1.5444	.0616

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95.0000

NOTE: Standardized coefficients are not available for models with moderators.

----- END MATRIX -----

## Moderation Analysis - Liking as Dependent Variable (Process Model 1)

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)

Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model : 1

Y : Liking

X : Case

W : typeface

Sample

Size: 131

\*\*\*\*\*

OUTCOME VARIABLE:

Liking

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.3077	.0947	2.1050	4.4281	3.0000	127.0000	.0054

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.6176	.2488	14.5391	.0000	3.1253	4.1100
Case	.8431	.3519	2.3960	.0180	.1468	1.5395
typeface	1.2157	.3634	3.3451	.0011	.4965	1.9348
Int_1	-1.0603	.5077	-2.0884	.0388	-2.0650	-.0556

Product terms key:

Int\_1 : Case x typeface

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0311	4.3613	1.0000	127.0000	.0388

-----

Focal predict: Case (X)

Mod var: typeface (W)

Conditional effects of the focal predictor at values of the moderator(s):

typeface	Effect	se	t	p	LLCI	ULCI
.0000	.8431	.3519	2.3960	.0180	.1468	1.5395
1.0000	-.2172	.3660	-.5934	.5540	-.9414	.5071

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95.0000

NOTE: Standardized coefficients are not available for models with moderators.

----- END MATRIX -----

## Moderated Mediation Analysis - PI as Dependent Variable (Process Model 7)

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)

Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model : 7

Y : PI

X : Case

M1 : Quality1

M2 : Style

W : typeface

Sample

Size: 131

\*\*\*\*\*

OUTCOME VARIABLE:

Quality1

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.1761	.0310	1.7323	1.3552	3.0000	127.0000	.2596

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.1765	.2257	18.5028	.0000	3.7298	4.6231
Case	.3676	.3192	1.1517	.2516	-.2640	.9993
typeface	.5069	.3297	1.5374	.1267	-.1455	1.1593
Int_1	-.9146	.4606	-1.9858	.0492	-1.8260	-.0032

Product terms key:

Int\_1 : Case x typeface

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0301	3.9433	1.0000	127.0000	.0492

-----

Focal predict: Case (X)

Mod var: typeface (W)

Conditional effects of the focal predictor at values of the moderator(s):

typeface	Effect	se	t	p	LLCI	ULCI
.0000	.3676	.3192	1.1517	.2516	-.2640	.9993
1.0000	-.5470	.3320	-1.6474	.1019	-1.2040	.1100

\*\*\*\*\*

OUTCOME VARIABLE:

Style

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.2067	.0427	2.6529	1.8890	3.0000	127.0000	.1347

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.6471	.2793	13.0564	.0000	3.0943	4.1998
Case	.6275	.3950	1.5883	.1147	-.1543	1.4092
typeface	.9418	.4080	2.3085	.0226	.1345	1.7492
Int_1	-1.1355	.5700	-1.9922	.0485	-2.2634	-.0077

Product terms key:

Int\_1 : Case x typeface

Test(s) of highest order unconditional interaction(s):

```

      R2-chng      F      df1      df2      p
X*W      .0299      3.9690      1.0000      127.0000      .0485
-----
      Focal predict: Case      (X)
      Mod var: typeface (W)
Conditional effects of the focal predictor at values of the moderator(s):
      typeface      Effect      se      t      p      LLCI      ULCI
      .0000      .6275      .3950      1.5883      .1147      -.1543      1.4092
      1.0000      -.5081      .4109      -1.2366      .2185      -1.3211      .3050
*****
OUTCOME VARIABLE:
PI
Model Summary
      R      R-sq      MSE      F      df1      df2      p
      .8161      .6661      .9364      84.4329      3.0000      127.0000      .0000
Model
      coeff      se      t      p      LLCI      ULCI
constant      -.4326      .3125      -1.3843      .1687      -1.0509      .1858
Case      .0269      .1694      .1589      .8740      -.3084      .3622
Quality1      .3112      .0803      3.8741      .0002      .1522      .4701
Style      .6463      .0645      10.0184      .0000      .5186      .7740
***** DIRECT AND INDIRECT EFFECTS OF X ON Y *****
Direct effect of X on Y
      Effect      se      t      p      LLCI      ULCI
      .0269      .1694      .1589      .8740      -.3084      .3622
Conditional indirect effects of X on Y:
INDIRECT EFFECT:
Case      ->      Quality1      ->      PI
      typeface      Effect      BootSE      BootLLCI      BootULCI
      .0000      .1144      .1129      -.0719      .3745
      1.0000      -.1702      .1144      -.4188      .0306
Index of moderated mediation (difference between conditional indirect effects):
      Index      BootSE      BootLLCI      BootULCI
typeface      -.2846      .1736      -.6780      -.0049
INDIRECT EFFECT:
Case      ->      Style      ->      PI
      typeface      Effect      BootSE      BootLLCI      BootULCI
      .0000      .4055      .2586      -.1106      .8985
      1.0000      -.3284      .2639      -.8468      .1840
Index of moderated mediation (difference between conditional indirect effects):
      Index      BootSE      BootLLCI      BootULCI
typeface      -.7339      .3733      -1.4842      -.0105
***** ANALYSIS NOTES AND ERRORS *****
Level of confidence for all confidence intervals in output:
95.0000
Number of bootstrap samples for percentile bootstrap confidence intervals:
5000
NOTE: Standardized coefficients are not available for models with moderators.
WARNING: Variables names longer than eight characters can produce incorrect output
when some variables in the data file have the same first eight characters. Shorter
variable names are recommended. By using this output, you are accepting all risk
and consequences of interpreting or reporting results that may be incorrect.
----- END MATRIX -----

```

## Moderated Mediation Analysis - Liking as Dependent Variable (Process Model 7)

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 4.2 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. [www.afhayes.com](http://www.afhayes.com)

Documentation available in Hayes (2022). [www.guilford.com/p/hayes3](http://www.guilford.com/p/hayes3)

\*\*\*\*\*

Model : 7

Y : Liking

X : Case

M1 : Quality1

M2 : Style

W : typeface

Sample

Size: 131

\*\*\*\*\*

OUTCOME VARIABLE:

Quality1

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.1761	.0310	1.7323	1.3552	3.0000	127.0000	.2596

Model

	coeff	se	t	p	LLCI	ULCI
constant	4.1765	.2257	18.5028	.0000	3.7298	4.6231
Case	.3676	.3192	1.1517	.2516	-.2640	.9993
typeface	.5069	.3297	1.5374	.1267	-.1455	1.1593
Int_1	-.9146	.4606	-1.9858	.0492	-1.8260	-.0032

Product terms key:

Int\_1 : Case x typeface

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0301	3.9433	1.0000	127.0000	.0492

-----

Focal predict: Case (X)

Mod var: typeface (W)

Conditional effects of the focal predictor at values of the moderator(s):

typeface	Effect	se	t	p	LLCI	ULCI
.0000	.3676	.3192	1.1517	.2516	-.2640	.9993
1.0000	-.5470	.3320	-1.6474	.1019	-1.2040	.1100

\*\*\*\*\*

OUTCOME VARIABLE:

Style

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.2067	.0427	2.6529	1.8890	3.0000	127.0000	.1347

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.6471	.2793	13.0564	.0000	3.0943	4.1998
Case	.6275	.3950	1.5883	.1147	-.1543	1.4092
typeface	.9418	.4080	2.3085	.0226	.1345	1.7492
Int_1	-1.1355	.5700	-1.9922	.0485	-2.2634	-.0077

Product terms key:

Int\_1 : Case x typeface

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	.0299	3.9690	1.0000	127.0000	.0485

-----

Focal predict: Case (X)

Mod var: typeface (W)

Conditional effects of the focal predictor at values of the moderator(s):

typeface	Effect	se	t	p	LLCI	ULCI
.0000	.6275	.3950	1.5883	.1147	-.1543	1.4092
1.0000	-.5081	.4109	-1.2366	.2185	-1.3211	.3050

\*\*\*\*\*

OUTCOME VARIABLE:

Liking

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	.8146	.6636	.7822	83.5077	3.0000	127.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.5354	.2856	1.8746	.0631	-.0298	1.1005
Case	.3198	.1549	2.0649	.0410	.0133	.6263
Quality1	.3018	.0734	4.1118	.0001	.1566	.4471
Style	.5674	.0590	9.6230	.0000	.4507	.6841

\*\*\*\*\* DIRECT AND INDIRECT EFFECTS OF X ON Y \*\*\*\*\*

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI
.3198	.1549	2.0649	.0410	.0133	.6263

Conditional indirect effects of X on Y:

INDIRECT EFFECT:

Case	->	Quality1	->	Liking
typeface	Effect	BootSE	BootLLCI	BootULCI
.0000	.1110	.1108	-.0764	.3615
1.0000	-.1651	.1038	-.3814	.0275

Index of moderated mediation (difference between conditional indirect effects):

	Index	BootSE	BootLLCI	BootULCI
typeface	-.2761	.1600	-.6287	-.0077

INDIRECT EFFECT:

Case	->	Style	->	Liking
typeface	Effect	BootSE	BootLLCI	BootULCI
.0000	.3560	.2350	-.0935	.8293
1.0000	-.2883	.2272	-.7311	.1648

Index of moderated mediation (difference between conditional indirect effects):

	Index	BootSE	BootLLCI	BootULCI
typeface	-.6443	.3245	-1.2869	-.0074

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

NOTE: Standardized coefficients are not available for models with moderators.

WARNING: Variables names longer than eight characters can produce incorrect output when some variables in the data file have the same first eight characters. Shorter variable names are recommended. By using this output, you are accepting all risk and consequences of interpreting or reporting results that may be incorrect.

----- END MATRIX -----