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# The effects of uppercase and lowercase wordmarks on brand perceptions

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**Abstract** Although frequently altered by companies in logo redesign, upper and lowercase wordmarks have never been studied in marketing literature. This research investigates the influence of using a specific lettering case in a wordmark on consumer brand perceptions. Across two studies, the authors find that psychologically, consumers feel closer to lowercase wordmarks, which increase perceptions of brand friendliness compared with the uppercase wordmarks. On the other hand, compared with lowercase wordmarks, consumers perceive a higher level of strength from uppercase wordmarks, resulting in an increased perception of brand authority. Additionally, the authors find that this lettering case effect is mitigated when the wordmark design is complex versus when it is simple. Finally, the implications of these findings are discussed regarding brand visual stimuli and brand image communication.

**Keywords** Letter case · Wordmark · Brand · Psychological distance Brand logo

In 2014, Southwest, one of the largest airlines in the USA, introduced its newly designed logo in which the original uppercase wordmark that spelled out "SOUTHWEST" was modified in favor of a lowercase one, leaving only the initial capitalized. Companies such as AT&T, BP, Citibank, BestBuy, and Walmart are all following a trend of changing the former uppercase wordmarks in brand logos to lowercase ones. However, there are also some brands that approached the opposite direction by switching from lowercase to all uppercase wordmarks such as SAXX and FOURSQUARE.

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The proliferation of such changes in word-based logo redesigns has been accompanied by surprisingly little research on the effects of wordmark lettering case on consumer perceptions. Some recent research suggests that wordmark design characteristics affect consumers' perceptions of the brands and firms (e.g., Childers and Jass 2002; Giese et al. 2014; Hagtvedt 2011; Henderson et al. 2004; Tantillo et al. 1995). For example, Hagtvedt (2011) shows that incomplete typeface wordmarks that are highly intriguing have a favorable influence on the perceived innovativeness of that firm. However, incomplete typeface wordmarks are also perceived to be highly ambiguous, leading to a diminished perception of the firm's trustworthiness.

This research investigates the influence of lettering case used in wordmarks on consumer brand perceptions. Specifically, we focus on two brand perceptions: authority and friendliness, both of which constitute important brand personality attributes (Arora and Stoner 2009; van Reckom et al. 2006) and can produce brand loyalty (Morgan 1999; Tsai and Huang 2002). Across two studies, we report that compared with uppercase wordmarks, lowercase wordmarks have an unfavorable influence on brand authority; however, they have a favorable influence on brand friendliness (study 1). The former influence is due to the design's perceived strength, whereas the latter is tied to its psychological distance (study 2). In addition, we find that when a wordmark is perceived to be highly complex, the above effects are attenuated due to that consumers are potentially unable to perceive the connotative meanings of the wordmark.

# 1 Theoretical framework

A wordmark, or a text-only typographic treatment of the name of a company or a brand, is an important form of logo designs (Machado et al. 2015; Pittard et al. 2007). Marketers have long embraced the concept of designing wordmarks to communicate brand image (e.g., Aaker 1991; Hagtvedt 2011). A number of studies examine how specific wordmark elements affect consumer perceptions, such as color (Labrecque and Milne 2012), angularity (Walsh et al. 2011), and typeface (Childers and Jass 2002; Doyle and Bottomley 2004, 2006; Henderson et al. 2004; McCarthy and Mothersbaugh 2002). For example, Tantillo et al. (1995) find that serif wordmarks are perceived as having more personality, freshness, higher quality, and vitality. However, the sans serif ones are perceived as more manly, powerful, intelligent, sophisticated, and readable.

Letter case is the written distinction between letters in upper and lowercase. As in general writing, uppercase is used only to begin sentences or proper names and in an acronym. Consumers use and are exposed to lowercase lettering more frequently and thus are more familiar with the sight of lower-case letters (Jones and Mewhor 2004; Perea and Panadero 2014). For example, Jones and Mewhor (2004) examined the upper and lowercase counts in the *New York Times* and found that the counts of lowercase letters were 17 times more than of uppercase on average. One significant consequence of high exposure and familiarity is the concept of reduced psychological distance (Edwards et al. 2009; Förster 2009; Förster et al. 2009), which is referred to

as the cognitive state of weaker psychological bonds (Hess 2002). By extension, the concept of psychological distance has been successfully applied to describe the relationship between a person and an object, an event, a country, or a store (Brewer 2007; Edwards et al. 2009; Förster 2009; Trope et al. 2007). For example, Edwards et al. (2009) find that the familiarity consumers have with an online store contributes significantly to the reduction in psychological distance. Along the same lines, it could be expected that consumers, because of their familiarity with lowercase letters, may feel psychologically closer to lowercase wordmarks than uppercase ones.

Moreover, reduced psychological distance lowers barriers, facilitates communication, and provides a feeling of openness and sincerity (Berscheid et al. 1989; Hess 2002). Therefore, lowercase wordmarks may be associated with an enhanced perception of friendliness. In terms of how consumers may perceive the brand represented by that wordmark, the spillover effect indicates that the perceptions on the wordmark may further translate onto the brand (Balachander and Ghose 2003; Hagtvedt 2011). Thus, it is reasonable that the friendliness perception of lowercase wordmarks could subsequently spill over onto the brand. To sum up, we propose the following:

**H1a** A lowercase (vs. uppercase) wordmark causes consumers to perceive the brand as friendlier (less friendly).

**H1b** This influence is mediated by consumer's psychological distance to the wordmark.

Henderson et al. (2004) indicate that consumer responses to a logo design are multiple. Thus, other perceptions of uppercase wordmarks are expected. In general, lowercase lettering is the norm, whereas uppercase is reserved for special purposes. Conversational norm proposes that once a norm is broken, people tend to infer and analyze the reasons behind the change (Grice 1991). As a result, uppercase wordmarks can capture one's attention and increase the importance attached to them. Such "power to capture attention" in a design is often referred to as perceived strength (Berlyne 1974; Osgood et al. 1957). For example, larger and heavier typefaces often evoke perceptions of perceived strength to a greater extent than do smaller and lighter typefaces (Henderson et al. 2004). It has long been found that uppercase letters are perceived to have a higher level of perceived strength than do lowercase letters (Tannenbaum et al. 1964).

Perceived strength also implies a "tone of authority" (Mehrabian and Russell 1974). Uppercase lettering is often used in specific situations where attention is particularly required such as when used for emphasizing, reminding, and warning (Berlyne 1974). In such situations, individuals sense an authoritative image combined with an authoritative tone that regulates their words and deeds (Bowman et al. 2004; Cialdini and Goldstein 2004). For example, a "no smoking" sign in a public area is often presented in a strong design with large, heavy uppercase wordmarks that encourage compliance. Therefore, when consumers are exposed to strong designs, a sense of authority once implied by the context is activated, resulting in the strong designs appearing controlling, influential, and dominant (Brengman and Geuens 2004). Consequently, the uppercase wordmarks should activate a related association with authority. Again, such

authority perception may spill over from the wordmark onto the brand. Therefore, we propose the following:

**H2a** An uppercase (vs. lowercase) wordmark causes consumers to perceive the brand as more authoritative (less authoritative).

**H2b** This influence is mediated by the perceived strength of the wordmark.

Complexity, or the extent to which the stimuli is considered as complicated or intricate (McCarthy and Mothersbaugh 2002), is an important element in designs (Henderson and Cote 1998; Janiszewski and Meyvis 2001). The elaboration likelihood model (ELM) proposes two routes of persuasion: one is the central route in which the result of persuasion is derived from a person's careful consideration of information merit. The other is the peripheral route in which the persuasion results from associations with cues in the stimulus (Chaiken 1980; Petty and Cacioppo 1984). In general, consumers adopt the central route when they are highly involved and have a strong motivation to process the information, whereas they adopt the peripheral route when they are not motivated to process the information. With respect to typeface associations, it has been suggested that any typeface cues that generate semantic associations work along the peripheral route, and a high involvement with the information undermines such semantic associations by shifting consumer judgment to the central route (Childers and Jass 2002; Pan and Schmitt 1996). Because design complexity increases human motivation to process information (Morrison and Dainoff 1972), we propose that the complexity of the wordmark design may mitigate the effect of wordmark lettering case on brand perceptions. In sum, we propose the following:

**H3** Wordmark complexity moderates the effect of lettering case on brand perceptions. Specifically, the effect is weakened when the wordmark is perceived as complex.

## 2 Study 1

The purpose of study 1 is to test H1a and H2a that consumers exposed to a lowercase wordmark perceive the brand as friendlier but less authoritative than those exposed to a wordmark with an uppercase design.

### 2.1 Method

Three preliminary experiments were conducted to test the hypotheses. To avoid potential confounding influences stemming from existing perceptions of the brand, we adopted fictitious brand names in all three experiments, specifically, EVAN/ evan for experiment 1A, GEST/gest for experiment 1B, and APRIL/april for experiment 1C (for stimuli, see the Appendix). Participants (100, 71, and 106 in experiments 1A, 1B, and 1C, respectively) from a university in northern China were randomly assigned to the uppercase and lowercase wordmark conditions and received 5 RMB for their participation. Each participant was first exposed to either an uppercase or a lowercase wordmark, depending on assignment. After viewing the wordmark, participants rated the extent to which they agreed with a series of

statements concerning their perceptions of the brand on a seven-point rating scale (1 = "not at all"; 7 = "very much"). Perceived friendliness was measured by two items, which were "friendly" and "amiable" ($\alpha$ = 0.84, 0.72, and 0.78 in experiments 1A, 1B, and 1C, respectively). Perceived authority was measured by three items, which were "formal," "authoritative," and "influential" ($\alpha$ = 0.81, 0.89, and 0.76 in experiments 1A, 1B, and 1C, respectively). We also measured participants' mood as a control variable by following Hagtvedt's study (2011) on incomplete typeface logos. Participants reported their mood as "not at all happy/very happy," "not at all excited/ very excited," and "in a bad mood/in a good mood" ($\alpha$ = 74, 0.89, and 0.84 in experiments 1A, 1B, and 1C, respectively).

## 2.2 Results

We first conducted a series of ANOVAs on perceived friendliness and perceived authority with the letter case as the independent variable. Table 1 presents the results for all three experiments. It shows that each of the three preliminary experiments revealed the same pattern. As predicted, consumers perceived brands with lowercase wordmarks as friendlier but less authoritative than are brands with uppercase wordmarks in all three subsets of experiments. In addition, all the effects remained significant even if we included mood as a covariate. Mood had a positive influence on friendliness in experiments 1A and 1B and a positive influence on authority in experiments 1A and 1C (see Table 1). One possibility is that positive affect broadens cognition and facilitates associations (e.g., Davis 2009; Rowe et al. 2007), making connotative meanings more accessible for the participants in positive mood.

Next, to investigate whether there was any main effect of word or any interaction between letter case and word, we combined the data of all three subsets of experiments and conducted 2 (letter case) × 3 (word) ANOVAs on perceived friendliness and authority, respectively. The results of the ANOVA on perceived friendliness revealed a main effect of letter case ($F(1, 267) = 15.20$, $p < .001$), showing that lowercase wordmarks created a higher level of perceived friendliness than did uppercase ones. No other effects were observed. The results of the ANOVA on perceived authority revealed a main effect of letter case ($F(1, 267) = 17.42$, $p < .001$), showing that uppercase wordmarks were associated a higher level of perceived authority than were lowercase ones. There was also a marginally significant main effect of word ($F(2, 267) = 2.96$, $p = .06$). Specifically, participants perceived a lower level of authority in gest/GEST ($M = 4.23$, SD = 1.28) than those in evan/EVAN ($M = 4.53$, SD = 1.08; $t(166) = 1.66$, $p = 0.1$) and april/APRIL ($M = 4.67$, SD = 1.32; $t(171) = 1.66$, $p < 0.05$). No significant difference in perceived authority was revealed between evan/EVAN and april/APRIL ($t(203) = 0.81$, $p > 0.4$). One possibility is that the sound of gest/GEST may convey low authority perceptions, which is referred to as phonetic symbolism (Klink 2000; Lowrey and Shrum 2007).[1] The analyses revealed no other effects.

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[1] We thank an anonymous reviewer for offering the insight.

**Table 1** The influence of wordmark lettering case on brand friendliness and authority in study 1

| | Friendliness | | | | | | | Authority | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $M_u$ | $M_l$ | F | $\eta_p^2$ | $F_c$ | $F_m$ | $r_m$ | $M_u$ | $M_l$ | F | $\eta_p^2$ | $F_c$ | $F_m$ | $r_m$ |
| 1A | 3.85 | 4.40 | 4.73** | .05 | 5.51** | 4.40** | 0.24** | 4.87 | 4.19 | 10.57** | .10 | 10.50*** | 2.94* | 0.15 |
| 1B | 3.67 | 4.27 | 5.11** | .07 | 2.72* | 3.31* | 0.25** | 4.58 | 3.84 | 5.98** | .08 | 7.00** | 1.21 | 0.18 |
| 1C | 3.71 | 4.25 | 5.85*** | .02 | 5.84*** | 0.54 | 0.07 | 4.89 | 4.44 | 3.02* | .03 | 3.17* | 5.57** | 0.22** |

*$p < .10$; **$p < .05$; ***$p < .01$

Notes: $M_u$ indicates mean in the uppercase wordmark condition; $M_l$ indicates mean in the lowercase wordmark condition; $\eta_p^2$ indicates partial $\eta^2$; $F_c$ indicates F value of letter case when including mood as a covariate; $F_m$ indicates F value of mood; $r_m$ indicates the correlation coefficient between mood and dependent variables (authority and friendliness)

## 2.3 Discussion

The results of study 1 support H1a and H2a. By using three different wordmarks, the replications of the lettering case effect support our proposed hypothesis that brands with lowercase wordmarks are perceived to be friendlier than those with uppercase wordmarks, whereas brands with uppercase wordmarks are perceived to be more authoritative than are brands with lowercase ones.

## 3 Study 2

The purposes of study 2 are twofold: (1) to test the underlying mechanism of the wordmark lettering case effect by directly measuring psychological distance and perceived strength and (2) to examine the moderating role of wordmark complexity in the effect (H3).

### 3.1 Method

Study 2 employed a 2 (letter case: uppercase vs. lowercase) × 2 (wordmark complexity: high vs. low) between-subject design. Two hundred participants (49% female, $M_{age} = 27.5$ years) recruited from an online panel (www.witmart. com) were randomly assigned to one of the four conditions. As in study 1, each participant was first exposed to a fictitious brand wordmark. Wordmark complexity was manipulated by altering the length of the word. In the low complexity condition, participants were randomly assigned to two versions of a short wordmark ("hase" in the lowercase condition, "HASE" in the uppercase condition). In the high complexity condition, participants were randomly assigned to two versions of a long wordmark ("shaseeah" in the lowercase condition, "SHASEEAH" in the uppercase condition; for stimuli, see the Appendix). We used the same letters (h, a, s, e) in both the high and low complexity conditions in order to control for potential confounding effects of sound harshness (Klink 2000).

After viewing the stimulus, participants completed a questionnaire. We measured perceived friendliness and authority with the same method as in study 1. To measure psychological distance, we adopted the Inclusion of the Other in the Self (IOS) scale, which has been used successfully to measure the closeness between a person and an object (Brough and Isaac 2012). Perceived strength was measured by three items, which were "potent," "tough," and "strong" (Osgood et al. 1957) ($\alpha = 0.89$). For a manipulation check on wordmark complexity, participants also responded to three items measuring complexity, which were "difficult to remember," "difficult to discern," and "complex" ($\alpha = 0.83$).

### 3.2 Results and discussion

The data proved that the complexity manipulation was successful. A 2 (letter case) × 2 (complexity) ANOVA on wordmark complexity revealed that participants rated the wordmark in the high complexity condition as more complex ($M = 4.14$, SD = 1.37)

than the one in the low complexity condition ($M = 3.69$, SD $= 1.37$; F(1, 196) $= 5.08$, $p < .05$). No other effects were observed.

Next, we conducted 2 (letter case) × 2 (complexity) ANOVAs on perceived friendliness and authority, respectively. The ANOVA on perceived friendliness revealed a significant interaction (F(1, 196) $= 4.26$, $p < .05$). No other effects were observed. Planned contrasts, as plotted in Fig. 1, showed that participants perceived HASE to be less friendly than hase ($M_u = 4.11$, $M_l = 4.77$; F(1, 196) $= 5.52$, $p < .05$), while they perceived no difference in friendliness between SHASEEAH and shaseeah ($M_u = 4.68$, $M_l = 4.52$; F(1, 196) $= 0.32$, $p > .5$). The ANOVA on perceived authority showed a significant main effect of letter case (F(1, 196) $= 5.39$, $p < .05$), qualified with a marginally significant interaction (F(1, 196) $= 3.09$, $p = .08$). More importantly, planned contrasts, as plotted in Fig. 2, showed that participants perceived HASE to be more authoritative than hase, ($M_u = 4.92$, $M_l = 4.20$; F(1, 196) $= 8.32$, $p < .01$), while they perceived no significant differences in authority between SHASEEAH and shaseeah ($M_u = 4.60$, $M_l = 4.50$; F(1, 196) $= 0.16$, $p > .6$). These results support H3.

The data around psychological distance provided evidence for the underlying mechanism of wordmark lettering case on brand friendliness. A 2 (letter case) × 2 (complexity) ANOVA on psychological distance revealed only a significant interaction term (F(1, 196) $= 10.12$, $p < .01$). Importantly, planned contrasts revealed that consumers perceived the lowercase wordmark to be psychologically closer than the uppercase one in the low complexity condition ($M_u = 2.12$, $M_l = 2.88$; F(1, 196) $= 7.14$, $p < .01$), but not in the high complexity condition ($M_u = 2.80$, $M_l = 2.28$; F(1, 196) $= 3.34$, $p > .07$). Furthermore, bootstrap estimation (Hayes 2013; Preacher and Hayes 2004) in the low complexity condition confirmed that psychological distance mediated the effect of wordmark lettering case on perceived friendliness (LLCI $= 0.07$, ULCL $= 0.48$), with the effect size of 0.22. This supports H1b.

Similarly, a 2 (letter case) × 2 (complexity) ANOVA on perceived strength showed a main effect of lettering case ($M_u = 4.98$, $M_l = 4.35$; F(1, 196) $= 11.65$, $p < .01$) and a significant interaction (F(1, 196) $= 4.75$, $p < .05$). As predicted, uppercase wordmarks evoked a higher level of perceived strength in the low complexity condition ($M_u = 5.22$, $M_l = 4.19$; F(1, 196) $= 15.64$, $p < .001$), but not in the high complexity condition ($M_u = 4.74$, $M_l = 4.51$; F(1, 196) $= 0.76$, $p > .3$). The mediation analysis
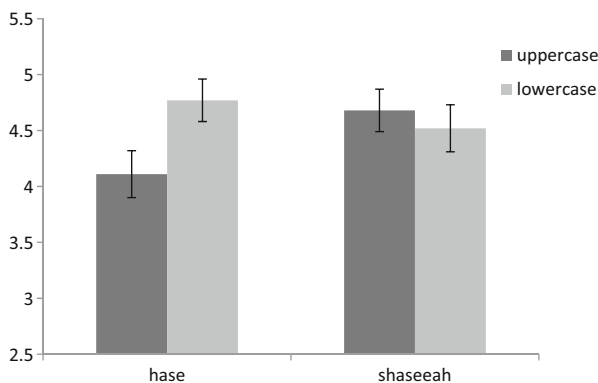


Fig. 1 Complexity moderates the effect of wordmark lettering case on perceived friendliness
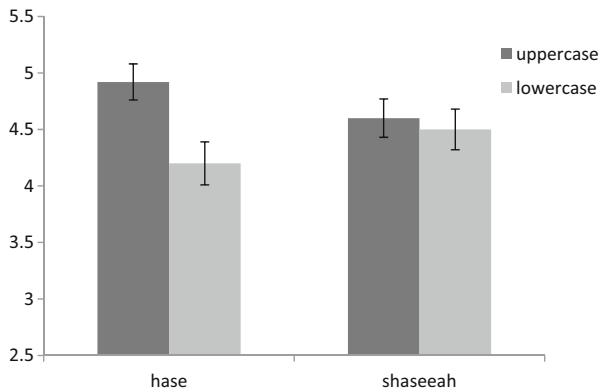
Fig. 2 Complexity moderates the effect of wordmark lettering case on perceived authority

in the low complexity condition revealed that perceived strength mediates the effect of wordmark lettering case on brand authority (LLCI = − 0.85 , ULCI = − 0.20). This supports H2b.

Study 2 tests the proposed mechanisms underlying the effects observed. For lowercase wordmarks, we find that consumers feel psychologically close to them, which leads to a high level of brand friendliness perception. However, uppercase wordmarks, due to high perceived strength, are associated with a perception of authority. In addition, the results of study 2 showed that the effect of wordmark lettering case on brand perceptions is moderated by complexity. Specifically, when a wordmark becomes complex, consumers may not be able to perceive its connotative meanings.

## 4 General discussion

Prior research has shown that uppercase wordmarks are perceived to have a higher level of perceived strength than do lowercase ones (Tannenbaum et al. 1964). This research extends the existing work by showing that lowercase wordmarks evoke a higher perception of friendliness, whereas uppercase ones evoke a higher perception of authority. We demonstrate that the former effect is the result of differences in psychological distance, and the latter is tied to the perceived strength of the wordmark.

Prior research has identified complexity as an important characteristic in logo design (Henderson and Cote 1998; Janiszewski and Meyvis 2001). This research contributes to the literature by showing that complexity may undermine the effect of a visual design on its meaning. When the visual stimulus is perceived as complex, people may have difficulty in interpreting the meaning connoted by the design.

From the managerial perspective, our research offers implications for marketers trying to establish a distinct personality for their brand. Both friendliness and authority are important characteristics of brand personality (e.g., Arora and Stoner 2009; van Reckom et al. 2006). However, little research has investigated how to maintain a friendly or authoritative brand image through wordmark design. This research provides

a new instrument for marketers to convey a specific brand image to the public by using upper or lowercase wordmarks. However, one factor requires special consideration when corporations apply such a strategy: design complexity. When a design is too complex, its communication effectiveness may be largely diluted.

The limitations of the current research present several directions for future research. First, we only examined friendliness and authority out of many brand personality attributes in the current research. A study on the impact of lettering case on other attributes such as perceived innovativeness and liveliness would be valuable because authority generally indicates conservativeness. Second, a study on the appropriateness of uppercase or lowercase designs for particular products or services would be valuable. For example, uppercase wordmarks may be more appropriate for meteorological services but not housekeeping services. Third, we manipulated complexity by altering the length of wordmarks, which might induce some unintended noises. Future research could adopt different methods to manipulate complexity and check the robustness of our findings.

## Appendix

Uppercase vs. lowercase lettering wordmarks used in studies 1–2.

| | |
|---|---|
| Experiment 1A | EVAN    evan |
| Experiment 1B | GEST    gest |
| Experiment 1C | APRIL    april |
| Study 2 | HASE    hase<br>SHASEEAH    shaseeah |

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