Disruptive but costly: How upside-down logos backfire in consumer responses to brands

Abstract

Marketers are increasingly using unconventional design tactics to visually disrupt consumer expectations, like turning brand logos upside down. Across four experiments, this research examined how inverted logos influence consumer brand responses. In two binary choice tasks (Studies 1A and 1B), participants exhibited a lower preference for an inverted logo than a standard logo for branded products. Study 2 determined the psychological mechanism underlying this effect: inverted logos increase perceived unexpectedness, which increases perceptions of brand rebelliousness and, ultimately, reduces purchase intentions. Study 3 demonstrated that political ideology moderates this effect: more conservative, but not liberal, consumers respond negatively to inverted logos. Finally, we discussed the theoretical and practical implications for logo design and visual branding strategies.

Keywords: Logo orientation; Perceived unexpectedness; Perceived rebelliousness; Political ideology; Schema congruity

1. Introduction

In July 2024, Adidas ( ) launched a branding campaign featuring an inverted logo ( ) inspired by footballer Jude Bellingham's iconic overhead kick (Brown, 2024). This unconventional visual approach grabbed attention and helped distinguish the brand in an oversaturated market. Recently, this tactic has gained traction among major brands. Nike inverted its signature swoosh in the 2025 third kit collection (Iluyomade, 2024), while McDonald's reimagined its iconic golden arches as part of its "**W**cDonald's" anime-themed campaign to promote limited-edition packaging (Kelly, 2024). Other brands, such as True Brand, New Era, and Supreme have adopted inverted logo designs for exclusive product lines and marketing campaigns (Vasquez, 2024).

Inverted logos have sparked two contrasting psychological arguments regarding their strategic effectiveness in brand communication. Supporters argue that inverting logos can evoke curiosity by breaking visual norms and introducing new challenges (Sun & Firestone, 2021). This disruptive approach can enhance brand distinctiveness and elevate the perception of luxuriousness (Tang et al., 2025). Meanwhile, critics contend that inverted logos may be visually complex to process, deviating from established aesthetic expectations, which is termed visual disfluency (Luffarelli et al., 2019a; Reber et al., 2004). It can hinder brand recognition and potentially backfire by making the brand appear rebellious, disruptive, or destabilizing (Janiszewski & Meyvis, 2001). Despite competing psychological views on brand logos' new challenges, few studies have empirically examined how consumers respond to inverted logos.

We investigate divergent consumer perspectives of inverted brand logos and their impact on attitudinal and behavioral responses. Across four experiments, we demonstrate how logo orientation influences consumer decision-making and the underlying psychological mechanisms.

Studies 1A and 1B assess whether consumers exhibit systematic preferences between standard and inverted logos in binary choice scenarios. Study 2 elucidates the psychological processes driving these preferences, particularly the mediating roles of perceived unexpectedness and brand rebelliousness in shaping purchase intentions. Study 3 examines political ideology as a potential boundary condition to explore how conservative and liberal consumers may differ in their responses to standard versus inverted logos.

Our research makes several key contributions to the marketing literature. First, while studies have investigated various aspects of logo design, like symmetry (e.g., Luffarelli et al., 2019a), color alterations (e.g., Song et al., 2022; Sundar & Kellaris, 2017; Zeng et al., 2025), and typographic modifications (e.g., Hagtvedt, 2011; Zhang et al., 2025), consumer responses to inverted logo designs remain largely unexplored, owing to their relatively recent emergence in branding practices. This is especially relevant, given the increasing use of inverted logos in contemporary visual branding strategies. Second, we identify and empirically reveal two psychological mechanisms through which inverted logos affect purchase intention: perceived unexpectedness and brand rebelliousness. Third, we establish political ideology as a significant boundary condition: conservative consumers exhibit a stronger aversion to inverted logos than their liberal counterparts. Practically, these findings offer actionable insights for brand managers, emphasizing the importance of aligning visual branding strategies with the target audience's ideological orientations.

2. Literature review

2.1. Consumers' responses to logo design

A logo refers to a set of elements that lend visibility and distinctiveness to a company's products and services (Henderson & Cote, 1998). It serves as a strategic communication device through which brands express their core identities (Erjansola et al., 2021; Singla & Sharma, 2022; Simões et al., 2005), differentiate themselves from competitors (Morgan et al., 2021; Ward et al., 2020), and signal key brand-specific attributes (Jiang et al., 2016; Li et al., 2023; Park et al., 2013) or broader organizational developments like rebranding or brand extension (Chen & Bei, 2020; Dew et al., 2022). It also functions as a perceptual cue that initiates consumer evaluation and facilitates a psychological connection with the brand (Hubert et al., 2024; DelVecchio et al., 2024). It helps consumers express their self-identity (DelVecchio et al., 2024; Park et al., 2013; Torelli et al., 2023), fosters favorable brand evaluations (Septianto & Paramita, 2021), and reinforces brand image (Kaur & Kaur, 2019). Logos can also influence behavioral intentions by increasing the willingness to pay a premium (Jiang et al., 2016) and enhancing user engagement (Yoo, 2023). Thus, logos are not merely aesthetic artifacts but integral components of brand experience and consumer response (Šola et al., 2025; Labrecque & Milne, 2012).

Hence, several firms have employed conventional visual tactics to optimize clarity, familiarity, and processing fluency. Symmetrical logos are perceived as more trustworthy and are associated with higher perceived product quality (Northey & Chan, 2020; Wu, 2025). Simple and consistent logo designs enhance visual fluency, facilitate brand identification, and contribute to more favorable brand evaluations and increased purchase intentions (Cho et al., 2021; Luffarelli et al., 2019b; Labroo et al., 2008). Furthermore, logos that adhere to category-specific conventions like standardized color schemes in pharmaceuticals or beverages, are linked to

greater consumer acceptance and willingness to pay premiums (Celhay & Luffarelli, 2024; Jiang et al., 2016; Labrecque & Milne, 2012). Thus, conventional design cues play a stabilizing role in enhancing brand recognition and reducing perceptual ambiguity.

Conversely, a growing number of brands have been using unconventional visual elements, including irregular typography, distorted proportions, and animated designs, to differentiate themselves in increasingly saturated markets. These atypical tactics deliberately violate visual expectations to enhance salience and convey symbolic uniqueness (Sun & Firestone, 2021; Tang et al., 2025). While such deviations can evoke perceptions of boldness, excitement, and innovation (Hagtvedt, 2011; Luffarelli et al., 2019b), they may reduce brand liking and persuasiveness by making the stimulus more difficult to process (Lee & Labroo, 2004; Wang et al., 2023). Visually unbalanced logos may convey instability or unpredictability, especially when the design contradicts consumers' internalized visual norms (Northey & Chan, 2020; Wu, 2025). Consequently, some consumers perceive such designs as unsettling and inappropriate (Li & Shin, 2023; Labrecque & Milne, 2013).

Table 1 summarizes the extant research on logo design to identify research gaps. Despite the growing prevalence of unconventional branding strategies, empirical research on the impact of inverted logos is limited. Thus, an open question remains: Do such visual deviations primarily function as attention-grabbing innovations or risk-undermining brand image? We investigate how inverted logos shape perceived unexpectedness and rebelliousness, and how these perceptions influence purchase intentions and brand evaluations.

[Insert Table 1 here]

3. Hypotheses development

3.1. Backfire effect of inverted logo orientation

A brand logo serves as the core representation of a company and functions as a key memory cue that stores brand identity, personality, and symbolic meaning (Keller, 1993). Traditionally, branding campaigns aimed to enhance consumers' perceived brand value through consistent and recognizable logo presentations. However, unconventional branding strategies may backfire when logos are excessively altered, like flipped, reversed, or mirrored, potentially resulting in unintended negative consumer responses (e.g., Machado et al., 2015; Wu, 2025; Velasco et al., 2015).

According to the schema-congruity theory (Mandler, 1982), individuals process information by referencing their existing cognitive schemas. Schemas refer to the mental structures or frameworks used to organize and interpret information based on prior experience and knowledge (Fiske & Taylor, 1991). Based on consumer psychology, the color of painkiller packaging should be red, as all other painkillers are in red packaging, and cola should be black, as no other cola colors have been introduced to the market (i.e., object schema; Bartlett, 1932). Thus, consumers cannot easily accept a black-colored package for a painkiller or orange colored cola. Similarly, logo designs such as inverted logos, incongruent with consumers' conventional expectations can cause issues with brand credibility and/or pose a threat to brand value (de Mooij, 2019). Furthermore, logos contain semiotic meanings, providing consumers with cultural and social meanings by conforming to an accepted format and layout within a reasonable range of variation (Chandler, 2007; Zajonc, 1968). Any unconventional or inconsistent way of representing brand identity, meaning, images, and values through logo design may result in unintended negative consumer evaluations (Aaker, 1996). This is because consumers spend more

cognitive energy processing a logo as an outcome of schema incongruity. This induces negative evaluations of psychological discomfort (e.g., Festinger, 1957; Machado et al., 2015; Reber et al., 2004).

Although few studies have specifically focused on the impact of inverted logos on consumer evaluations, empirical evidence from other similar brand design contexts provides additional support for the negative impact of inverted logos. Specifically, perceived stability or expectancy plays an important role in logo design. Logo designs with asymmetric features (Huang et al., 2021; Luffarelli et al., 2019a), diagonally oriented logos (Li et al., 2020), visual imbalances (Wang et al., 2023), and logo complexity (Van Grinsven & Das, 2016) are more likely to induce negative consumer evaluations in terms of brand recognition, affective brand attitudes, product attitudes, and purchase intentions. Accordingly, we hypothesize the following:

H1: *Consumers are less likely to prefer an inverted logo compared to a standard logo.*

3.2. Perceived unexpectedness and rebelliousness

Well-established brand logos function as visual heuristics, enabling consumers to efficiently identify and evaluate brands through stable mental representations (Henderson & Cote, 1998). Visual cues facilitate brand recognition (Balmer & Gray, 2000), enhance familiarity (Foroudi et al., 2014), and reinforce brand identity through symbolic representations (Henderson & Cote, 1998). An inverted logo is expected to disrupt these ingrained perceptual norms, generating surprise and unexpectedness (Henderson & Cote, 1998).

Perceived unexpectedness is defined as "a deviation from typical or expected communication patterns that leads to a violation of expectations" (Baek et al., 2025, p. 6). Schema-congruity theory (Mandler, 1982) posits that consumers tend to rely on well-developed mental schemas—cognitive frameworks formed through repeated exposure—to process familiar

stimuli, like brand logos. Incongruities with schemas can elicit diverse negative affective and cognitive responses, including increased scrutiny of and skepticism toward a brand (Meyers-Levy & Tybout, 1989; Peracchio & Tybout, 1996; Gürhan-Canli & Maheswaran, 1998). Therefore, an inverted logo is expected to violate the schemas.

Schematic violations are likely to trigger perceptions of unexpectedness (stage 1 response) and rebelliousness (stage 2 response). According to expectancy violation theory (Burgoon & Hale, 1988), deviations from normative expectations such as inverted logos heighten arousal and require additional cognitive effort as consumers attempt to resolve the inconsistency, potentially resulting in negative consumer responses (Meyers-Levy & Tybout, 1989; Gao et al., 2022). For instance, Saeed et al. (2024) found that when brand expectations are breached, consumers feel betrayed, leading to vindictive complaints and retaliatory behaviors. Similarly, Cho et al. (2021) reported that more severe violations can provoke consumer backlash and perceptions of betrayal. Li and Shin (2023) showed that unexpected elements, such as emoticons used by luxury brand chatbots, can undermine brand status by reducing the perceived appropriateness of consumer-brand interactions. Overall, when brands defy expectations, the resulting sense of unexpectedness often invites consumer backlash and challenges brand legitimacy (Cho et al., 2021).

However, consumer perceptions of unexpectedness alone do not fully explain why they respond negatively to brands that violate design norms. We propose a sequential mechanism, in which *rebelliousness* acts as an additional mediator. Rebelliousness is the perception that a brand intentionally defies established conventions and challenges the status quo (Bowen & Papadopoulou, 2025; Warren et al., 2019). Depending on the brand identity and audience, this perceived rebelliousness can be valenced either positively (e.g., brands that seek to appear edgy)

or negatively (e.g., established and tradition-focused brands). When consumers infer that a brand is deviating from the traditional function of logos as a stable and trustworthy identifier, they may interpret the logo as rebellious. Such designs may be viewed as excessive or desperate, undermining brand legitimacy (Meyers-Levy & Tybout, 1989; Luffarelli et al., 2019a). While subtle design variations (e.g., asymmetric layouts and unconventional colors) may evoke curiosity or excitement (Hagtvedt, 2011; Luffarelli et al., 2019a; Sun & Firestone, 2021), extreme deviations, like inverted logos, may signal unpredictability, discomfort, and instability, which are associated with lower brand trust and credibility (Burgoon & Hale, 1988; Henderson & Cote, 1998; Li & Shin, 2023; Luffarelli et al., 2019a). Consequently, the perception of rebelliousness resulting from unexpected design choices may cause consumers to hesitate while selecting a brand. Accordingly, we hypothesize the following:

H2: *The effect of an inverted (versus standard) logo on purchase intentions is sequentially mediated by perceived unexpectedness and perceived rebelliousness (logo orientation → unexpectedness → rebelliousness → purchase intention).*

3.3. Moderator: Political ideology

We propose that political ideology, commonly situated along the liberal–conservative spectrum, serves as a key moderating variable. Marketing research has shown that political ideology shapes consumer attitudes, decision-making processes, and behavioral outcomes across diverse contexts (e.g., Crockett & Wallendorf, 2004; Jost et al., 2013).

Political ideology is an individual's framework for interpreting the world and related issues through a political lens, shaping their attitudes and guiding political behavior (Heywood, 2017; Jost et al., 2009). It exists along a continuous spectrum, where high conservatism corresponds to low liberalism, and vice versa, delineating positions along the political left–right

continuum (Jost et al., 2008). Specifically, conservative consumers tend to value tradition, stability, and resistance to uncertainty. These values often manifest in behaviors like risk aversion, avoidance of novel challenges, and loyalty to familiar brands (Duman & Ozgen, 2018; Jost et al., 2009; Jung & Mittal, 2020; Shavitt, 2017). Conversely, liberal consumers are generally driven by values that promote openness to new experiences, desire for uniqueness and differentiation, and willingness to embrace risk and change (Jost et al., 2009; Kidwell et al., 2013). Consumers are more likely to support brands that align with their political ideologies (Duman & Ozgen, 2018; Shavitt, 2017). Conservatives typically prefer well-established national brands and widely endorsed products. Meanwhile, liberals are more inclined to favor niche or non-mainstream brands, viewing them as opportunities for self-expression and innovation (Khan et al., 2013; Plutzer et al., 1998).

Despite considerable research examining the influence of political ideology on consumer psychology and behavior (e.g., Ketron et al., 2022; Kidwell et al., 2013; Oyserman & Schwarz, 2017), its implications for branding strategies, particularly in the context of logo design, remain underexplored. We propose that conservative consumers, who tend to resist change and prefer familiar stimuli, are more likely to respond negatively to inverted logo designs. Conversely, liberal consumers, who are generally more open to change and novelty, are expected to be more receptive to design variations. While not directly examining inverted logos, Northey and Chan (2020) found that politically conservative consumers demonstrated a stronger preference for symmetric over asymmetric brand logos. This is because asymmetric designs fall outside conservatives' expected visual norms, require greater cognitive effort to process, and are potentially perceived as a challenge to traditional design conventions. Accordingly, we hypothesize the following:

H3*: The effect of an inverted (versus standard) logo is moderated by political ideology. Specifically, conservative consumers respond more negatively to an inverted logo than to a standard logo, whereas this negative effect is attenuated among liberal consumers.*

4. Overview of studies

We conducted four experimental studies to test the proposed hypotheses. Study 1A used a consequential consumer decision task (Carson et al., 2014) to examine consumer preferences for either an inverted or standard logo design when evaluating a branded product. Study 1B replicated the findings of Study 1A and explored whether the observed preference patterns held across different product categories. Study 2 investigated the serial mediating roles of unexpectedness and rebelliousness in explaining the effect of logo orientation on purchase intentions. Finally, Study 3 tested the moderating role of political ideology.

Participants in all four studies were U.S. adults recruited via CloudResearch Connect, a widely used platform for academic research participant recruitment (Douglas et al., 2023). This platform provides access to a demographically diverse sample of U.S. adults, aligning with best practices in online experimental research (Goodman & Paolacci, 2017). All studies employed identical recruitment procedures and eligibility criteria. Participants were compensated $0.50 for completing a study, each lasting approximately five minutes. The research protocol for the studies was approved by the Institutional Review Board of the first author's affiliated institution.

5. Study 1A

5.1. Study goal and design

Study 1A investigated whether consumers were less likely to prefer an inverted logo to a standard logo when evaluating a branded product. To enhance ecological validity, we used the

real brand name COMME des GARÇONS and employed a consequential choice task, ensuring that participants' decisions had real-world implications and reflected authentic preferences.

5.2. Participants, power analysis, and measures

In total, 380 U.S. adults participated in the study (56.1% women; M_{age}=38.61, *SD*=12.24). A larger sample size was used to ensure adequate statistical power to detect small-to-medium effects. A power analysis conducted using G*Power 3.1 (Faul et al., 2009) for a chi-square goodness-of-fit test indicated that a sample of 130 participants would be sufficient to detect a medium effect size (w=0.30) with 80% power at α=0.01. The final sample size of 380 exceeded this threshold, ensuring robust power and stability of the results.

To reduce potential demand characteristics, the participants first completed a brief unrelated survey on life satisfaction. They were then informed they could enter a product lottery and asked to choose between two COMME des GARÇONS t-shirts as a token of appreciation (see Appendix A). The two t-shirts were visually identical, except for logo orientation: one featured the standard heart logo, whereas the other displayed its inverted logo. The order of presentation was randomized across the participants to control for positional effects. Finally, the participants provided demographic information, including sex, age, race, education level, and household income.

5.3. Results

Analyzing participants' preferences for logo orientation using a chi-square test, we found a significant preference for the t-shirt with the standard logo orientation (74.7%, n=284) over the inverted logo (25.3%, n=96), $\chi^2(1)=93.01$, $p<.001$, $\varphi=0.494$. Thus, the standard logo showed greater preference than expected by chance. We also conducted a binary logistic regression to examine whether demographic variables predicted logo preferences (standard versus inverted)

and found no significant effects for sex (p=0.112), age (p=0.803), race (p=0.980), education (p=0.588), and income (p=0.453).

5.4. Discussion

Participants showed significantly lower preference for inverted logos compared to standard logos, providing initial support for H1. However, these results may be influenced by brand-specific factors or limited to the apparel category. Moreover, individual differences such as the need for uniqueness could offer an alternative explanation, as consumers higher in this trait may be more inclined toward unconventional logo designs. To strengthen generalizability and address this alternative account, we conducted Study 1B using a different brand and product category, while also measuring participants' need for uniqueness (Ruvio et al., 2008).

6. Study 1B

6.1. Study goal and design

Study 1B replicated the findings of Study 1A while introducing several key modifications to test the robustness and generalizability of the logo orientation effect. First, to assess whether the effect extends beyond a specific brand or product category, this study used a different brand (LA Dodgers) and product type (baseball caps). Second, to eliminate the potential confounders related to the visual (heart) logo used in Study 1A, Study 1B employed typeface-based logos. Third, to address the alternative explanation that individual differences in desiring uniqueness may drive logo preferences, we measured participants' need for uniqueness using the scale developed by Ruvio et al. (2008).

6.2. Participants, power analysis, and measures

In total, 198 U.S. adults participated in the study (57.6% female; M_{age}=38.42, SD=12.59). We used the same power analysis parameters as Study 1A, assuming a medium effect size

(w=0.30), 80% power, and a significance level of α=0.01. A power analysis conducted using G*Power 3.1 (Faul et al., 2009) indicated that a minimum of 130 participants were required. The final sample of 198 exceeded this threshold.

Participants first completed a measure of their need for uniqueness using a 7-point Likert scale (1=strongly disagree, 7=strongly agree), which included six items assessing the extent to which individuals seek uniqueness through consumption choices (Ruvio et al., 2008). Next, similar to Study 1A, participants were informed that they would enter a raffle to win a product as a token of appreciation and were asked to choose between two adjustable caps featuring a standard versus an inverted logo (see Appendix A). The presentation order of the options was randomized to control for position effects. Demographic information (e.g., sex and age) was collected at the end of the study.

6.3. Results

A chi-square test revealed that participants significantly preferred the cap with the standard logo orientation (80.8%, n=160) over the inverted logo (19.2%, n=38), $\chi^2(1)=75.17$, $p < .001$, $\varphi=0.617$. Thus, the standard logo was significantly more preferred than expected by chance. Consistent with Study 1A, the binary logistic regression analysis showed that neither the need for uniqueness nor any demographic variables significantly predicted logo preference (all p-values > .178): the need for uniqueness (B=0.18, SE=0.13, p=0.178), sex (p=0.906), age (p=0.849), race (p=0.959), education (p=0.227), and income (p=0.714).

6.4. Discussion

Study 1B's results using a different brand and product category demonstrated that consumer preference for a standard logo orientation is not limited to specific brands or logo designs. Studies 1A and 1B consistently indicated that this preference reflects a general

consumer tendency. Importantly, individual differences in the need for uniqueness did not predict logo-orientation preferences, ruling out the alternative explanation that this effect was driven by consumers' desire for distinctiveness. Thus, H1 was supported across various brands, product categories, and logo types.

7. Study 2

7.1. Study goal and design

Study 2 extended the findings of Studies 1A and 1B by investigating the underlying psychological mechanisms driving consumer responses to inverted logos. Specifically, it tested whether inverted (versus standard) logos increased perceptions of unexpectedness, which in turn elevated perceptions of rebelliousness, ultimately reducing purchase intention. Participants were randomly assigned to one of two experimental conditions in a one-factor between-subjects design (logo orientation: standard versus inverted). Each participant viewed an Instagram advertisement for Adidas (see Appendix B) featuring either the standard or inverted logo.

7.2. Participants, power analysis, and measures

In total, 166 U.S. adults participated in this study. To ensure data quality, an attention check item was included ("Generally speaking, what is the color of snow?"), with those failing the check (n=4) excluded. This yielded a final sample size of 162 (47.0% male; M_{age}=38.59, SD=10.36). Before data collection, an a priori power analysis was conducted using G*Power 3.1 (Faul et al., 2009). Assuming a medium-to-large effect size (Cohen's d=0.60), 80% power, and a two-tailed significance level of α=0.01, the recommended minimum sample size was 134. The final sample of 162 exceeded this threshold.

All measures used 7-point Likert scales (1=strongly disagree, 7=strongly agree). Perceived unexpectedness was assessed using three items adapted from prior research (Baek et

al., 2025; Li & Shin, 2023): “The logo featured in the Instagram ad was different from what I expected,” “The way the logo was presented was uncommon,” and “The logo appeared in a way that violated my expectations” (α=0.87). Perceived rebelliousness was measured with two items adapted from Biraglia and Brakus (2015): “The logo in this Instagram ad makes the brand appear rebellious” and “The way the logo was displayed seems to challenge conventional design norms” (α=0.88). Purchase intention was assessed using two items from Kim et al. (2020): “How likely are you to purchase this brand?” and “How willing are you to purchase this brand in the future?” (α=0.95).

Participants also completed a manipulation check assessing logo orientation (e.g., “The logo in this ad was upside-down”) and reported brand familiarity using a single-item measure (e.g., “How familiar are you with the Adidas brand?” 1=Not at all familiar; 7=Very familiar). Brand familiarity was included as a covariate. Finally, participants provided their demographic information.

7.3. Results

A manipulation check confirmed that the participants perceived the inverted logo as significantly more inverted than the standard logo ($M_{inverted}$=5.77, SD=1.98; $M_{standard}$=2.16, SD=1.60); $t(160)=12.64$, $p < .001$, Cohen’s d=1.99), indicating successful manipulation.

A series of analyses of covariance (ANCOVA) tests were conducted with logo orientation as a between-subjects factor and brand familiarity as a covariate. The results revealed significant differences across all dependent variables. Participants exposed to the inverted logo reported significantly higher levels of perceived unexpectedness compared to those shown the standard logo ($M_{inverted}$=4.98, SD=1.53, $M_{standard}$=2.53, SD=1.45; $F(1, 159)=104.52$, $p < .001$, η_p^2=0.40). Similarly, perceptions of rebelliousness were significantly higher in the inverted logo

condition ($M_{inverted}$=4.10, SD=1.78, $M_{standard}$=2.45, SD=1.55; F(1, 159)=38.59, $p < .001$, η_p^2 =0.20). Conversely, purchase intentions were significantly lower for participants in the inverted logo condition compared to the standard logo condition ($M_{inverted}$=4.32, SD=1.80, $M_{standard}$=5.00, SD=1.59; F(1, 159)=9.88, p=0.002, η_p^2 =0.06).

To examine the proposed serial mediation pathway of "logo orientation → unexpectedness → rebelliousness → purchase intentions," a serial mediation analysis was conducted using Hayes' (2017) PROCESS Model 6 with 5,000 bootstrap samples and included brand familiarity as a covariate. The inverted logo orientation significantly increased perceived unexpectedness (b=2.42, SE=0.24, 95% CI [1.95, 2.90]) (Figure 1). Perceived unexpectedness significantly increased perceived rebelliousness (b=0.73, SE=0.07, CI [0.59, 0.86]), which was associated with a significant decrease in purchase intentions (b=-0.27, SE=0.10, CI [-0.46, -0.08]). The total effect of logo orientation on purchase intentions (b=-0.80, SE=0.25, CI [-1.30, -0.30]) and direct effect after accounting for the mediators (b=-1.01, SE=0.32, CI [-1.64, -0.38]) were significant. Importantly, the indirect effects of perceived unexpectedness and rebelliousness were also significant (b=0.48, SE=0.20, CI [.14 to .90]), supporting H2.

[Insert Figure 1 here]

7.4. Discussion

In Study 2, our findings empirically show that the effect of an inverted logo orientation on purchase intention is sequentially mediated by perceived unexpectedness and perceived rebelliousness. While rebelliousness may sometimes be associated with uniqueness and appeal to certain consumers (Koskie & Locander, 2023), deviations from conventional designs can also violate expectations of brand congruity, raise concerns about product quality, and ultimately lower purchase intentions. However, consumer responses to such deviations may differ,

depending on individual characteristics. Hence, Study 3 examined political ideology as a moderating variable to investigate whether consumers with liberal versus conservative orientations respond differently to an inverted logo design.

8. **Study 3**

8.1. Study goal and design

Study 3 examined whether political ideology moderates the effect of logo orientation on consumer attitudes toward a brand with either an inverted or a standard logo. This study employed a mixed-factorial design, with logo orientation (standard versus inverted) as a between-subjects factor and political ideology as a measured continuous variable. Participants were randomly assigned to one of two experimental conditions in a one-factor between-subjects design (logo orientation: standard versus inverted). Participants were asked to imagine that they were planning to purchase a new tote bag and then shown an image of a tote bag from the fashion brand *Zara*. The only difference between the conditions was the orientation of the *Zara* logo in the bag (see Appendix C).

8.2. Participants, power analysis, and measures

A total of 193 participants were included after excluding two individuals who failed the attention check (46.1% female; M_{age}=38.13, SD=12.18). An a priori power analysis using G*Power 3.1 (Faul et al., 2009) was conducted to determine the sample size required to detect the interaction effect between logo orientation and political ideology. Assuming a medium effect size (f=0.25), 80% power, and a two-tailed significance level of α=0.01, the recommended sample size was 191. The final sample size of 193 individuals exceeded this threshold.

Brand attitude was measured using three items from Baek et al. (2023) on 7-point semantic differential scales (1=bad/negative/unappealing, 7=good/positive/appealing; α=0.94). A

manipulation check assessed the participants' perception of logo orientation, and brand familiarity was measured and included as a covariate, consistent with Study 2. Political ideology was assessed using a single-item 9-point semantic differential scale (1=liberal, 9=conservative; Northey & Chan, 2020). This measure has demonstrated strong validity in prior political psychology research (e.g., Chan, 2016; Northey & Chan, 2020; Winterich et al., 2012) and was appropriate for examining the moderation effects in Study 3. The participants also provided demographic information.

8.3. Results

A manipulation check confirmed the effectiveness of logo-orientation manipulation. Participants perceived the inverted logo as significantly more inverted than the standard logo ($M_{inverted}$=6.55, SD=1.43 versus $M_{standard}$=1.16, SD=0.64; $t(191)=33.63$, $p < .001$; Cohen's d=4.84).

To examine the moderating role of political ideology, we conducted a moderation analysis using Hayes' (2017) PROCESS Model 1 with 5,000 bootstrap samples, including brand familiarity as a covariate. We found a significant main effect of logo orientation on brand attitudes (b=-0.65, SE=0.24, p=0.007, CI [-1.12, -0.18]) and a non-significant main effect of political ideology (b=0.08, SE=0.05, p=0.12, CI [-0.02, 0.17]). As predicted, logo orientation and political ideology had a significant interaction (b=-0.19, SE=0.09, p=0.04, 95% CI [-0.38, -0.01]; Cohen's f^2=0.039).

Further analysis (see Figure 2) showed that an inverted logo significantly reduced brand attitudes compared to a standard logo among more conservative participants (one SD above the mean of political ideology: $M_{inverted}$=3.35 versus $M_{standard}$=4.49, b=-1.14, SE=0.34, $p < .001$, CI [-

1.81, -0.48]), but not among more liberal participants (one SD below the mean: $M_{inverted}$=3.61 versus $M_{standard}$=3.45, b=-0.16, SE=0.34, p=0.63, CI [-0.83, 0.50]).

[Insert Figure 2 here]

To investigate this further, we conducted a floodlight analysis using the Johnson–Neyman technique to identify the specific range of political ideology values for which the effect of logo orientation on brand attitude was significant. We found that the effect became significant at political ideology scores of -0.82 or higher (b=-0.49, SE=0.25, p=0.05), corresponding to 56.5% of participants. For those scoring below -0.82 (43.5% of participants), the effect was not significant. These results provide additional support for H3.

8.4.Discussion

The findings of Study 3 identify political ideology as a key boundary condition in consumers' responses to inverted logos. The negative effect of an inverted logo on brand attitudes was significant among more conservative individuals but not among liberals. This finding aligns with prior research showing that conservatives, compared to liberals, tend to rely more on intuitive processing and, therefore, prefer symmetric to asymmetric brand logos because of higher processing fluency (Northey & Chan, 2020). Similarly, inverted logos may conflict with conservative preferences for orderly, conventional design elements. Thus, political ideology shapes how consumers interpret visual disruptions in branding, highlighting that unconventional design strategies such as inverted logos may be ineffective or counterproductive.

9. General discussion

9.1. Summary

Across the four experimental studies, we found consistent evidence that consumers exhibited a robust preference for standard over inverted logo orientations. Study 1 showed that

consumers prefer products featuring a standard logo to those featuring an inverted logo. Process evidence from Study 2 clarified why inverted logos backfire: Presenting an inverted logo increased feelings of unexpectedness, thereby increasing perceptions of rebelliousness and reducing purchase intentions. Thus, when a logo violates the expected visuals, consumers may infer a rebellious stance that can erode their buying interest, even for familiar brands. Finally, Study 3 revealed that political ideology moderates the negative effect of inverted logos. While liberal consumers were largely indifferent to logo orientation, conservative individuals exhibited significantly more negative attitudes toward brands with inverted logos.

9.2. Theoretical implications

First, this study advances research on brand logo design by introducing logo orientation as a previously underexplored factor that significantly shapes consumer responses. While studies have examined various design elements like asymmetry (Luffarelli et al., 2019a), color (Song et al., 2022; Sundar & Kellaris, 2017), and typography (Hagtvedt, 2011; Zhang et al., 2025), consumer reactions to inverted logos have received little attention. We address this gap by demonstrating that logo orientation serves as a salient visual cue that can systematically influence brand evaluation and purchase intentions. Thus, we extend the logo design literature beyond traditional components such as typeface, shape, and color to establish orientation as a critical yet overlooked branding variable.

Second, we integrate two theoretical frameworks—schema congruity (Mandler, 1982) and expectancy violation theories (Burgoon & Hale, 1988)—to explain consumer responses to logo orientation in a branding context. While norm-violating brands may be perceived as cool, exciting, or innovative (Hagtvedt, 2011; Warren & Campbell, 2014), we reveal a critical tipping point at which such deviations can backfire. Specifically, logo inversion, as a form of visual

incongruity, can engender negative brand evaluations when it strongly violates consumer expectations.

Third, we reveal a novel psychological mechanism through which inverted logos influence purchase intentions. Prior research has primarily emphasized processing fluency as the dominant mediator: visual complexity or disfluency impairs evaluations by increasing cognitive processing difficulty (Janiszewski & Meyvis, 2001; Meyers-Levy & Tybout, 1989; Peracchio & Tybout, 1996). Meanwhile, we identify a distinct pathway rooted in social interpretation. Specifically, inverted logos increase perceived unexpectedness and thus inferences of brand rebelliousness. This reflects social meaning-making processes, rather than cognitive ease or difficulty.

Finally, we establish political ideology as a meaningful moderator of consumer responses to unconventional branding strategies. We demonstrate significantly stronger negative effects of inverted logos among conservative consumers, thereby connecting the visual branding literature with a growing literature on consumer political identity (Jost et al., 2009, 2013). It offers compelling evidence that the core psychological drivers linked to political ideology, like conservatives' preferences for tradition and order versus liberals' openness to change and novelty, systematically shape how consumers interpret and evaluate deviations from normative brand design. These results highlight the importance of accounting for ideological orientation when deploying visually disruptive branding strategies.

9.3. Practical implications

Previous research suggests that not all schematic violations elicit negative emotional responses, such as anger (Antonetti et al., 2020) or regret (Sameeni et al., 2022). Moderate deviations from design norms can enhance consumer perceptions of creativity and innovation

(Hagtvedt, 2011; Warren & Campbell, 2014). However, our findings indicate that more extreme alterations, such as inverted logos, may produce adverse effects among general audiences. While prominent brands such as Adidas and McDonald's have experimented with inverted logo designs, such visually jarring modifications may exceed consumers' perceptual tolerance, leading them to perceive the brand as excessively non-conforming. In particular, inverted logos may be seen as intentionally rebellious, potentially eliciting negative reactions from certain consumer segments. Although inverted logos generally diminish brand attitudes, this negative effect is significantly mitigated among liberal-leaning consumers. Brand managers should approach dramatic logo redesigns with caution because excessive deviations from established visual identities risk eroding brand equity. For example, youth-oriented or countercultural brands may find that such visual inversions convey rebelliousness as a positive attribute, deepening consumer engagement when the redesign aligns authentically with the brand's established identity. Therefore, brands should carefully evaluate the cultural and political values of their core demographics before implementing an inverted logo.

Using real brands in our experiments reinforces the external validity of our findings. However, it also highlights that, in practice, brands rarely flip their logos in isolation; instead, they often embed such changes in broader storytelling or campaign narratives. Our findings indicate that inverting a logo without providing an explanation risks negative consumer reactions. These findings suggest that pairing inverted logos with storytelling that aligns with brand values—like "innovation for positive change" or "confident nonconformity"—might reinforce positive brand associations. For example, framing inversion as a symbol of innovation (e.g., "upside-down to spark creative thinking") or social purpose (e.g., "flipped in solidarity

with International Women's Day") shifts consumer perceptions from mere nonconformity to meaningful intent.

Successful implementation requires strategic consistency across all consumer touchpoints. Narratives supporting inverted logos should be communicated cohesively across packaging, advertising, and social media, and reinforced through memorable taglines (e.g., #FlipForChange). We recommend that brands pre-test different narrative framings, such as innovation, sustainability, or cause marketing, to determine which approach most effectively reduces negative reactions and boosts engagement. For example, future research could examine how framing inverted logos within sustainability or social impact narratives influences consumer responses, especially given the recent findings that stress the importance of aligning branding with broader sustainability initiatives (Zarreh et al., 2024).

We synthesize our findings into key recommendations to provide managers with actionable insights (see Table 2). These guidelines enable brands to make informed decisions about when and how to use inverted logos, considering audience characteristics, brand positioning, and the importance of contextual framing.

[Insert Table 2 here]

10. Limitations and Future Research Directions

This study has some limitations that offer opportunities for future research. First, our study focused exclusively on self-expressive products (e.g., t-shirts, hats, and tote bags), as these items commonly feature inverted logos in real-world branding campaigns. While this enhances contextual relevance, it limits the generalizability to other product categories. Future research should examine whether similar visual disruptions elicit comparable consumer responses in more functional or utilitarian product contexts where self-expression is less central. For instance,

consumers may be more inclined to avoid inverted logos on utilitarian products than on hedonic or self-expressive ones, since utilitarian products are closely associated with reliability and structural clarity, whereas hedonic or expressive products evoke novelty and emotional engagement (Wu, 2025; Yim et al., 2014b).

Second, our findings are based on a U.S. adult sample and may not reflect cultural differences in logo perceptions. Different cultures ascribe distinct meanings to visual and symbolic elements, including inverted brand logos (Nisbett et al., 2001). East Asian consumers, who tend to engage in holistic thinking, may evaluate logos within a broader harmonious framework and react differently from Western consumers, who tend to assess visual elements in isolation (Barthes, 1972; Nisbett et al., 2001). Similarly, consumers in conservative or closed societies may react more negatively to inverted logos, perceiving them as rebellious or non-conformist (Escalas & Bettman, 2005; Yim et al., 2014a). Additionally, cultural dimensions, particularly uncertainty avoidance, can affect preferences. Consumers from cultures with high uncertainty avoidance may respond negatively to inverted logos, perceiving them as ambiguous or disruptive to expected brand symbolism (Monga & John, 2007). To assess the robustness and generalizability of our findings, future research should examine how inverted logos are perceived across cultures with different norms regarding visual symbolism, brand identity, and conservatism (Pineda et al., 2022).

Third, we focused on short-term consumer reactions, whereas branding strategies often require long-term perspectives to capture more accurate evaluations. Prolonged exposure to inverted logos may reduce their initial negative impact on conservative consumers because repeated encounters can alleviate the discomfort associated with unfamiliar or unexpected visual elements (cf., habituation-tedium theory, Sawyer, 1981; Yim et al., 2012). Replicating these

studies over extended time frames can reveal the durability and evolution of the observed effects. Future work should distinguish between positive (e.g., “cool,” “edgy”) and negative (e.g., “unstable,” “disruptive”) forms of rebelliousness. Brands targeting younger consumers seeking coolness, or countercultural brands, may leverage positive rebelliousness to reinforce identity and boost engagement, whereas mainstream brands face higher risks. These investigations would clarify when and for whom logo orientation strategies are most effective, and how strategic framing can help brands benefit from this bold design choice.

Although the use of a single-item measure for political ideology in Study 3 is consistent with prior research in political psychology (e.g., Chan, 2016; Northey & Chan, 2020; Winterich et al., 2012), this approach may lack nuance. Employing a multi-item measure based on individuals’ positions on specific political issues (e.g., environmental regulations; Treier & Hillygus, 2009) could enhance the reliability and depth of ideological assessment.

Finally, other individual and contextual moderators warrant further exploration. While some individuals may view inverted logo designs as innovative, distinctive, and engaging, others may not share this perception (Sun & Firestone, 2021; Tang et al., 2025). For example, consumers purchasing premium or well-established brands may prefer traditional logo formats that signal brand consistency and trustworthiness (Bettman et al., 1998). Susceptibility to interpersonal influence is another determinant. Individuals who are highly influenced by social norms or peer opinions may gravitate toward standard logo designs to align with perceived expectations (Yim et al., 2014a). Future research examining the interplay between these potential moderators could provide valuable insights into when and for whom inverted logo strategies are most likely to succeed.

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Table 1. Summary of Research on Logo Design

Author(s)	Logo design context	Mediator(s) /Moderator(s)	Dependent Variable(s)	Key findings
Hagtvedt (2011)	Logo completeness (complete versus incomplete)	Mediator: Perceived interestingness Perceived clarity	Perceived trustworthiness	Incomplete typeface logos lower perceived trustworthiness via reduced clarity and raise perceived innovativeness via interestingness; their overall effect on brand attitude is negative for prevention-focused consumers.
		Moderator: Regulatory focus (promotion versus prevention)	Perceived innovativeness	
			Brand attitude	
Labrecque & Milne (2012)	Logo color (red versus blue)	Mediator: Perceived brand personality traits	Brand personality perception	Red (blue) logos are associated with brand excitement (competence). These color–trait associations influence brand attitudes and consumer responses.
			Brand attitude	
			Behavioral intention	
Fajardo et al. (2016)	Logo frame type (framed versus unframed)	Mediator: Symbolic association	Brand attitude	Framed logos are perceived as protective in high-risk purchases (increasing purchase intention), but confining in low-risk contexts (decreasing brand attitude). Symbolic meaning of frames shifts depending on situational context.
		Moderator: Purchase risk (low versus high) Regulatory focus (promotion versus prevention)	Purchase intention	
Jiang et al. (2016)	Logo shape (circular versus angular)	Mediator: Perceived brand traits (warmth versus competence)	Brand attitude	Circular logos increase perceptions of warmth, while angular logos increase perceptions of competence. The fit between logo shape and brand concept enhances brand attitudes.
		Moderator: Brand concept		
Rahinel & Nelson (2016)	Logo design instability	Mediator: Perceived environmental instability	Product preference	Design instability in logos increases perceptions of environmental risk, which boosts preference for safety-related products (e.g., insurance); however, it has little or no effect on unrelated products.
		Moderator: Product category (safety-relevant versus irrelevant)	Purchase intention	
Luffarelli et al. (2019a)	Logo descriptiveness (more versus less)	Mediator: Impressions of authenticity	Brand evaluations	Logos that are more (versus less) descriptive can enhance brand evaluations, increase purchase intentions, and improve overall brand performance.
		Moderator: Product valence Brand familiarity	Purchase intentions	
Luffarelli et al. (2019b)	Logo asymmetry (symmetrical versus asymmetrical)	Mediator: Logo-evoked arousal Perceived logo-brand congruence	Brand evaluation	Asymmetrical logo designs are perceived to align more closely with brands that exhibit an exciting brand personality.
Song et al. (2022)	Logo colorfulness	Mediator: Perceived brand variety	Consumer attitudes	Colorful brand logos are often associated with a broad product

		Moderator: Brand positioning		assortment and elicit more favorable consumer attitudes.
Wong et al. (2022)	Logo size (small versus large)	Moderator: Consumer Power (high versus low) Self-construal (independent versus interdependent)	Preference for logo size Brand evaluation	Consumers with low power and independent self-construal prefer larger logos, while those with low power and interdependent self-construal prefer smaller logos. Preferences are driven by self-expression versus modesty goals.
Li et al. (2023)	Logo shape (angular versus circular)	Mediator: Perceived psychological distance Moderator: Status-expressing goals	Brand premiumness	Angular logos are perceived to convey a more premium brand image than circular logos.
Celhay & Luffarelli (2024)	Logo hue (red versus blue) Background color (black versus white)	Moderator: Logo meaningfulness Product brand trait valence (positive versus negative)	Brand trait inferences	Black backgrounds improve evaluations of negatively-valenced brand traits, and white for positively-valenced traits. These effects are automatic but reduced for meaningful logos.
Liu et al. (2025)	Logo spacing (spacious versus compact)	Mediator: Feelings of relaxation Moderator: Presence of relaxing image in logo Brand type (hedonic versus utilitarian)	Purchase intention Support for logo design change	Spacious logos lead consumers to perceive products as more hedonic, driven by feelings of relaxation. This effect weakens when a relaxing image is present in the logo.
Tang et al. (2025)	Logo complexity (simple versus complex)	Mediator: Perceived craftsmanship Moderator: Brand familiarity	Perceived brand luxuriousness	Logo complexity enhances perceptions of brand luxuriousness by increasing perceived craftsmanship, especially for unfamiliar brands and when craftsmanship cues are not already emphasized, thereby driving greater consumer engagement.
Zeng et al. (2025)	Logo lightness (dark color versus light color)	Mediator: Brand age perception Moderator: Brand positioning (modern versus traditional)	Brand attitude Product appearance preference	Logos with darker color schemes tend to convey an older brand image, whereas lighter-colored logos are more likely to be associated with youthfulness.
The current study	Logo orientation (standard versus inverted)	Mediator: Unexpectedness Rebelliousness Moderator: Political ideology (liberal versus conservative)	Product preference Purchase intention Brand attitude	Consumers prefer standard logos over inverted ones. Inverted logos evoke unexpectedness, which increases perceptions of rebelliousness, reducing purchase intention.

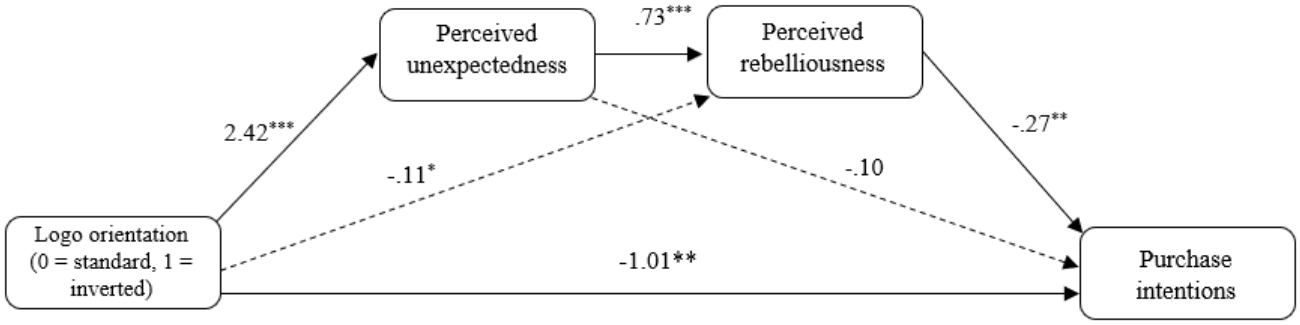
Source: Authors' own work

Table 2. When to Use or Avoid Inverted Logos: Key Takeaways for Practitioners

Consideration	Do's	Don'ts
Target Segment	Apply inversion for liberal audience or novelty-seeking consumers.	Avoid inversion for conservative audiences or tradition-focused markets.
Communication & Narrative Strategies	Frame inversion as innovation ("up-side down to spark creative thinking"), social purpose ("flipped in solidarity with International Women's Day"), or sustainability ("an inverted mark to turn the planet right-side up") and run it consistently across all channels; reinforce with a unifying tagline/hashtag (e.g., #FlipForChange).	Avoid inversion without explaining its symbolic meaning.
Brand Personality	Use inversion to highlight rebellious, edgy, or innovative brand personality or image.	Avoid for brands that rely on convention, stability, familiarity, or conformity.
Cultural/Political Climate	Monitor societal trends; leverage inversion during progressive moments.	Avoid during periods of heightened social/political conservatism.

Source: Authors' own work

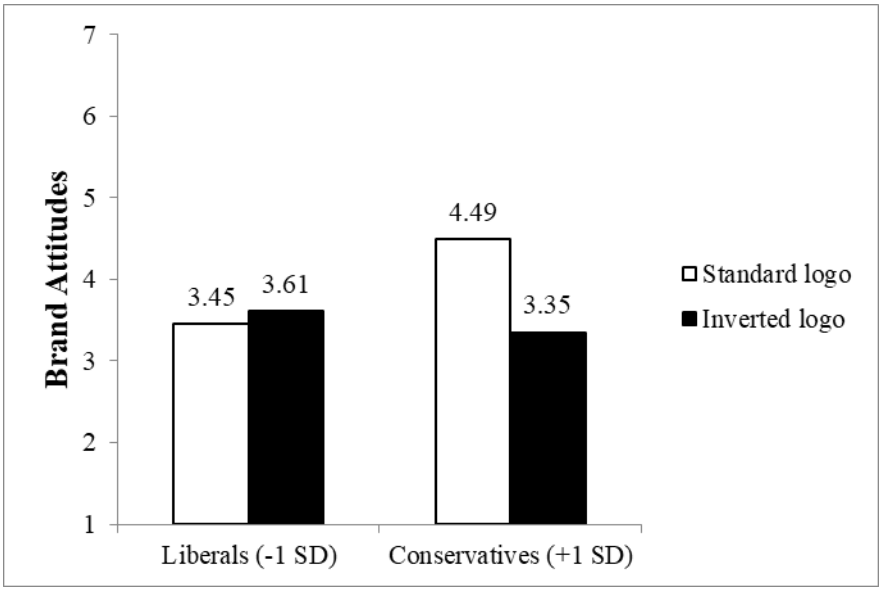
Figure 1: Serial mediation model



Note: The serial mediation model shows the effect of logo orientation (0 = standard, 1 = inverted) on purchase intention through perceived unexpectedness and rebelliousness. The indirect effect of "logo orientation → unexpectedness → rebelliousness → purchase intention" was significant (effect=.48, SE=.20; 95% CI=[.14, .90]); path coefficients are unstandardized betas; *$p < .05$, **$p < .01$, and ***$p < .001$.

Source: Authors' own work

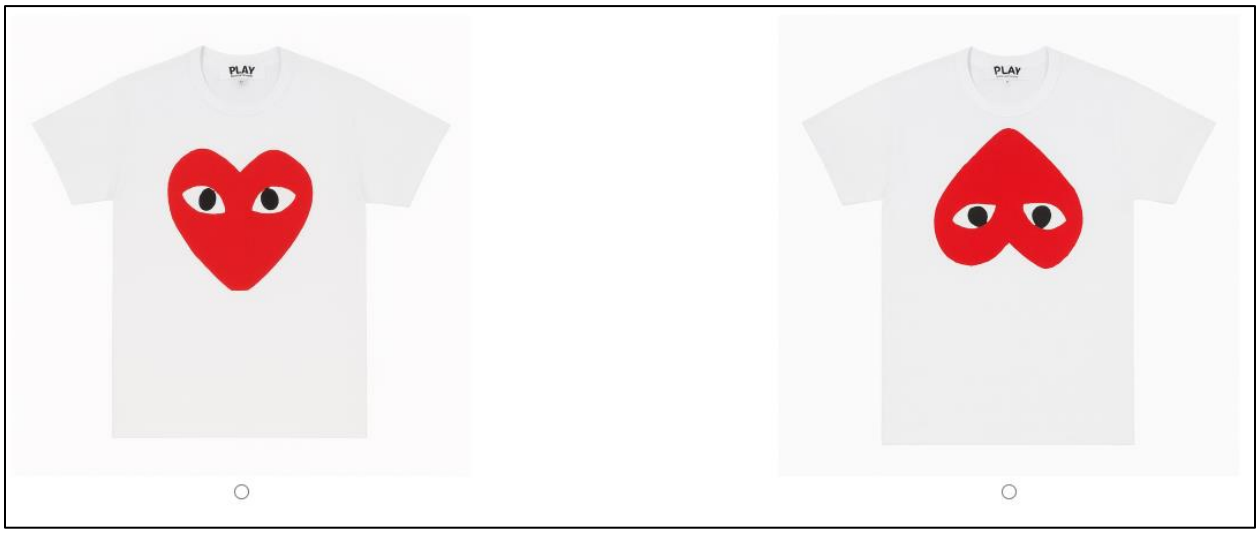
Figure 2: Interaction effect of logo orientation and political ideology on brand attitudes



Note: Liberals and conservatives are defined as one SD below and above the mean political ideology score, respectively. An inverted logo significantly reduced brand attitudes compared to a standard logo among politically conservative (but not liberal) consumers.

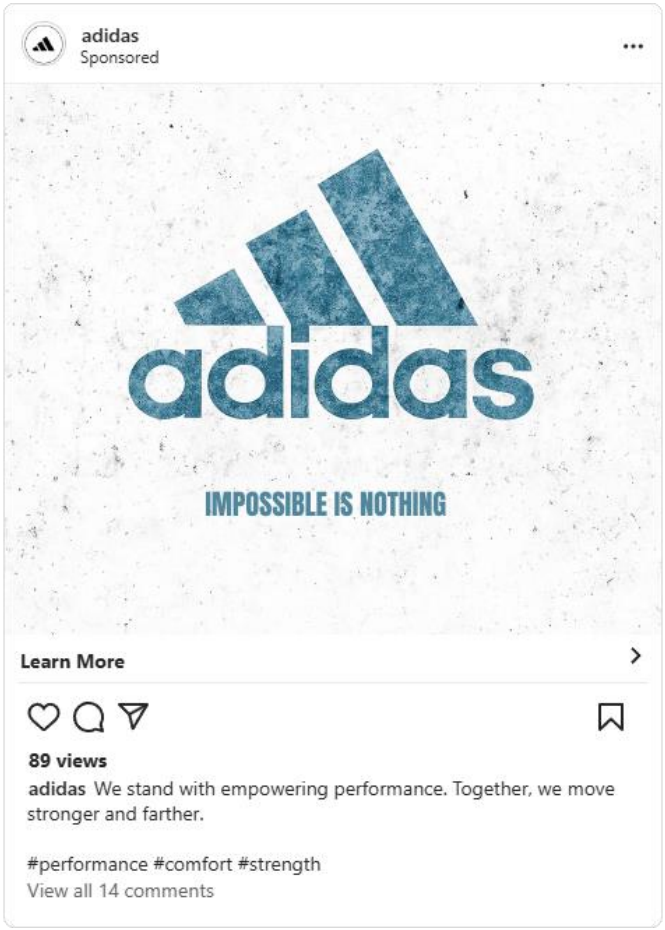
Source: Authors' own work

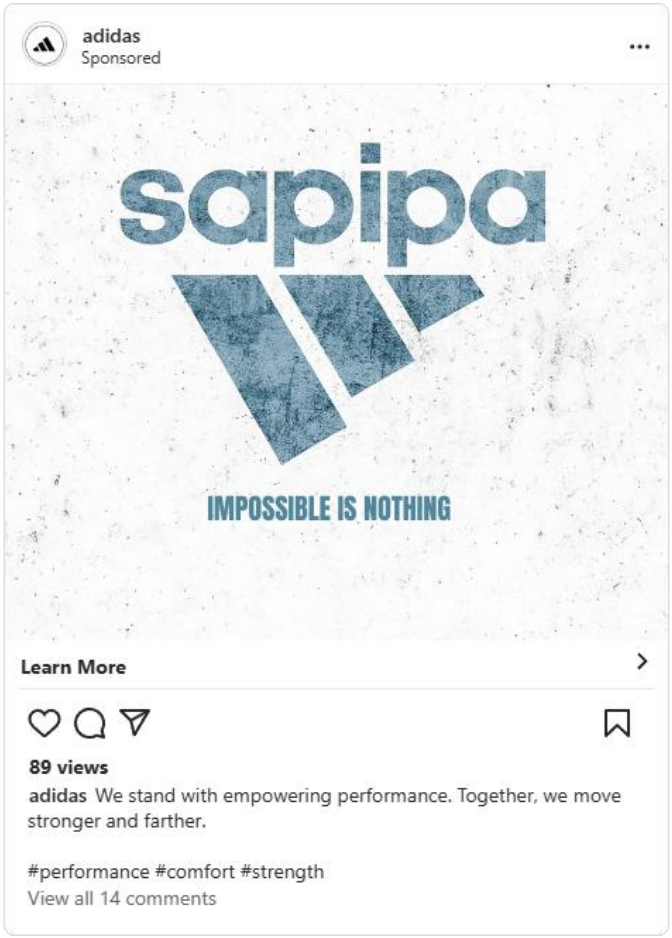
Appendix A: Stimuli for Studies 1A and 1B



***Note**:* Stimuli for Studies 1A (top) and 1B (bottom)
Source: Authors' own work

Appendix B: Stimuli for Study 2





Source: Authors' own work

Appendix C: Stimuli for Study 3

Source: Authors' own work

Appendix D: Measurement items and reliability

Construct	Scale items	Cronbach's α
Perceived unexpectedness (adopted from Baek et al., 2025)	1. The logo featured in the Instagram ad was different from what I expected. 2. The way the logo was presented was uncommon. 3. The logo appeared in a way that violated my expectations.	.870
Perceived rebelliousness (adopted from Biraglia and Brakus, 2015)	1. The logo in this Instagram ad makes the brand appear rebellious. 2. The way the logo was displayed seems to challenge conventional design norms.	.880
Purchase intention (adopted from Kim et al., 2020)	1. How likely are you to purchase this brand? 2. How willing are you to purchase this brand in the future?	.950
Brand attitude (adopted from Baek et al., 2023)	1. Bad – Good 2. Negative – Positive 3. Unappealing – Appealing	.940

Source: Authors' own work