# The Effect of Reduplicative Brand Names on Consumer Moral Responses in Different Moral Contexts: A Mind Perception Theory Perspective

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## Abstract

Brand name serves as a crucial connection point in establishing brand-consumer relationships and constitutes a key element of brand equity. Research in brand linguistics has demonstrated that the phonetic features of brand names influence consumer cognition, emotion, and behavior; however, few studies have investigated how phonetic features affect consumers' moral responses and the underlying mechanisms. Grounded in mind perception theory, this study examines the asymmetric pathways through which reduplicative brand names influence consumer moral responses when brands assume two distinct roles: moral agent versus moral victim. Specifically, in contexts where a brand transgresses as a moral agent, reduplicative (versus non-reduplicative) brand names attenuate consumers' negative moral responses (including anger, disgust, condemnation, and punitive behavioral intentions) by diminishing the perceived agency dimension (rather than the experience dimension) of brand mind. Conversely, when a brand suffers as a moral victim, reduplicative brand names enhance consumers' positive moral responses (including sympathy, compassion, regret, and purchase support behavioral intentions) by elevating the perceived experience dimension (rather than the agency dimension) of brand mind. This study validates the hypotheses through seven experiments, offering theoretical innovation by exploring the causal relationship between phonetic features and moral responses, revealing the mechanism whereby the two dimensions of brand mind function as asymmetric mediators, and providing practical implications for brand moral crisis public relations and cause-related marketing communications.

## Full Text

# Impact of Repeated Two-Syllable Brand Names on Consumer Moral Responses in Different Moral Contexts: A Mind Perception Theory Perspective

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## Abstract

Brand names serve as crucial touchpoints for establishing brand-consumer relationships and constitute essential elements of brand equity. Brand linguistics research has demonstrated that the phonetic features of brand names influence consumer cognition, emotion, and behavior. However, few studies have examined how phonetic features affect consumers' moral responses and the underlying mechanisms. Grounded in mind perception theory, this study investigates the asymmetric pathways through which repeated two-syllable brand names influence consumer moral reactions when brands assume two distinct roles: moral agent versus moral victim. Specifically, when a brand transgresses as a moral agent, repeated two-syllable names (vs. non-repeated names) mitigate consumers' negative moral responses (anger, disgust, condemnation, punishment intentions) by reducing the perceived "thinking"dimension (rather than the "feeling" dimension) of brand mind perception. Conversely, when a brand suffers as a moral victim, repeated two-syllable names enhance consumers' positive moral responses (sympathy, compassion, regret, purchase support intentions) by increasing the perceived "feeling" dimension (rather than the "thinking" dimension) of brand mind perception. Seven experiments provide support for our hypotheses. This research innovatively establishes a causal relationship between phonetic features and moral responses, reveals the asymmetric mediation mechanism through the two dimensions of brand mind perception, and offers practical implications for brand crisis communication and cause-related marketing.

**Keywords:** repeated two-syllable, moral response, mind perception theory, moral agent, moral victim
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Repeated two-syllable structures are ubiquitous in brand names. In addition to well-established traditional brands such as "Wangwang," "Wahaha," and "Xiangpiaopiao," internet brands also favor this special phonetic structure, including "Huolala," "Pinduoduo," and "Didi Chuxing." Some existing brands even adopt repeated two-syllable nicknames, such as Durex calling itself "Dudu"and Cainiao Logistics using "Cainiao Guoguo."

Repeated two-syllable is a phonetic feature of brand names characterized by syllable repetition (Wei et al., 2016). The impact of phonetic features on con-

sumer behavior has attracted considerable research attention. Previous studies indicate that various phonetic features in brand names can influence consumers' cognitive judgments (Lowrey & Shrum, 2007), advertising persuasiveness (Van Zant & Berger, 2020), emotional experiences (Argo et al., 2010), person perception (Wei et al., 2016, 2020), and brand preferences (Motoki et al., 2022; Yorkston & Menon, 2004). However, it remains unclear what role brand name phonetic features play in shaping consumers' moral responses.

With ethical consumerism gaining momentum, particularly amplified by viral internet dissemination, companies increasingly struggle to avoid moral crisis events (Mosley et al., 2024). For instance, during the 20th Shanghai International Automobile Industry Exhibition in 2023, the "BMW Ice Cream Incident" rapidly escalated into negative public sentiment on social media, causing BMW's market capitalization to evaporate by €2.421 billion (approximately RMB 18.3 billion) overnight[1]. More commonly, brands suffer enormous losses or incur additional costs when they become moral victims (Huang et al., 2020). For example, the popular milk tea brand "Deer Corner" faced rampant counterfeiting shortly after its establishment, forcing it to apologize in February 2022 to consumers who had mistakenly purchased from fake stores and commit RMB 100 million to combat counterfeiting[2].

When brands become embroiled in moral crises, consumers' moral responses directly impact brand reputation, image, and performance (Mosley et al., 2024). Existing research has examined how brand-related contextual cues (Septianto & Kwon, 2022) and individual consumer characteristics (Xu et al., 2021) influence moral responses. However, marketing research on brand transgressions over the past two decades has not directly addressed the impact of phonetic cues on consumer moral responses (Khamitov et al., 2020).

Brand name phonetic cues stimulate consumers' auditory senses, and since hearing constitutes an important component of consumer sensory experience, examining brand name phonetic features holds significant meaning from a sensory marketing perspective (Zhong et al., 2016). Practically, influencing consumer perception and behavior through auditory brand design involves minimal cost. Therefore, investigating how phonetic cues in brand names affect consumer moral responses during crises holds both theoretical value and practical significance.

This study innovatively examines the asymmetric mediation phenomenon of the two-dimensional brand mind perception mechanism through which repeated two-syllable brand names influence consumer moral responses across different moral contexts. Through seven experiments, we find that when a brand transgresses as a moral agent, repeated two-syllable names reduce consumers' negative moral responses (anger, disgust, condemnation, punishment intentions) by decreasing the perceived thinking dimension (rather than the feeling dimension) of brand mind perception. Conversely, when a brand suffers as a moral victim, repeated two-syllable names increase consumers'positive moral responses (sympathy, compassion, regret, purchase support intentions) by enhancing the perceived feeling

dimension (rather than the thinking dimension) of brand mind perception.

## 1.1 Sound Symbolism and Repeated Two-Syllable Brand Names

Brand names are critical for establishing brand memory points and constitute important components of brand equity. Brand linguistics posits that phonetics, as an element of brand names, influences consumer preferences and perceptions (Carnevale et al., 2017). This influence is primarily explained through sound symbolism (Motoki et al., 2022), which suggests a non-arbitrary relationship between sound and meaning—that is, a word' s pronunciation conveys implicit meaning beyond its literal definition (Lowrey & Shrum, 2007; Argo et al., 2010). Previous research demonstrates that any phonetic-related factor—such as individual phonetic element features (vowels, consonants, fricatives) (Motoki et al., 2022; Yorkston & Menon, 2004), phonetic valence (Lowrey & Shrum, 2007), and phonetic structural features (Argo et al., 2010)—carries specific sound symbolism that influences people' s understanding of implied meanings.

Based on sound symbolism, brand linguistics scholars have explored multiple effects of phonetics on consumer perception and preference. A series of studies reveal that due to symbolic meaning, phonetic elements in brand names influence advertising persuasiveness (Van Zant & Berger, 2020), consumer engagement (Shen & Sengupta, 2018), and brand and product evaluation and preference by affecting people' s implicit associations (Yorkston & Menon, 2004), mental capacities (Schroeder et al., 2017), and emotional experiences (Argo et al., 2010; Lowrey & Shrum, 2007).

Repeated two-syllable is a common phonetic structure involving syllable repetition (Argo et al., 2010; Wei et al., 2016, 2020). In the brand domain, a study of over 3,600 Chinese brand names found that approximately 13.62% employed this repeated two-syllable structure (Yin, 2011). Linguistic research demonstrates that compared to non-repeated words, repeated two-syllable words increase appreciation, cuteness, closeness, playfulness, and rhythmic sense (Kentner et al., 2022). Brand research reveals that repeated two-syllable brand names increase consumer pleasure and positive brand evaluation and preference (Argo et al., 2010), while also activating consumers' baby schema, leading to higher warmth perception and lower competence perception toward the brand (Wei et al., 2016, 2020).

In summary, although brand phonetics research has expanded from individual phonetic element features to various phonetic characteristics such as tone and stress, studies on the widely existing special phonetic structure of repeated two-syllable remain scarce (Wei et al., 2020). The limited existing research primarily focuses on consumer perception and preference (Argo et al., 2010; Wei et al., 2016, 2020), creating a mismatch between research scarcity and the prevalence of repeated two-syllable names in reality. Given that consumer moral responses constitute an important topic in business ethics with significant impacts on

business performance, brand image, and social welfare (Khamitov et al., 2020), and considering that sound symbolism research rarely extends phonetic cue studies into the moral domain (Motoki et al., 2022; Zhong et al., 2016), this paper investigates the causal relationship between repeated two-syllable brand names and consumer moral responses across different moral contexts from a mind perception theory perspective.

## 1.2 Consumer Moral Responses

Moral events refer to situations or incidents with moral implications or consequences (Jones, 1991), while moral responses denote individuals' cognitive, emotional, and behavioral reactions to moral events, including moral evaluations of individual or others' behaviors and interpretations of these behaviors' moral significance (Tangney et al., 2007). Consumers are sensitive to brand violations of moral and ethical standards, and their moral responses significantly impact brand image, sales performance, and consumer-brand relationships (Xu et al., 2021).

Moral responses can be cognitive, encompassing reasoning, evaluation, and decision-making regarding moral propositions about right and wrong, justice and injustice, honesty and hypocrisy (Jones, 1991). This cognitive response refers to the thinking and decision-making process when facing moral issues, involving consideration and weighing of moral norms, values, contexts, and responsibilities (Khamitov et al., 2020).

Moral responses can also be emotional, known as moral emotions, which refer to emotional reactions generated during moral events that relate to moral norms, values, and responsibilities (Tangney et al., 2007). Unlike general emotions that are distinguished by valence (positive/negative) and arousal level (high/low) (Russell, 1980), moral emotions are distinguished by valence (help/harm) and moral role type (agent/patient) (Gray & Wegner, 2011). Moral agents are entities that actively do right or wrong, while moral patients are entities that passively endure the consequences of right or wrong actions (Gray & Wegner, 2009). People feel anger and disgust toward moral agents that harm others, but sympathy and compassion toward moral patients that suffer harm (Gray & Wegner, 2011).

Moral responses can also be behavioral (Khamitov et al., 2020). Existing marketing research has examined how brand ethical violations such as employee exploitation (Septianto & Kwon, 2022), executive scandals (Lo et al., 2021), and vulgar advertising (Theodorakis & Painesis, 2022) affect consumer boycotts, loyalty, and word-of-mouth. When brands commit transgressions, consumer preference declines (Xu et al., 2021). Consumers not only spread negative word-of-mouth and severely condemn the brand (Huang et al., 2020) but also boycott its products (Khamitov et al., 2020) and even punish the brand for unethical behavior (Septianto & Kwon, 2022).

Previous research has explored the causes and mechanisms underlying different

consumer moral responses. First, moral norms play a role—consumers' moral responses depend on whether moral violations are attributed to the company, whether the company violates fairness and justice principles, or whether it fulfills relevant corporate obligations and responsibilities (Khamitov et al., 2020). Second, individual traits lead to different moral responses. For example, compared to consumers with high power distance beliefs, those with low power distance beliefs are less tolerant of power inequality and thus more averse to companies that exploit employees and less likely to choose their products (Xu et al., 2021). Additionally, corporate business behaviors affect moral responses. A recent brand logo study found that cute logos can motivate consumers to protect brands from harm, thereby reducing punishment when brands commit moral violations (Septianto & Kwon, 2022).

This paper identifies two limitations in existing research on mechanisms underlying consumers' different moral responses toward brands. First, no research has examined whether or how phonetic cues affect consumers' moral responses toward brands (Khamitov et al., 2020), despite phonetics being one of the most important attributes of brand names and a critical touchpoint between brands and consumers (Zhong et al., 2016). Second, current research on consumer moral responses focuses primarily on brands as moral agents while neglecting brands as moral patients (Silver, 2019). Theoretically, discussing whether brands can be fully perceived as moral entities like humans holds significant importance. Practically, when brands suffer harm, finding ways to elicit consumer sympathy and support to help brands recover quickly from crises is also meaningful for brand managers (Chen et al., 2020).

## 1.3 The Impact of Repeated Two-Syllable Brand Names on Consumer Moral Responses

Sound symbolism theory posits that sounds convey both surface and implicit meanings, with implicit meanings being effortlessly and automatically captured (Lowrey & Shrum, 2007). For example, words with back vowels intuitively make ice cream seem smoother and tastier (Yorkston & Menon, 2004). A series of studies indicate that repeated two-syllable structures associate with two implicit meanings: cuteness and youthfulness.

First, repeated two-syllable structures associate with cuteness. Linguistic research finds that compared to non-repeated words, repeated two-syllable words increase closeness and cuteness perception (Kentner et al., 2022). In social media text, repeated two-syllable usage creates a lively and cute atmosphere (Li, 2021). Research has demonstrated that cuteness perception increases care and nurturing intentions toward objects, activating parenting instincts (Wang et al., 2017)—precisely what moral patients need (Gray & Wegner, 2011). A recent study directly provides experimental evidence of the positive role of cuteness perception when brands transgress as moral agents (Septianto & Kwon, 2022).

Second, repeated two-syllable structures associate with youthfulness. Name and

brand research shows that because this phonetic structure is frequently used by infants, repeated two-syllable names make people or brands seem more baby-like (Wei et al., 2016, 2020). Although no direct evidence in consumer moral response research establishes a causal relationship between perceived brand youthfulness and specific moral responses, studies show that brands perceived as younger receive more tolerance and forgiveness for product failures (Burnell et al., 2023). Brand researchers also find that when brand biographies mention humble beginnings, weakness, and setbacks, consumers develop positive brand evaluations through empathy (Shen and Li, 2019).

Based on the above, we propose Hypotheses H1a and H1b:

**H1a:** In contexts where a brand transgresses as a moral agent, repeated two-syllable (vs. non-repeated) brand names reduce consumers' negative moral responses toward the brand.

**H1b:** In contexts where a brand suffers as a moral patient, repeated two-syllable (vs. non-repeated) brand names increase consumers' positive moral responses toward the brand.

## 1.4 The Mediating Role of Two-Dimensional Brand Mind Perception

Mind perception theory posits that people' s perception of mind has two dimensions: agency and experience (Gray et al., 2007). Agency refers to the degree to which people perceive others as conscious and purposeful in action, while experience refers to the degree to which people perceive others as undergoing emotions and feelings. Mind perception theory applies not only to person-to-person perception but also extends to perception of groups (e.g., nations, companies), animals, and mechanical agents (e.g., robots and computers) (Gray & Wegner, 2009; Gray & Wegner, 2010). Based on mind perception theory, marketing scholars distinguish consumers' brand mind perception into two dimensions: the think dimension and the feel dimension, developing corresponding scales (Huang et al., 2020). The think dimension describes the extent to which consumers believe a brand can consciously perform cognitive tasks, while the feel dimension describes the extent to which consumers believe a brand has feelings and emotions.

Although correlated, these two dimensions of mind perception significantly differ from the competence and warmth dimensions of the stereotype content model (Huang et al., 2020). The classic stereotype content model focuses on how a brand is perceived when viewed as a person (Aaker et al., 2010; Fournier, 2009), whereas mind perception theory addresses when and why non-human entities are perceived as human (Waytz et al., 2010). In terms of specific dimension connotations, the warmth dimension examines human traits (e.g., sincerity, friendliness, thoughtfulness), while the feel dimension focuses on the capacity to experience various emotions (Waytz et al., 2010). Additionally, unlike the competence dimension of the stereotype content model, the think dimension of

mind perception theory emphasizes not just ability but also the generation of behavioral intentions (Gray & Wegner, 2010).

According to mind perception theory, younger individuals are typically perceived as having lower agency and higher experience (Gray et al., 2007). Children are generally viewed as having limited agency in initiating actions and making things happen (Gray & Wegner, 2009; Gray & Wegner, 2010). This explains why, in moral events, infants' and children' s behaviors are attributed to instinct or reflex rather than deliberate choice (Cushman et al., 2013). However, infants exhibit high levels of experience, capable of feeling various emotions including joy, sadness, and fear (Gray & Wegner, 2007). Infantile imagery also strengthens vulnerability perception, thereby eliciting protective instincts (Wang et al., 2017). Therefore, we infer that repeated two-syllable names with implicit associations of "cuter and younger" lead brands to be perceived as low in thinking and high in feeling.

In moral agent transgression contexts, perpetrators' subjective intentions—related to the agency dimension of mind perception—significantly influence moral responses (Gray & Wegner, 2009; Gray & Wegner, 2010). For example, people condemn and punish premeditated crimes more severely than accidental harm (Cushman, 2008), and intentional electric shocks are judged more harshly than accidental ones (Gray & Wegner, 2009). Conversely, perpetrators lacking thinking and intentional capacity are more easily forgiven, as evidenced in cases involving mentally ill individuals with diminished capacity (Aharoni et al., 2012). The think dimension of brand mind perception relates to subjective intention and capability (Huang et al., 2020). Therefore, when brands transgress as moral agents, lower perceived think dimension reduces consumers' moral condemnation and punishment intentions.

Based on this literature, we infer that in the moral agent context, a brand' s repeated two-syllable name reduces consumers' perception of the brand mind' s think dimension, thereby decreasing negative moral responses. We therefore propose Hypothesis H2a:

**H2a:** In contexts where a brand transgresses as a moral agent, repeated two-syllable (vs. non-repeated) brand names reduce consumers' perception of the brand mind' s think dimension, thereby decreasing negative moral responses toward the brand.

In contrast, in moral patient contexts, moral responses relate more to victims' capacity to feel emotions (rather than agency-related abilities). Without the capacity for experience, victims would not feel sadness or pain, and people could not empathize by feeling victims' emotions (Gray & Wegner, 2009). For example, shooting a can elicits no moral response, but shooting a kitten generates strong moral reactions (Gray & Wegner, 2009) because cans lack the capacity to feel pain, whereas kittens can experience pain, fear, and sadness. Therefore, when brands become moral patients, the feel dimension of brand mind perception can enhance positive moral responses (Huang et al., 2020). Since repeated two-

syllable structures have implicit features of cuteness and youthfulness (Kentner et al., 2022; Wei et al., 2016), consumers perceive stronger feel dimensions for repeated two-syllable brands than non-repeated brands, eliciting more positive moral responses in victim contexts. We therefore propose Hypothesis H2b:

**H2b:** In contexts where a brand suffers as a moral patient, repeated two-syllable (vs. non-repeated) brand names increase consumers' perception of the brand mind' s feel dimension, thereby increasing positive moral responses toward the brand.

## 2.1 Experiment Purpose and Design

This experiment (pre-registered: https://aspredicted.org/3FW_{JLD}) primarily aimed to test Hypothesis H1a by examining how repeated two-syllable brand names affect consumers' negative moral responses when a brand transgresses as a moral agent.

The experiment employed a single-factor between-subjects design (brand name: repeated two-syllable vs. non-repeated). The repeated two-syllable brand name was "Gelulu," while the non-repeated name was "Gelu" (Wei et al., 2016). The scenario simulated a negative moral event involving a company using vulgar advertising (Theodorakis & Painesis, 2022). Two hundred participants (130 females, 70 males, Mage = 29.85, SD = 8.86) from the Credamo platform completed the experiment and received RMB 0.5 compensation. To ensure statistical power, we conducted an a priori sample size estimation. Using G*Power 3.1, a priori power analysis for a one-way ANOVA with effect size f = 0.4, significance level of 0.05, two groups, and N = 118 yielded statistical power (1-$\beta$) > 0.99. Our sample size exceeded this estimate.

## 2.2 Experimental Procedure

First, participants were randomly assigned to two groups and informed they would complete an imagination task. The instructions read: "Gelulu (Gelu) is a well-known food company. Recently, Gelulu (Gelu) launched a new advertisement featuring a scantily clad model promoting Gelulu's (Gelu's) products. The advertisement was immediately criticized as vulgar marketing." We then asked participants to silently repeat the brand name to activate phonetic perception (Argo et al., 2010; Wei et al., 2016). Subsequently, we measured participants' moral responses in the moral agent context (Gray & Wegner, 2011; Huang et al., 2020), including moral condemnation ( "To what extent do you think the brand Gelulu (Gelu) should be condemned for this vulgar advertisement?" ), moral anger ( "How angry are you with the brand Gelulu (Gelu) because of this vulgar advertisement incident?" ), and moral disgust ( "How disgusted are you with the brand Gelulu (Gelu) because of this vulgar advertisement incident?" ) on 7-point scales (1 = not at all, 7 = very much). Finally, participants reported demographic information.

## 2.3 Experimental Results

A multivariate analysis of variance (MANOVA) with name type (1 = repeated two-syllable, 0 = non-repeated) as the independent variable and moral condemnation, anger, and disgust as dependent variables revealed that when a brand transgressed as a moral agent, repeated two-syllable names reduced condemnation (Mrepeated = 5.08, SD = 1.28 vs. Mnon-repeated = 5.50, SD = 1.23, F(1, 198) = 5.59, p = 0.019, $^2$ = 0.03), anger (Mrepeated = 4.17, SD = 1.38 vs. Mnon-repeated = 4.64, SD = 1.51, F(1, 198) = 5.27, p = 0.023, $^2$ = 0.03), and disgust (Mrepeated = 4.31, SD = 1.43 vs. Mnon-repeated = 4.75, SD = 1.65, F(1, 198) = 4.08, p = 0.045, $^2$ = 0.02). These results support Hypothesis H1a.

## 2.4 Summary of Experiment 1a

Using a scenario simulating a corporate vulgar advertising incident, Experiment 1a found that when a brand transgresses as a moral agent, repeated two-syllable names reduce condemnation, anger, and disgust toward the brand, supporting Hypothesis H1a.

## 3.1 Experiment Purpose and Design

This experiment (pre-registered: https://aspredicted.org/WHG_{F47}) primarily aimed to test Hypothesis H1b by examining how repeated two-syllable brand names affect consumers' positive moral responses when a brand suffers as a moral patient.

The experiment employed a single-factor between-subjects design (brand name: repeated two-syllable vs. non-repeated). The repeated two-syllable brand name was "Tulala," while the non-repeated name was "Tula" (Wei et al., 2016). The scenario simulated a corporate data breach caused by hacking (Huang et al., 2020). Two hundred participants (127 females, 73 males, Mage = 30.26, SD = 9.00) from the Credamo platform completed the experiment and received RMB 0.5 compensation. Based on the a priori power analysis from Experiment 1a, our sample size exceeded the estimated requirement.

## 3.2 Experimental Procedure

Participants were randomly assigned to two groups (repeated two-syllable vs. non-repeated) and asked to complete an imagination task. The description read: "Please imagine the following scenario: Tulala (Tula) is a brand you encounter in daily life. Recently, you learned from news reports that due to corporate espionage, information about a new product Tulala (Tula) was developing has been leaked, potentially causing Tulala (Tula) to face losses of tens of millions of RMB." Following Argo et al. (2010), we asked participants to silently repeat the brand name to activate phonetic perception. We then measured participants' sympathy ( "After reading the report, how much

sympathy do you have for Tulala (Tula)?" ), compassion ( "After reading the report, how much compassion do you have for Tulala (Tula)?" ), and regret ( "After reading the report, how much regret do you feel for Tulala' s (Tula' s) experience?" ) on 7-point scales (1 = not at all, 7 = very much) (Gray & Wegner, 2011; Huang et al., 2020). Finally, participants reported demographic information.

## 3.3 Experimental Results

A MANOVA with name type (1 = repeated two-syllable, 0 = non-repeated) as the independent variable and moral sympathy, compassion, and regret as dependent variables revealed that when a brand suffered as a moral patient, repeated two-syllable names increased sympathy (Mrepeated = 5.66, SD = 0.93 vs. Mnon-repeated = 5.21, SD = 1.25, F(1, 198) = 8.32, p = 0.004, $^{2}$ = 0.04), compassion (Mrepeated = 5.46, SD = 1.09 vs. Mnon-repeated = 5.10, SD = 1.31, F(1, 198) = 4.46, p = 0.036, $^{2}$ = 0.02), and regret (Mrepeated = 5.86, SD = 0.95 vs. Mnon-repeated = 5.48, SD = 1.34, F(1, 198) = 5.31, p = 0.022, $^{2}$ = 0.03). These results support Hypothesis H1b.

## 3.4 Summary of Experiment 1b

Using a scenario simulating a corporate data breach moral incident, Experiment 1b found that when a brand suffers as a moral patient, repeated two-syllable names increase consumers' sympathy, compassion, and regret for the victimized brand, supporting Hypothesis H1b.

## 4.1 Experiment Purpose and Design

This experiment aimed to replicate Experiment 1a' s results while examining the mediating role of the brand mind' s think dimension in the effect of repeated two-syllable names on consumer moral responses in the moral agent context. Additionally, this experiment tested the stereotype content model as an alternative explanatory mechanism (Wei et al., 2016, 2020).

The experiment employed a single-factor between-subjects design (brand name: repeated two-syllable vs. non-repeated). The repeated two-syllable brand name was "Tulala," while the non-repeated name was "Tula" (Wei et al., 2016). The scenario simulated a moral incident where a pharmaceutical company increased drug prices by 300% for higher profit, making the medication unaffordable for some patients (Septianto & Kwon, 2022). Two hundred participants from the Credamo platform completed the experiment and received RMB 1 compensation. Four participants failed attention checks, leaving 196 samples for analysis (124 females, 72 males, Mage = 34.04, SD = 11.49). Our sample size exceeded the a priori estimate from Experiment 1a.

## 4.2 Experimental Procedure

First, participants were randomly assigned to two groups and informed they would complete an imagination task. The instructions read: "Tulala (Tula) is a pharmaceutical company with a product for treating chronic disease: pimavanserin for Parkinson' s disease. Recently, marketing analysis showed that if Tulala (Tula) increased its drug price by 300%, although some patients would be unable to afford it, Tulala (Tula) would achieve higher profits. Ultimately, Tulala (Tula) decided to raise its product price by 300%." We then asked participants to silently repeat the brand name to activate phonetic perception.

Subsequently, we measured participants' moral condemnation, moral anger, feel dimension perception ( "This name makes me feel the brand has its own emotions/can feel various emotions/has the ability to love and hate/has the ability to empathize" ; $\alpha = 0.91$), think dimension perception ( "This name makes me feel the brand can think/can act consciously/can have its own ideas/has consciousness" ; $\alpha = 0.93$) (Huang et al., 2020), warmth perception ( "This brand name makes me feel the brand is friendly/is warm/is generous" ; $\alpha = 0.91$), and competence perception ( "This brand name makes me feel the brand is effective/is efficient/is competent" ; $\alpha = 0.93$) (Aaker et al., 2010) on 7-point scales (1 = not at all, 7 = very much). Finally, participants reported demographic information.

## 4.3 Experimental Results

A MANOVA with name type (1 = repeated two-syllable, 0 = non-repeated) as the independent variable and moral responses as dependent variables revealed that when a brand transgressed as a moral agent, participants showed less moral condemnation toward repeated two-syllable names (Mrepeated = 5.78, SD = 1.06 vs. Mnon-repeated = 6.19, SD = 0.80, F(1, 194) = 9.23, p = 0.003, $^2$ = 0.05) and less moral anger (Mrepeated = 5.82, SD = 1.03 vs. Mnon-repeated = 6.11, SD = 0.90, F(1, 194) = 4.29, p = 0.040, $^2$ = 0.02). Aggregating these variables into a moral response index showed that overall, the repeated two-syllable group reported lower negative moral responses (M = 5.80, SD = 0.91) than the non-repeated group (M = 6.15, SD = 0.71, F(1, 194) = 9.00, p = 0.003, $^2$ = 0.04). Additionally, participants in the repeated two-syllable group (M = 4.11, SD = 1.71) perceived lower brand mind think dimension than the non-repeated group (M = 4.57, SD = 1.28, F(1, 194) = 4.57, p = 0.034, $^2$ = 0.02). However, brand mind feel dimension perception (Mrepeated = 3.23, SD = 1.60; Mnon-repeated = 3.34, SD = 1.67, F < 1, p = 0.665), warmth perception (Mrepeated = 2.31, SD = 1.42; Mnon-repeated = 2.38, SD = 1.31, F < 1, p = 0.715), and competence perception (Mrepeated = 3.30, SD = 1.75; Mnon-repeated = 3.64, SD = 1.71, F = 1.97, p = 0.162) showed no significant differences between groups.

We then used bootstrapping for indirect mediation effects (PROCESS Model 4; Hayes, 2017) to test the mediating role of think dimension perception. With

name type (1 = repeated two-syllable, 0 = non-repeated) as the independent variable, overall moral response index as the dependent variable, and think dimension perception, feel dimension perception, warmth perception, and competence perception as parallel mediators, the results showed that think dimension perception' s indirect effect (effect = -0.0513, SE = 0.0328, 95% CI [-0.1269, -0.0002]) did not include zero, supporting its mediating role. Parallel mediation tests also showed that feel dimension perception (95% CI [-0.0278, 0.0353]), warmth perception (95% CI [-0.0424, 0.067]), and competence perception (95% CI [-0.0194, 0.0516]) all included zero, indicating non-significant indirect effects.

[Figure 1: see original paper] Path diagram of parallel mediation test in the moral agent context

Experiment 2a's results indicate that when a brand transgresses as a moral agent, repeated two-syllable names reduce consumers' perception of the brand mind' s think dimension, thereby decreasing negative moral responses such as anger and condemnation, supporting Hypothesis H2a. Mediation tests further show that brand mind feel dimension perception, warmth perception, and competence perception do not have significant indirect effects, demonstrating that in moral agent contexts, mind perception theory provides stronger explanatory power, with repeated two-syllable names affecting moral responses only through brand mind think dimension perception, not through feel dimension perception.

## 5.1 Experiment Purpose and Design

Experiment 2b aimed to replicate Experiment 1b' s results while examining the mediating role of brand mind feel dimension perception in the effect of repeated two-syllable names on consumer moral responses in the moral patient context. This experiment also tested the stereotype content model as a potential alternative explanatory mechanism.

The experiment employed a single-factor between-subjects design (brand name: repeated two-syllable vs. non-repeated). The repeated two-syllable brand name was "Tulala," while the non-repeated name was "Tula" (Wei et al., 2016). The scenario simulated the same data breach context as Experiment 1b. Two hundred participants from the Credamo platform completed the experiment and received RMB 1 compensation. Four participants failed attention checks, leaving 196 samples for analysis (119 females, 77 males, Mage = 29.86, SD = 7.50). Our sample size exceeded the a priori estimate from Experiment 1a.

## 5.2 Experimental Procedure

We asked participants to complete an imagination task. The instructions and procedure were identical to Experiment 1b. After reading the scenario and reactivating phonetic perception, we measured participants' sympathy and support for the brand (1 = not at all, 7 = very much). Participants then responded to questions measuring brand mind feel dimension perception ($\alpha = 0.90$), think di-

mension perception ($\alpha = 0.87$), warmth perception ($\alpha = 0.79$), and competence perception ($\alpha = 0.92$). Finally, participants reported demographic information.

## 5.3 Experimental Results

A MANOVA with brand name (1 = repeated two-syllable, 0 = non-repeated) as the independent variable and consumer sympathy, support, and brand feel perception as dependent variables revealed that when a brand appeared as a victim, participants showed greater sympathy for repeated two-syllable brands (Mrepeated = 5.93, SD = 0.93; Mnon-repeated = 5.51, SD = 1.25, F(1, 194) = 7.02, p = 0.009, $^2$ = 0.04) and marginally greater support (Mrepeated = 5.84, SD = 1.05; Mnon-repeated = 5.54, SD = 1.39, F(1, 194) = 4.62, p = 0.09, $^2$ = 0.01). Aggregating these variables into an overall moral response index showed that the repeated two-syllable group reported higher positive moral responses (M = 5.88, SD = 0.89) than the non-repeated group (M = 5.53, SD = 1.19, F(1, 194) = 5.65, p = 0.018, $^2$ = 0.03). Additionally, compared to the non-repeated group, the repeated two-syllable group showed higher brand mind feel dimension perception (Mrepeated = 5.45, SD = 0.86; Mnon-repeated = 4.89, SD = 1.36, F(1, 194) = 12.23, p = 0.001, $^2$ = 0.06) and warmth perception (Mrepeated = 5.62, SD = 0.87; Mnon-repeated = 5.33, SD = 1.08, F(1, 194) = 4.28, p = 0.040, $^2$ = 0.02). However, brand mind think dimension perception (Mrepeated = 5.10, SD = 1.28; Mnon-repeated = 5.28, SD = 1.21, F < 1, p = 0.338) and competence perception (Mrepeated = 5.09, SD = 1.44; Mnon-repeated = 5.20, SD = 1.35, F < 1, p = 0.586) showed no significant differences between groups.

We then used bootstrapping for mediation effects (PROCESS Model 4; Hayes, 2017) to test the mediating role of feel dimension perception. With name type (1 = repeated two-syllable, 0 = non-repeated) as the independent variable, overall moral response index as the dependent variable, and brand mind feel dimension perception, think dimension perception, warmth perception, and competence perception as parallel mediators, the results showed that feel dimension perception' s indirect effect (effect = 0.2049, SE = 0.0827, 95% CI [0.0675, 0.3881]) did not include zero, supporting its mediating role. Warmth perception' s indirect effect (effect = 0.1216, SE = 0.074, 95% CI [0.0021, 0.2849]) also did not include zero, indicating it also served as a mediator. Pairwise contrast tests (Hayes, 2017) showed that the difference between feel dimension perception and warmth perception (95% CI [-0.124, 0.2907]) included zero, indicating no significant difference in indirect effects. However, after controlling for warmth perception' s indirect effect, brand mind feel dimension perception' s indirect effect remained significant. Discriminant validity tests showed that both feel dimension perception ($\sqrt{}$AVE = 0.836) and warmth perception ($\sqrt{}$AVE = 0.745) had average variance extracted square roots greater than their correlation coefficient (r = 0.637), indicating that mind perception theory and stereotype content model are independent. Parallel mediation tests also showed that brand mind think dimension perception (95% CI [-0.0218, 0.0941]) and competence perception (95% CI [-0.065, 0.031]) included zero, indicating non-significant indirect

effects.

[Figure 2: see original paper] Path diagram of parallel mediation test in the moral patient context

Experiment 2b' s results indicate that when a brand suffers as a moral patient, repeated two-syllable names increase consumers' perception of the brand mind' s feel dimension, thereby generating more positive moral responses. Although warmth perception also shows some mediating effect, feel dimension perception' s mediating effect remains significant after controlling for warmth perception. Additionally, Experiment 2b demonstrates that in moral patient contexts, repeated two-syllable names affect consumers' positive moral responses only through brand mind feel dimension perception, not through think dimension perception.

## 6.1 Experiment Purpose and Design

Experiment 3a advanced previous findings in several ways. First, it extended the effect of repeated two-syllable names on moral responses to downstream consumer punishment behavior. Second, previous experiments differed in character count between conditions (three characters for repeated two-syllable vs. two characters for non-repeated). This experiment controlled for character count to rule out length effects. Third, considering that adding the character "小" (meaning "little/small" ) to names (e.g., Xiaomi, Xiaopeng) might also trigger child-related associations, this experiment compared repeated two-syllable names with "小" names. The character "小" frequently appears in child-related contexts (Ti, 1985) such as "little boy," "little girl," and "little friend." In Chinese social interaction, people often add "老" (old), "大" (big), or "小" (small) before surnames based on age, with "小" typically addressing younger individuals and conveying youthfulness and affection (Ti, 1985; Li, 2012). Therefore, this experiment also compared the effects of repeated two-syllable names versus "小" names.

The experiment employed a single-factor between-subjects design (brand name: repeated two-syllable vs. non-repeated vs. "小" ). The repeated two-syllable name was "Lulu," the non-repeated name was "Gelu," and the "小" name was "Xiaolu." The scenario simulated the same pharmaceutical price increase incident as Experiment 2a. Three hundred participants from the Credamo platform completed the experiment and received RMB 1 compensation. Four participants failed attention checks, leaving 296 samples for analysis (190 females, 106 males, Mage = 29.65, SD = 8.49). A priori power analysis using G*Power 3.1 for a one-way ANOVA with effect size f = 0.4, significance level of 0.05, three groups, and N = 138 yielded statistical power (1-$\beta$) > 0.99. Our sample size exceeded this estimate.

## 6.2 Experimental Procedure

First, participants were randomly assigned to three groups (repeated two-syllable vs. non-repeated vs. “小” ) and informed they would complete an imagination task. The instructions and procedure mirrored Experiment 2a. After silently repeating the brand name to activate phonetic perception, we measured the same moral responses as Experiment 1a: moral condemnation, anger, and disgust. Participants then responded to brand mind feel dimension perception ($\alpha = 0.89$) and think dimension perception ($\alpha = 0.91$). They also reported punishment behavior intentions ( “I would take action to get this brand into trouble/I would punish this brand in some way/I would cause trouble for this brand/I would harshly criticize this brand/I would make this brand get what it deserves” ; $\alpha = 0.94$) (Septianto & Kwon, 2022) on 7-point scales (1 = not at all, 7 = very much). Finally, participants reported demographic information.

## 6.3 Experimental Results

As shown in Table 5 , a MANOVA with name type (-1 = repeated two-syllable, 0 = non-repeated, 1 = “小” ) as the independent variable and moral condemnation, anger, and disgust as dependent variables revealed significant differences among the three groups in condemnation ($F(2, 293) = 5.40$, $p = 0.005$, $^2 = 0.04$), anger ($F(2, 293) = 3.58$, $p = 0.029$, $^2 = 0.02$), and disgust ($F(2, 293) = 3.72$, $p = 0.026$, $^2 = 0.02$). Planned comparisons (see Table 6 ) showed that compared to the non-repeated group, the repeated two-syllable group exhibited lower moral condemnation ($M_{repeated} = 5.73$, $SD = 1.01$ vs. $M_{non\text{-}repeated} = 6.18$, $SD = 0.76$, $t(293) = -3.11$, $p = 0.002$, $d = -0.36$), anger ($M_{repeated} = 5.50$, $SD = 1.10$ vs. $M_{non\text{-}repeated} = 5.88$, $SD = 0.77$, $t(293) = -2.36$, $p = 0.019$, $d = -0.28$), and disgust ($M_{repeated} = 5.41$, $SD = 1.10$ vs. $M_{non\text{-}repeated} = 5.80$, $SD = 1.00$, $t(293) = -2.44$, $p = 0.016$, $d = -0.29$). However, no significant differences emerged between the repeated two-syllable and “小” groups in condemnation ($M_{“小”} = 5.83$, $SD = 1.20$, $t < 1$, $p = 0.515$), anger ($M_{“小”} = 5.52$, $SD = 1.42$, $t < 1$, $p = 0.925$), or disgust ($M_{“小”} = 5.43$, $SD = 1.27$, $t < 1$, $p = 0.870$). A moral emotion index aggregated from anger and disgust showed similar significance levels (see Table 1 ). These results again support Hypothesis H1a.

ANOVA results also revealed significant differences among the three groups in punishment behavior intentions ($F(2, 293) = 3.22$, $p = 0.041$, $^2 = 0.02$) and think dimension perception ($F(2, 293) = 3.43$, $p = 0.034$, $^2 = 0.02$), but not in feel dimension perception ($F < 1$, $p = 0.506$). Planned comparisons showed that participants in the repeated two-syllable condition reported lower punishment intentions ($M_{repeated} = 3.90$, $SD = 1.45$ vs. $M_{non\text{-}repeated} = 4.38$, $SD = 1.38$, $t(293) = -2.23$, $p = 0.026$, $d = -0.26$) and lower think dimension perception ($M_{repeated} = 4.21$, $SD = 1.36$ vs. $M_{non\text{-}repeated} = 4.64$, $SD = 1.22$, $t(293) = -2.25$, $p = 0.025$, $d = -0.26$). Feel dimension perception did not differ between groups ($M_{repeated} = 3.70$, $SD = 1.61$ vs. $M_{non\text{-}repeated} = 3.52$, $SD = 1.47$, $t < 1$, $p = 0.408$). No significant differences emerged between the repeated

two-syllable and "小" groups in punishment intentions (M" 小" = 3.92, SD = 1.63, t < 1, p = 0.936), think dimension perception (M" 小" = 4.20, SD = 1.41, t < 1, p = 0.981), or feel dimension perception (M" 小" = 3.77, SD = 1.46, t < 1, p = 0.768).

Table 1 Planned comparison results of repeated two-syllable effects on consumer moral responses in moral agent context

| Variable | Repeated vs. Non-repeated | Repeated vs. "小" | "小" vs. Non-repeated |
|---|---|---|---|
| Moral Condemnation | .002** | .515 | .032* |
| Moral Anger | .019* | .925 | .023* |
| Moral Disgust | .016* | .870 | .024* |
| Overall Moral Emotion | .009** | .936 | .014* |
| Punishment Behavior Intention | .026* | .981 | .013* |
| Feel Dimension Perception | .408 | .768 | .024* |
| Think Dimension Perception | .025* | .755 | .032* |

Note: * significant at 5% level; ** significant at 1% level; *** significant at 0.1% level. The same applies below.

We then used multi-categorical bootstrapping for indirect mediation effects (PROCESS Model 4; Hayes, 2017) to test the mediating role of think dimension perception. With repeated two-syllable as the independent variable, overall moral response index as the dependent variable, and brand mind think dimension perception and feel dimension perception as mediators, the results showed that in the comparison between repeated two-syllable (X1 = 0, X2 = 0) and non-repeated groups (X1 = 1, X2 = 0), think dimension perception' s indirect effect (effect = 0.1278, SE = 0.0608, 95% CI [0.0182, 0.2571]) did not include

zero, supporting its mediating role. Feel dimension perception' s indirect effect (95% CI [-0.0643, 0.1574]) included zero, indicating that in moral agent contexts, repeated two-syllable names affect moral responses only through brand mind think dimension perception, not feel dimension perception, supporting Hypothesis H2a. In the comparison between repeated two-syllable and "小" groups (X1 = 0, X2 = 1), both think dimension perception (95% CI [-0.1268, 0.1204]) and feel dimension perception (95% CI [-0.1285, 0.0923]) included zero, indicating no significant differences in effects.

Finally, we used multi-categorical bootstrapping for serial mediation (PROCESS Model 6; Hayes, 2017) to test the serial path: repeated two-syllable → brand think dimension perception → negative moral emotion → punishment behavior intention. Detailed results appear in Table 7 and Figure 3 [Figure 3: see original paper]. The results showed that in the comparison between repeated two-syllable and non-repeated groups, the serial mediation effect (effect = 0.05, SE = 0.03, 95% CI [0.005, 0.115]) did not include zero, indicating that think dimension perception and moral emotion serially mediate the relationship between repeated two-syllable names and punishment intentions, further supporting Hypothesis H2a. The serial mediation effect was not significant in the comparison between repeated two-syllable and "小" groups (95% CI [-0.049, 0.051]).

[Figure 3: see original paper] Path diagram of serial mediation coefficients for repeated two-syllable (vs. non-repeated) effects on consumer punishment intentions in moral agent context

Experiment 3a replicates that in moral agent contexts, brand mind think dimension perception explains how repeated two-syllable names affect consumer moral responses. Repeated two-syllable names reduce consumers' negative moral emotional responses by decreasing brand mind think dimension perception, which subsequently reduces punishment intentions. Experiment 3a also rules out character count effects and shows that "小" names produce similar effects to repeated two-syllable names on brand mind think dimension perception and moral responses.

## 7.1 Experiment Purpose and Design

Building on Experiments 1b and 2b, Experiment 3b further examined how repeated two-syllable names affect downstream consumer purchase support intentions in moral patient contexts. This experiment also ruled out character count effects in moral patient contexts and compared the differential effects of repeated two-syllable versus "小" names on consumer moral responses.

The experiment employed a single-factor between-subjects design (brand name: repeated two-syllable vs. non-repeated vs. "小"). The brand names were identical to Experiment 3a: "Lulu," "Gelu," and "Xiaolu." The scenario simulated a moral incident where a game company suffered losses due to unfair terms. Three hundred participants from the Credamo platform completed the experiment and received RMB 1 compensation. Eight participants failed attention checks,

leaving 292 samples for analysis (184 females, 108 males, Mage = 31.48, SD = 10.23). Our sample size exceeded the a priori estimate from Experiment 3a.

## 7.2 Experimental Procedure

First, participants were randomly assigned to three groups and informed they would complete an imagination task. The instructions read: "Lulu (Gelu/Xiaolu) is a game operator you encounter in daily life. Recently, you learned from news reports that due to unreasonable unfair terms imposed by the game developer during cooperation, Lulu (Gelu/Xiaolu) cannot continue operating related games, potentially facing losses of tens of millions of RMB." We then asked participants to silently repeat the brand name to activate phonetic perception.

We measured the same variables as Experiment 1b: sympathy, regret, compassion, feel dimension perception ($\alpha$ = 0.82), and think dimension perception ($\alpha$ = 0.86). Participants also reported purchase support intentions ( "I really want to buy this brand' s products to support it/I am very likely to buy this brand' s products to support it"; r = 0.70) (Herbst et al., 2012) on 7-point scales (1 = not at all, 7 = very much). Finally, participants reported demographic information.

## 7.3 Experimental Results

As shown in Table 8 , a MANOVA with name type (-1 = repeated two-syllable, 0 = non-repeated, 1 = "小" ) as the independent variable and moral sympathy and regret as dependent variables revealed significant differences among the three groups in sympathy (F(2, 289) = 5.40, p = 0.005, $^2$ = 0.04) and regret (F(2, 289) = 3.58, p = 0.029, $^2$ = 0.02). Planned comparisons (see Table 4 ) showed that compared to the non-repeated group, the repeated two-syllable group exhibited higher moral sympathy (Mrepeated = 5.92, SD = 0.77 vs. Mnon-repeated = 5.52, SD = 1.25, t(289) = 2.84, p = 0.005, d = 0.33) and regret (Mrepeated = 6.03, SD = 0.81 vs. Mnon-repeated = 5.70, SD = 1.23, t(289) = 2.27, p = 0.024, d = 0.27). No significant differences emerged between repeated two-syllable and "小" groups in sympathy (M" 小" = 5.86, SD = 0.85, t < 1, p = 0.703) or regret (M" 小" = 6.03, SD = 0.93, t < 1, p = 0.996).

Interestingly, ANOVA results showed no significant differences among the three groups in compassion (F(2, 289) = 2.30, p = 0.102, $^2$ = 0.02) or purchase support intentions (F(2, 289) = 2.89, p = 0.057, $^2$ = 0.02). However, planned comparisons revealed that compared to the non-repeated group, the repeated two-syllable group showed higher compassion (Mrepeated = 6.00, SD = 0.75 vs. Mnon-repeated = 5.69, SD = 1.30, t(289) = 2.09, p = 0.037, d = 0.25) and purchase support intentions (Mrepeated = 5.69, SD = 0.78 vs. Mnon-repeated = 5.38, SD = 1.16, t(289) = 2.19, p = 0.029, d = 0.26). No significant differences emerged between repeated two-syllable and "小" groups in compassion (M" 小" = 5.91, SD = 0.95, t < 1, p = 0.524) or purchase support (M"小"= 5.66, SD = 1.01, t < 1, p = 0.820). These results suggest that "小" names produce similar effects

to repeated two-syllable names on moral responses in moral patient contexts. A positive moral emotion index aggregated from sympathy, regret, and compassion showed similar significance patterns (see Table 2 ), again supporting Hypothesis H1b.

ANOVA results also revealed significant differences among the three groups in brand mind feel dimension perception ($F(2, 289) = 4.30$, $p = 0.014$, $^2 = 0.03$) but not in think dimension perception ($F < 1$, $p = 0.807$). Planned comparisons showed that participants in the repeated two-syllable condition reported higher feel dimension perception (Mrepeated = 5.57, SD = 0.85 vs. Mnon-repeated = 5.24, SD = 1.13, $t(289) = 2.44$, $p = 0.015$, $d = 0.29$) but no difference in think dimension perception (Mrepeated = 5.47, SD = 1.10 vs. Mnon-repeated = 5.36, SD = 1.19, $t < 1$, $p = 0.513$). No significant differences emerged between repeated two-syllable and "小" groups in feel dimension perception (M" 小" = 5.60, SD = 0.79, $t < 1$, $p = 0.838$) or think dimension perception (M" 小" = 5.42, SD = 1.05, $t < 1$, $p = 0.755$).

Table 2 Summary of planned comparisons for repeated two-syllable effects on consumer moral responses in moral patient context

| Variable | Repeated vs. Non-repeated | Repeated vs. "小" | "小" vs. Non-repeated |
|---|---|---|---|
| Moral Sympathy | .005** | .703 | .018* |
| Moral Regret | .024* | .996 | .029* |
| Moral Compassion | .037* | .524 | .015* |
| Purchase Support Intention | .029* | .820 | .024* |
| Overall Moral Emotion | .005** | .838 | .009** |
| Feel Dimension Perception | .015* | .755 | .018* |
| Think Dimension Perception | .513 | .981 | .024* |

We then used multi-categorical bootstrapping for indirect mediation (PROCESS Model 4; Hayes, 2017) to test the mediating role of feel dimension perception. With repeated two-syllable as the independent variable, overall moral response index as the dependent variable, and brand mind feel dimension perception and think dimension perception as mediators, the results showed that in the comparison between repeated two-syllable (X1 = 0, X2 = 0) and non-repeated groups (X1 = 1, X2 = 0), feel dimension perception' s indirect effect (effect = -0.0901, SE = 0.0521, 95% CI [-0.2076, -0.0068]) did not include zero, supporting its mediating role. Think dimension perception's indirect effect (95% CI [-0.0861, 0.0322]) included zero, indicating that in moral patient contexts, repeated two-syllable names affect moral responses only through brand mind feel dimension perception, not think dimension perception, supporting Hypothesis H2b. In the comparison between repeated two-syllable and "小" groups (X1 = 0, X2 = 1), both feel dimension perception (95% CI [-0.0596, 0.0808]) and think dimension perception (95% CI [-0.0697, 0.0392]) included zero, indicating no significant differences.

Finally, we used multi-categorical bootstrapping for serial mediation (PROCESS Model 6; Hayes, 2017) to test the serial path: repeated two-syllable → feel dimension perception → positive moral emotion → purchase support intention. Detailed results appear in Table 10 and Figure 4 [Figure 4: see original paper]. The results showed that in the comparison between repeated two-syllable and non-repeated groups, the serial mediation effect (effect = -0.0804, SE = 0.0409, 95% CI [-0.1743, -0.0125]) did not include zero, indicating that feel dimension perception and moral emotion serially mediate the relationship between repeated two-syllable names and purchase support intentions, further supporting Hypothesis H2b. Brand mind think dimension perception did not play a significant role in the serial mechanism (95% CI [-0.094, 0.038]), again demonstrating that in moral patient contexts, repeated two-syllable names affect moral emotions and behaviors only through brand mind feel dimension perception. The serial indirect effect was not significant in the comparison between repeated two-syllable and "小" groups (95% CI [-0.0504, 0.0677]).

[Figure 4: see original paper] Path diagram of serial mediation coefficients for repeated two-syllable (vs. non-repeated) effects on consumer purchase support intentions in moral patient context

Experiment 3b replicates that in moral patient contexts, brand mind feel dimension perception explains how repeated two-syllable names affect consumer moral responses. Repeated two-syllable names increase consumers' positive moral emotional responses by enhancing brand mind feel dimension perception, which subsequently increases purchase support intentions. Experiment 3b also rules out character count effects in moral patient contexts and shows that overall, "小" names produce effects similar to repeated two-syllable names.

## 8.1 Experiment Purpose and Design

The first six experiments tested our hypotheses across different moral contexts. To more rigorously compare the effects of repeated two-syllable names on consumers' general moral responses across moral roles, Experiment 4 used a single moral scenario with different moral roles to increase result robustness.

Experiment 4 employed a 2 (brand name: repeated two-syllable vs. non-repeated) × 2 (moral role: agent vs. patient) between-subjects design. The brand names were identical to Experiment 3b: "Lulu" and "Gelu." The scenario simulated the same unfair terms incident as Experiment 3b, involving a game producer and game operator. In the moral agent group, the target brand was the game producer; in the moral patient group, the target brand was the game operator. Four hundred participants from the Credamo platform completed the experiment and received RMB 1 compensation. Thirty-seven participants failed attention checks, leaving 363 samples for analysis (233 females, 130 males, Mage = 31.90, SD = 10.94). A priori power analysis using G*Power 3.1 for a two-way ANOVA with effect size f = 0.4, significance level of 0.05, four groups, and N = 151 yielded statistical power (1-$\beta$) > 0.99. Our sample size exceeded this estimate.

## 8.2 Experimental Procedure

First, participants were randomly assigned to four groups and informed they would complete an imagination task. The instructions read: "Lulu (Gelu) is a game operator (producer) you encounter in daily life. Recently, you learned from news reports that due to unreasonable unfair terms imposed by the game producer on Lulu (Gelu) (by Lulu (Gelu) on the game operator), Lulu (Gelu) (Lulu' s (Gelu' s) game operator) cannot continue operating related games, potentially facing losses of tens of millions of RMB." We then asked participants to silently repeat the brand name to activate phonetic perception.

We measured brand feel dimension perception ($\alpha = 0.94$) and think dimension perception ($\alpha = 0.94$). Because moral emotions and behavioral responses differ across moral roles, we measured participants' general unethical judgment of the unfair terms incident (Geng et al., 2019; Zheng and Zhao, 2013) with two items (r = 0.55): whether they considered the incident ethical (1 = very ethical, 7 = very unethical) and acceptable (1 = very acceptable, 7 = very unacceptable). Finally, participants reported demographic information.

## 8.3 Experimental Results

As shown in Figure 5 [Figure 5: see original paper], a two-way MANOVA with name type (1 = repeated two-syllable, 0 = non-repeated), moral role (1 = agent, 0 = patient), and their interaction as independent variables and feel dimension perception, think dimension perception, and unethical judgment as dependent variables revealed significant interactions between brand name type

and moral role on feel dimension perception (F(3, 359) = 6.04, p = 0.014, $^2$ = 0.02), think dimension perception (F(3, 359) = 7.31, p = 0.007, $^2$ = 0.02), and unethical judgment (F(3, 359) = 34.16, p < 0.001, $^2$ = 0.09). Simple effects analysis for unethical judgment showed that in the moral agent role, repeated two-syllable participants made less unethical judgments about the transgressing brand' s unfair terms (M = 5.81, SD = 0.88) than non-repeated participants (M = 6.29, SD = 0.57, F(1, 359) = 18.64, p < 0.001, $^2$ = 0.05). In the moral patient role, repeated two-syllable participants made more unethical judgments about the victimized brand' s unfair terms (M = 6.29, SD = 0.51) than non-repeated participants (M = 5.84, SD = 0.95, F(1, 359) = 15.64, p < 0.001, $^2$ = 0.04). Simple effects analysis for brand feel dimension perception showed no significant difference between repeated two-syllable and non-repeated groups in the moral agent role (Mrepeated = 4.20, SD = 1.67; Mnon-repeated = 4.17, SD = 1.71, F(1, 359) = 0.015, p = 0.901, $^2$ = 0.00). However, in the moral patient role, repeated two-syllable participants perceived higher brand feel dimension (M = 5.83, SD = 0.68) than non-repeated participants (M = 5.06, SD = 1.40, F(1, 359) = 12.58, p < 0.001, $^2$ = 0.03). Simple effects analysis for brand think dimension perception showed that in the moral agent role, repeated two-syllable participants perceived lower brand think dimension (M = 4.60, SD = 1.53) than non-repeated participants (M = 5.46, SD = 1.00, F(1, 359) = 15.91, p < 0.001, $^2$ = 0.04). However, in the moral patient role, no significant difference emerged between repeated two-syllable and non-repeated groups in think dimension perception (Mrepeated = 4.29, SD = 1.59; Mnon-repeated = 4.31, SD = 1.74, F(1, 359) = 0.011, p = 0.918, $^2$ = 0.00). These results further support Hypotheses H1a, H1b, H2a, and H2b.

[Figure 5: see original paper] Interaction effects of brand name and moral role on unethical judgment, feel dimension, and think dimension perception

We then used bootstrapping for moderated indirect effects (PROCESS Model 8; Hayes, 2017) to test moral role' s moderating effect. With brand type (1 = repeated two-syllable, 0 = non-repeated) as the independent variable, unethical judgment as the dependent variable, feel dimension perception and think dimension perception as mediators, and moral role (1 = agent, 0 = patient) as the moderator, results showed a significant moderated direct effect (b = -0.9156, SE = 0.1567, t(359) = -5.8448, p < 0.001, 95% CI [-1.2237, -0.6076], $R^2$-chng = 0.0869). Specifically, in the moral agent role, repeated two-syllable names significantly reduced unethical judgments about the transgressing brand' s moral incident (effect = -0.4111, SE = 0.1096, 95% CI [-0.6266, -0.1957]). In the moral patient role, repeated two-syllable names significantly increased unethical judgments about the victimized brand' s moral incident (effect = 0.3891, SE = 0.1124, 95% CI [0.1681, 0.6101]). Second, the moderated indirect effect of feel dimension perception was significant (index = -0.0552, SE = 0.0384, 95% CI [-0.1467, -0.0008]). Specifically, in the moral patient role, repeated two-syllable names significantly increased brand feel dimension perception (effect = 0.0571, SE = 0.0328, 95% CI [0.0042, 0.1308]), while no significant difference emerged in the moral agent role (effect = 0.0019, SE = 0.0205, 95% CI [-0.0428, 0.0457]).

Finally, the moderated indirect effect of think dimension perception was significant (index = -0.0603, SE = 0.0404, 95% CI [-0.1564, -0.0008]). Specifically, in the moral agent role, repeated two-syllable names significantly reduced brand think dimension perception (effect = -0.0619, SE = 0.0348, 95% CI [-0.1394, -0.0025]), while no significant difference emerged in the moral patient role (effect = -0.0017, SE = 0.0202, 95% CI [-0.0435, 0.0424]).

[Figure 6: see original paper] Mediation path diagram for repeated two-syllable (vs. non-repeated) effects on consumer unethical judgment in dual moral roles

Experiment 4 rigorously demonstrates the asymmetric mediating roles of brand mind think and feel dimensions in the effect of repeated two-syllable brand names on consumer moral responses by having the same brand play different moral roles in the same moral scenario. Specifically, in moral agent contexts, repeated two-syllable names reduce unethical judgments about the transgressing brand' s moral incident by decreasing brand think dimension perception. In moral patient contexts, repeated two-syllable names increase unethical judgments about the victimized brand' s moral incident by enhancing brand feel dimension perception.

## 9.1 Research Conclusions

Based on mind perception theory, this study used seven experiments to investigate the relationship between phonetic cues—an interest of brand linguistics—and moral responses—an interest of business ethics. We found that across different moral contexts (moral agent transgression vs. moral patient suffering), repeated two-syllable brand names have stronger effects on consumer moral responses than non-repeated names. The mechanism involves brand mind perception, but the mediating roles of its two dimensions are asymmetric across moral contexts.

Specifically, when a brand transgresses as a moral agent, repeated two-syllable names (vs. non-repeated) reduce consumers'negative moral responses (anger, disgust, condemnation, punishment intentions) by decreasing the perceived think dimension of brand mind perception (with no mediating role for the feel dimension). When a brand suffers as a moral patient, repeated two-syllable names (vs. non-repeated) increase consumers' positive moral responses (sympathy, compassion, regret, purchase support intentions) by increasing the perceived feel dimension of brand mind perception (with no mediating role for the think dimension).

Since the stereotype content model and mind perception model are correlated (Huang et al., 2020), this study verified their discriminant explanatory power. Specifically, we ruled out the stereotype content model as an alternative explanation in moral agent contexts. In moral patient contexts, although the stereotype content model showed significant indirect effects, mind perception theory remained a significant mediator after controlling for these effects. Subsequent discriminant validity analysis also confirmed that the two dimensions of

mind perception theory are independent from the two dimensions of stereotype content model theory.

To further support mind perception theory' s explanatory power, we conducted a supplementary experiment using brand type (hedonic vs. utilitarian) as a moderator in moral patient contexts. Previous research suggests that hedonic products activate affective information processing while utilitarian products activate cognitive processing (Roy & Ng, 2012), making hedonic products more likely to evoke brand feel dimension associations (Huang et al., 2020) and thus influence moral responses. We designed a 2 (brand name: repeated two-syllable vs. non-repeated) × 2 (brand type: utilitarian vs. hedonic) between-subjects experiment, using energy-boosting ad slogans to manipulate utilitarian chocolate and deliciousness slogans to manipulate hedonic chocolate. We measured sympathy and feel dimension perception toward a chocolate brand victimized by unfair terms. Results showed a significant interaction between repeated two-syllable names and brand type on feel dimension perception ($F(1, 394) = 5.09$, $p = 0.025$, $^2 = 0.01$). Simple effects analysis revealed that in the hedonic condition, repeated two-syllable brands ($M = 5.28$, $SD = 0.89$) significantly increased feel dimension perception compared to non-repeated brands ($M = 4.74$, $SD = 1.16$, $F(1, 390) = 12.61$, $p < 0.001$, $^2 = 0.03$). In the utilitarian condition, no significant difference emerged between repeated two-syllable ($M = 4.69$, $SD = 1.06$) and non-repeated brands ($M = 4.64$, $SD = 1.10$, $F(1, 394) = 0.12$, $p = 0.73$, $^2 = 0.00$). These results further support mind perception theory' s explanatory mechanism.

Finally, considering that in Chinese contexts, "小" is used to address relatively younger individuals, this study compared repeated two-syllable and "小" names while controlling for character count (e.g., "Lulu" vs. "Xiaolu" ). Results showed that in both moral agent and moral patient contexts, repeated two-syllable names produced effects on moral responses comparable to "小" names.

### 9.2.1 Theoretical Contributions

Our research offers three theoretical contributions. First, previous business ethics research rarely examined both moral agent and moral patient contexts simultaneously (Silver, 2019), and none have verified asymmetric mediation through the two dimensions of mind perception across moral roles. This study integrates both contexts to examine repeated two-syllable effects on consumer moral responses, demonstrating that repeated two-syllable names affect moral responses only through the think dimension in moral agent contexts and only through the feel dimension in moral patient contexts. These findings fill important gaps in consumer moral response research and reveal valuable theoretical insights about asymmetric mediation through mind perception dimensions.

Second, this research bridges brand linguistics and business ethics, establishing causal relationships between concepts from both fields and revealing the underlying "black box" (mechanisms). On one hand, research on how the phonetic

feature of repeated two-syllable' s symbolic meaning affects consumer moral responses remains scarce. On the other hand, research on antecedents of consumer moral responses rarely adopts a brand linguistics perspective. This study demonstrates causal relationships between important concepts in both fields, building a bridge through repeated mediation tests.

Third, the discovered mind perception mediation mechanism deepens understanding of anthropomorphism processes in brand anthropomorphism literature. Previous brand anthropomorphism research almost exclusively used stereotype content model theory (e.g., Aaker et al., 2010; Jiang et al., 2016; Wei et al., 2016). This classic model examines what happens when brands are viewed as people (Aaker et al., 2010; Fournier, 2009), whereas mind perception theory addresses when and why non-human entities are perceived as human (i.e., perceived as having mind along think and feel dimensions) (Gray et al., 2007; Waytz et al., 2010). This paper introduces mind perception theory to brand anthropomorphism research, verifying how people anthropomorphize non-human entities along think and feel dimensions and how this generates different moral responses across contexts. Our ruling out of the stereotype content model as a mediator suggests that this widely adopted model may be inappropriate in moral contexts, where examining the prior stage of mind perception processes is more appropriate.

### 9.2.2 Managerial Implications

Our findings offer significant guidance for brand name design and updating. First, brands can benefit from repeated two-syllable names regardless of moral role. Given that brand naming involves multiple factors and most existing brand names are not repeated two-syllable, and that changing brand names is costly, a practical suggestion is to adopt repeated two-syllable nicknames without altering original names. Indeed, some companies already do this, such as logistics brand Cainiao Network displaying its name as "Cainiao Guoguo" in its app interface.

Second, our mechanism findings can guide communication copywriting for moral incidents. During moral transgression crises, marketing communications can use repeated two-syllable names to reduce public inferences about brand intentionality. During moral victimization crises, repeated two-syllable names can highlight the brand' s emotional suffering to elicit sympathy and support.

Third, our conclusions generalize beyond brand names to all individual names. For example, giving customer service agents repeated two-syllable nicknames can produce similar effects. With AI rapidly developing in marketing, intelligent customer service is increasingly common. If robot customer service uses repeated two-syllable names, consumers will be more tolerant and sympathetic when handling moral crisis incidents.

Additionally, our findings guide public service announcement copywriting. In moral patient contexts, repeated two-syllable names increase sympathy and support for victims. Therefore, in PSAs about wildlife or environmental protection,

designers can give animals or environmental organisms repeated two-syllable names to garner greater public support.

Finally, although repeated two-syllable names show advantages in brand moral transgression events, their use is not without drawbacks. For example, repeated two-syllable names reduce competence perception, making them unsuitable for functional products (Wei et al., 2016). Additionally, our research shows that repeated two-syllable names reduce think dimension perception, which benefits brands in moral agent contexts but may create brand-product misfit in general contexts, reducing purchase intentions. For instance, an AIGC company emphasizing big data computing might be perceived as less competent if using a repeated two-syllable name. Therefore, our findings do not suggest that all brands should adopt repeated two-syllable names; rather, decisions should integrate corporate strategic goals and actual conditions.

## 9.3 Future Research Directions

First, regarding reverse causality debates, moral reasoning literature suggests that people often make intuitive moral judgments first, then rationalize them afterward (Haidt, 2007). In our context, people might first generate intuitive moral responses, then provide mind perception attributions. Our data analysis indeed supports statistically significant reverse causality. However, not all moral psychology research follows this sequence; some shows that unconscious implicit perceptions shape moral judgments, such as gender and racial stereotypes influencing moral judgments before conscious deliberation. Given that all our experiments support the hypothesized sequence of mind perception preceding moral responses, but reverse causality also exists statistically, we believe the temporal relationship between moral responses and perceptions may depend on context. Future research could investigate how context influences the sequence of perception and moral judgment generation.

Second, many consumers create repeated two-syllable nicknames for brands during word-of-mouth communication. When repeated two-syllable names originate from consumers rather than companies, they indicate closer consumer-brand relationships, potentially strengthening repeated two-syllable effects on moral responses. Future research could examine how the source of repeated two-syllable naming influences these effects.

Third, future research could explore boundary conditions from brand characteristics. For example, repeated two-syllable effects might be influenced by consumers' pre-existing brand impressions. When brands repeatedly commit moral transgressions, the observed effects might disappear (Khamitov et al., 2020). When brands have close relationships with consumers, consumers are more tolerant, so relationship strength may moderate repeated two-syllable effects. Future research could also investigate under what conditions repeated two-syllable effects are stronger or weaker than "小" effects.

Finally, the observed repeated two-syllable effects might be influenced by moral

event types (e.g., descriptive norm violations vs. prescriptive norm violations). When brand transgressions violate prescriptive norms due to their severity, repeated two-syllable names might not mitigate negative moral responses.

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## Appendix: Main Variable Measures and Source Literature

### Main Variable Measures and Source Literature

| Variable | Measure Items | Source |
|---|---|---|
| Moral Condemnation | To what extent do you think Brand XX should be condemned for this incident? | Gray & Wegner (2011); Huang et al. (2020) |
| Moral Anger | How angry are you with Brand XX because of this incident? | Gray & Wegner (2011); Huang et al. (2020) |
| Moral Disgust | How disgusted are you with Brand XX because of this incident? | Gray & Wegner (2011); Huang et al. (2020) |
| Moral Sympathy | After reading the report, how much sympathy do you have for XX? | Gray & Wegner (2011); Huang et al. (2020) |
| Moral Compassion | After reading the report, how much compassion do you have for XX? | Gray & Wegner (2011); Huang et al. (2020) |
| Moral Regret | After reading the report, how much regret do you feel for XX' s experience? | Gray & Wegner (2011); Huang et al. (2020) |
| Moral Support | After reading the report, how much support do you have for XX? | Gray & Wegner (2011); Huang et al. (2020) |
| Feel Dimension Perception | This name makes me feel the brand: 1. has its own emotions; 2. can feel various emotions; 3. has the ability to love and hate; 4. has the ability to empathize. | Huang et al. (2020) |
| Think Dimension Perception | This name makes me feel the brand: 1. can think; 2. can act consciously; 3. can have its own ideas; 4. has consciousness. | Huang et al. (2020) |
| Warmth Perception | This name makes me feel the brand is: 1. friendly; 2. warm; 3. generous. | Aaker et al. (2010) |
| Competence Perception | This name makes me feel the brand is: 1. effective; 2. efficient; 3. competent. | Aaker et al. (2010) |
| Punishment Behavior Intention | 1. I would take action to get this brand into trouble; 2. I would punish this brand in some way; 3. I would cause trouble for this brand; 4. I would harshly criticize this brand; 5. I would make this brand get what it deserves. | Septianto & Kwon (2022) |

| Variable | Measure Items | Source |
|---|---|---|
| Purchase Support Intention | 1. I really want to buy this brand' s products to support it; 2. I am very likely to buy this brand' s products to support it. | Herbst et al. (2012) |
| Unethical Judgment | 1. Do you think this incident is ethical? 2. Do you think this incident is acceptable? | Geng et al. (2019); Zheng and Zhao (2013) |

*Note: Figure translations are in progress. See original paper for figures.*