Effects of Anthropomorphism and Brand Identification on Consumer Purchase Intention

Authors: Wang Yihan, Wang Yihan

Date: 2024-07-01T00:00:00+00:00

Abstract

Brand anthropomorphism refers to the practice whereby enterprises proactively endow brands or products with human-like thoughts, emotions, psychological attributes, and linguistic characteristics, constituting an important brand marketing strategy. Grounded in self-brand congruence theory and brand personality theory, brand anthropomorphism and product type exert influence on consumers' purchase intention, with individual identity and social identity within brand identity serving as mediators in this relationship. Multiple experimental studies reveal that, compared with non-anthropomorphism, brand anthropomorphism significantly impacts consumers' purchase intention; product type moderates the relationship between brand anthropomorphism and consumer purchase intention; individual identity and social identity mediate the relationship between brand anthropomorphism and consumer purchase intention, as brand anthropomorphism can substantially enhance consumers' individual identity and social identity, thereby affecting their purchase intention. These results can enrich theoretical and empirical research in domains such as brand anthropomorphism, brand identity, and consumer psychology, while also providing valuable insights for enterprises and marketing practitioners in developing brand anthropomorphism strategies.

Full Text

The Effect of Anthropomorphism and Brand Identification on Consumer Purchase Intention

Abstract

Brand anthropomorphism refers to the practice of actively attributing human-like thoughts, emotions, psychological traits, and linguistic characteristics to brands or products, representing an important brand marketing strategy. Grounded in self-brand congruence theory and brand personality theory, this

study examines how brand anthropomorphism and product type influence consumer purchase intention, with individual and social identification within brand identification serving as mediating mechanisms.

Multiple experiments reveal that, compared to non-anthropomorphism, brand anthropomorphism significantly affects consumer purchase intention; product type moderates the relationship between brand anthropomorphism and purchase intention; and individual and social identification mediate this relationship, as brand anthropomorphism significantly enhances both individual and social identification, thereby influencing purchase intention. These findings enrich theoretical and empirical research in brand anthropomorphism, brand identification, and consumer psychology, while providing practical guidance for enterprises and marketing professionals in developing brand anthropomorphism strategies.

Keywords: self-brand congruence, brand anthropomorphism, brand identification, product type, consumer purchase intention
Classification Number: B842

Introduction

Brand anthropomorphism involves actively endowing brands or products with human-like thoughts, emotions, psychological characteristics, and linguistic features (Aggarwal & McGill, 2007). Anthropomorphized brands can perceive genuine emotions and even act independently, thereby establishing unique connections with consumers (Puzakova et al., 2009). Laksmidewi et al. (2017) found that displaying anthropomorphic images positively influences consumers' perception of product efficacy. Consumer-perceived brand anthropomorphism encompasses three non-mutually exclusive dimensions: external, internal, and social. The external dimension utilizes physical attributes such as imagery, behavior, and expressions to enable intuitive anthropomorphic perception. The internal dimension conveys brand connotation through personality and stories, presenting human-like thinking and concepts. The social dimension shapes role perception through anthropomorphic communication styles.

Brand anthropomorphism has been widely applied in contemporary marketing. Some companies employ anthropomorphic images in brand promotion, such as M&M's and the Chinese brand "Want Want,"while others incorporate anthropomorphic elements into brand logo design, such as Pepsi' s smile-like trademark. Aggarwal & McGill (2007) discovered that anthropomorphic perception manifests in how people evaluate products, and Kim & McGill (2011) found that consumers perceive facial expressions through product exterior design. Many enterprises utilize anthropomorphism in marketing practice to highlight brand characteristics and establish brand image, thereby enhancing consumer preference. Consequently, examining potential variables in the chain of influence between brand anthropomorphism and consumer behavior becomes particularly important.

Based on existing literature, enterprises employ anthropomorphic means in marketing to attract consumers. Anthropomorphic brands influence brand authenticity, which subsequently affects brand dependence and reputation, while high self-congruence increases the probability of consumer preference for the brand (Morhart et al., 2015). Anthropomorphic approaches typically endow brands with stronger characteristics, enabling more intense interactions with consumers. However, brand anthropomorphism does not always produce positive effects. For instance, Aggarwal & McGill (2007) found that when some anthropomorphic designs conflict with consumers' internal schemas, they trigger negative evaluations. Puzakova et al. (2013) experimentally demonstrated that unreasonable brand anthropomorphic designs generate negative impacts.

Previous brand anthropomorphism research lacked a unified theoretical perspective to understand the differential effects of these strategies across different products and consumer contexts. Self-brand congruence theory (Sirgy, 1982) posits that consumers prefer brands and products consistent with their self-concept (including personal characteristics, values, and social identity). When a brand' s anthropomorphic personality aligns with consumers' self-perception (personal self-congruence) or their desired image (social self-congruence), their brand identification and preference strengthen. Based on this theory, we propose that brand anthropomorphism strategies can influence purchase intention by promoting self-brand congruence, but the specific type of self-congruence activated (personal or social) may depend on whether the product is positioned as utilitarian or value-expressive. For utilitarian products that satisfy functional needs of personal characteristics (such as practicality and efficiency), anthropomorphism can enhance congruence with the actual personal self, increasing individual identification. Conversely, for value-expressive products that satisfy social status/image needs (such as luxury and value expression), anthropomorphism may enhance congruence with the ideal social self, strengthening social identification. Self-brand congruence theory provides a comprehensive framework for predicting when and why brand anthropomorphism strategies are more or less effective across different product categories. This theoretical foundation enables us to derive a comprehensive set of hypotheses linking anthropomorphic cues, product type, identification dimensions, and consumer purchase intention into a coherent model.

The three-factor theory of anthropomorphism examines three psychological factors influencing humans' tendency to anthropomorphize non-human entities: elicitation-agent-knowledge (cognitive factor), social motivation, and effectance motivation (motivational factor) (Epley et al., 2007). First, semiotic theory suggests that specific cues such as sound, shape, symbols, and space convey meaning that influences brand perception and judgment, meaning many brand-related cues can facilitate brand anthropomorphism. Second, schema theory posits that our knowledge of themes, concepts, specific stimuli, or the world in general, stored as associative structures or prior knowledge in memory, influences our cognition and behavior. Consequently, consistency between activated human schemas and brand characteristics leads to positive brand evaluation.

Finally, self-brand congruence theory indicates that consumers tend to select products and brands consistent with their self-concept. Guido & Peluso (2015) also argue that perceived consistency between a brand and certain aspects of self-concept can trigger anthropomorphic cognition about the brand, explaining why consumers more easily anthropomorphize and prefer certain brands.

Numerous studies demonstrate the positive effect of brand anthropomorphism on consumer purchase intention. Gupta et al. (2010) show that brand anthropomorphism maximizes buyers' awareness of the brand and brings them value beyond products and services. Anthropomorphism also influences consumer attitudes; when guided to think about products in more anthropomorphic ways, it effectively enhances consumer loyalty to the brand (Chandler & Schwarz, 2010). Epley et al. (2007) found that brand anthropomorphic means can convey brand connotation and philosophy in a lively manner, creating unique brand characteristics and image while satisfying social needs in brand-consumer interactions. Laksmidewi et al. (2017) discovered that anthropomorphic images positively influence consumers' perception of product efficacy, with better display effects when the represented role has higher similarity to humans. Fournier (1998) found that anthropomorphic brands can become close friends who solve problems for consumers and faithfully accompany them, narrowing psychological distance and subsequently enhancing favorability. Delbaere et al. (2011) experimentally demonstrated that anthropomorphizing products or brands in advertising can foster positive emotions, strengthen brand attachment, and ultimately translate into purchasing power. Based on this influence chain, we propose Hypothesis 1: Compared to non-anthropomorphism, brand anthropomorphism significantly influences consumer purchase intention.

Furthermore, brand and product anthropomorphism does not always positively influence consumer purchase intention under all conditions. Scholars have found that improper brand anthropomorphism can produce reverse effects, as brands need to take responsibility for their anthropomorphic actions (Puzakova et al., 2013). Vignovic & Thompson (2010) show that unclear brand expressions mislead consumers and negatively impact brand image, such as damaging brand reputation establishment. Consumers may also exhibit different attitudes toward anthropomorphism across different brands. Aggarwal & McGill (2007) note that based on consumers' perception of differential status between themselves and the brand, brand roles can be positioned as "partners" versus "servants," with consumers showing different attitudes toward different brand roles.

Previous scholars examining anthropomorphism have also studied differential impacts across product types. Bei et al. (2004) found that different marketing approaches toward experience and search products produce different attitudes. Therefore, although brand anthropomorphism may narrow the distance between consumers and brands, anthropomorphic strategies are not universally applicable across all product types, and different marketing approaches should be adopted for different products. We propose Hypothesis 2: Product type moderates the relationship between brand anthropomorphism and consumer purchase

intention.

Finally, consumers anthropomorphize brands not merely because of sophisticated brand image design, but more importantly because the brand image aligns with consumers' cognitive schemas—namely, human schemas. After anthropomorphizing a brand, consumers may develop more significant perception of the product' s personality and transmitted values, subsequently influencing brand identification and ultimately purchase behavior. Brand identification originates from self-brand congruence theory and "brand personality" theory, divided into individual and social dimensions. Individual identification stems from perceived congruence between brand characteristics and personal features/values, while social identification derives from the ability to demonstrate status or characteristics to others or society through the brand. Purchase intention is influenced by brand sociality and self-value expression. Grissemann & Stokburger-Sauer (2012) studied the tourism industry and found that company support for customers significantly affects customer co-creation, i.e., brand identification, which further positively influences customer satisfaction, loyalty, and service expenditure. Elbedweihy et al. (2017) found that identification helps brands establish better images, maintaining their position in consumers' minds even when facing negative public opinion, with highly identified consumers even defending the brand. Therefore, we can apply brand identification to consumers' purchase intentions toward brands. Impression-based and interaction-based cues can enhance brand anthropomorphism through brand cues consistent with consumers' human schemas. We propose Hypothesis 3: Brand anthropomorphism is significantly related to consumer self-brand congruence.

In summary, based on self-brand congruence theory, brand anthropomorphism theory, brand identification theory, and value-expressive/utilitarian product theory, this study aims to examine the influence of brand anthropomorphism on consumer purchase intention, testing the mediating role of brand identification and the moderating role of product type. This study' s contributions to existing literature are as follows: First, by introducing product type as a key moderating variable, the research reveals important boundary conditions for when brand anthropomorphism strategies are more or less effective. Previous research treated product categories as homogeneous factors, ignoring differences that may significantly affect anthropomorphism effects. Second, by examining the mediating roles of personal and social dimensions of brand identification, the study provides a more comprehensive explanation of the underlying psychological mechanisms through which anthropomorphism influences consumer responses. Grounded in self-brand congruence principles, the research clarifies how anthropomorphism facilitates congruence between a brand' s humanized image and consumers' actual personal characteristics (personal identification) for utilitarian products, while for value-expressive products, it facilitates congruence with ideal social identity (social identification). Third, existing literature rarely explores the underlying psychological mechanisms of how brand anthropomorphism affects consumer purchase intention. By integrating product type, identification dimensions, and self-brand congruence theory, the study

develops a more nuanced, contextualized framework depicting the subtle pathways through which anthropomorphism produces different effects across product categories. This holistic perspective helps resolve inconsistencies in previous research. Practically, the findings provide actionable guidance for brands to judiciously leverage anthropomorphic strategies across different product portfolios, optimizing marketing effectiveness for utilitarian versus value-expressive positioning. In conclusion, by systematically examining the differential effects of impression-based and interaction-based anthropomorphism on utilitarian and value-expressive products while deconstructing the mediating role of brand identification, this study offers a more refined, contextualized understanding of brand anthropomorphism strategies. The results help resolve previous research inconsistencies and provide actionable guidance for more prudent and effective utilization of anthropomorphism across brand portfolios.

Experiment 1c

The purposes of Experiment 1c were twofold: first, to select materials for the product type variable and test the effectiveness of the product type manipulation, while simultaneously selecting materials for impression-based versus interaction-based anthropomorphism variables and testing the effectiveness of the anthropomorphism type manipulation; second, to conduct preliminary verification of Hypothesis 1 and Hypothesis 2—that anthropomorphism positively influences consumer purchase intention and that product type moderates this effect. To control for effects arising from the brand image itself, Experiment 1c additionally measured consumers' liking for the brand image as a control variable.

2.2.1 Participants

The study invited 24 participants for this pilot experiment, with 54.2% male and 45.8% female, average age 24 years. Among them, 63% had heard of the concept of brand anthropomorphism, and 67% had seen anthropomorphized brands.

2.2.2 Experimental Design

Based on product characteristics, this experiment divided materials into two groups: utilitarian group and value-expressive group. Different product types were selected for manipulation based on conclusions from Voss et al. (2003) and verified through a product type measurement scale to confirm manipulation effectiveness. The experiment referenced Puzakova et al. (2013), Puzakova & Aggarwal (2018), and Aggarwal & McGill (2007) to select food and luxury watches as experimental materials. Product type manipulation checks referenced Batra & Ahtola (1991), Crowley et al. (1992), and Heijden & Sørensen (2003), employing a scale with 8 items per dimension (utilitarian and value-expressive), each rated on four levels ("very," "slightly," "moderately," "neutral") with positive/negative keywords for each item.

2.2.4 Experimental Procedure

Researchers created an electronic questionnaire involving participants rating each product' s utilitarian and value-expressive dimensions. Data were collected through offline interviews based on questionnaire items to measure participants' perceived product type.

2.2.5 Results and Discussion

Utilitarian Product Group Materials: The utilitarian food group (M=39.42, SD=9.34) scored significantly higher on utilitarian manipulation checks than on value-expressiveness (M=27.88, SD=10.14, $t(23)=3.88$, $p<0.01$), indicating successful manipulation suitable for formal experiments.

Value-Expressive Product Group Materials: The luxury watch value-expressive group (M=37.67, SD=10.87) scored significantly higher on value-expressiveness manipulation checks than on utilitarianism (M=30.29, SD=13.12, $t(23)=1.94$, $p<0.05$), indicating successful manipulation suitable for formal experiments. Internal consistency for manipulation check items showed high reliability: utilitarian product utilitarianism α=0.9369; utilitarian product value-expressiveness α=0.9559; value-expressive product utilitarianism α=0.9672; value-expressive product value-expressiveness α=0.9570.

2.3.1 Participants

The study invited 54 participants for this pilot experiment, with 42.6% male and 57.4% female, average age 24.2 years. Among them, 74% had heard of the concept of brand anthropomorphism, and 70% had seen anthropomorphized brands.

2.3.2 Experimental Design

Based on brand anthropomorphic characteristics, this experiment divided materials into three groups: non-anthropomorphism, impression-based anthropomorphism, and interaction-based anthropomorphism. Manipulation involved adding impression-based and interaction-based cues—impression-based cues through human physical features and expressions, interaction-based cues through first-person social language. Anthropomorphism and non-anthropomorphism groups were identical except for anthropomorphic elements. Two separate scales measured participants' perception of these two cue types. The experiment aimed to test manipulation effectiveness using food and luxury watches from the pilot experiment.

2.3.3 Experimental Materials

Following material selection in Experiment 1a, this experiment used food and luxury watches with corresponding anthropomorphic designs. All materials for

Experiment 1b, including names and images, were originally designed by researchers referencing existing cases to prevent prior attitudes from contaminating results—famous brands like Three Squirrels or Haier could influence identification and purchase intention due to their popularity. Based on different dimensions of brand anthropomorphism, pre-experiment 2 materials were divided into three groups (impression-based anthropomorphism, interaction-based anthropomorphism, non-anthropomorphism).

The first experiment used the food brand "Yummy," with "healthy, high-quality" as its business philosophy. All promotional messages were original, referencing Puzakova et al. (2013). Anthropomorphism groups manipulated different cues through human-like designs (images or textual descriptions). The impression-based cue group added human physical features and expressions, such as human-like eyes and limbs. The interaction-based cue group added first-person social language like "Hi! I' m Yummy!" The non-anthropomorphism group used third-person language without anthropomorphic elements in promotional messages, while maintaining identical brand image design to the impression-based group without any human features.

The second set of materials referenced Puzakova & Aggarwal (2018), using the virtual luxury watch brand "Tesmer." In anthropomorphism groups, impression-based cues were manipulated by adding and outlining facial and expression features, while interaction-based cues incorporated first-person social language like "Hello everyone! I' m Tesmer!" The non-anthropomorphism group used third-person statements and avoided integrating human features into brand image. Except for human-like design in brand image and textual description, anthropomorphism and non-anthropomorphism groups were identical in all other information presentation.

2.3.4 Experimental Procedure

Researchers created an electronic questionnaire measuring participants' ratings of impression-based and interaction-based anthropomorphic cues for each product. Data were collected through offline interviews to measure perceived levels of both anthropomorphic cues. Manipulation checks referenced Aggarwal & McGill (2007), Guido & Peluso (2015), Landwehr et al. (2011), Epley et al. (2008), and Wang & Feng (2016), using an 8-item 7-point scale including items like "I think this brand' s image has a human-like face," "I think this brand' s image has human-like expressions," and "I think this brand' s image has a human-like body," with four items assessing impression-based anthropomorphism and four assessing interaction-based anthropomorphism.

2.3.5 Results and Discussion

Utilitarian Product Group Materials: The impression-based anthropomorphism group (M=20.73, SD=5.70) scored significantly higher on impression-based cue manipulation checks than the non-anthropomorphism

group (M=8.08, SD=5.45, t(37)=-6.93, p<0.01). The interaction-based anthropomorphism group (M=18.27, SD=6.52) scored significantly higher on interaction-based cue checks than the non-anthropomorphism group (M=11.50, SD=7.36, t(37)=-2.91, p<0.01). The impression-based group (M=20.73, SD=5.70) also scored significantly higher than the interaction-based group (M=12.40, SD=7.28, t(28)=3.49, p<0.01) on impression-based cues, confirming successful manipulation of both cue types for subsequent formal experiments.

Value-Expressive Product Group Materials: The impression-based anthropomorphism group (M=18.40, SD=6.07) scored significantly higher on impression-based cue checks than the non-anthropomorphism group (M=8.88, SD=5.77, t(37)=-4.92, p<0.01). The interaction-based anthropomorphism group (M=18.07, SD=7.08) scored significantly higher on interaction-based cue checks than the non-anthropomorphism group (M=10.88, SD=6.00, t(37)=-3.40, p<0.01). The impression-based group (M=18.40, SD=6.07) also scored significantly higher than the interaction-based group (M=13.00, SD=9.26, t(28)=1.89, p<0.05) on impression-based cues, confirming successful manipulation of both cue types for subsequent formal experiments. Internal consistency for manipulation check items showed high reliability: utilitarian product impression-based cues α=0.9639; utilitarian product interaction-based cues α=0.9446; value-expressive product impression-based cues α=0.9682; value-expressive product interaction-based cues α=0.9442.

2.4.1 Participants

This experiment was conducted both online via platforms like Wenjuanxing and offline on Shanghai Jiao Tong University campus, including both students and faculty. A total of 428 valid questionnaires were collected, with 42.3% male and 57.7% female participants, average age 21.3 years.

2.4.2 Experimental Design

The experiment employed a 3 (impression-based anthropomorphism vs. interaction-based anthropomorphism vs. non-anthropomorphism) × 2 (utilitarian product vs. value-expressive product) design, creating six questionnaire types (impression-anthropomorphism/utilitarian, impression-anthropomorphism/value-expressive, interaction-anthropomorphism/utilitarian, interaction-anthropomorphism/value-expressive, non-anthropomorphism/utilitarian, non-anthropomorphism/value-expressive).

2.4.4 Experimental Procedure

In the experimental process, participants first viewed pre-designed brand materials, then completed scales measuring consumer purchase intention, brand anthropomorphism type, product type manipulation checks, and brand image liking. Finally, demographic information was recorded including gender, age,

and prior exposure to brand anthropomorphism. Anthropomorphism manipulation checks referenced Kim & McGill (2011) using items: "I think this brand' s image looks like a person"and "I think this brand's image communicates with me like a person" to assess impression-based and interaction-based cues respectively. Product type manipulation checks referenced Jin & Zhu (2016) using the item: "How would you categorize this product? (1=utilitarian, 7=value-expressive). Utilitarian products—typically necessities that provide functional value; Value-expressive products—not urgently needed but provide pleasure and enjoyment." Purchase intention was measured using a 3-item 7-point scale: "I would purchase," "I would recommend to friends and family," and "I would purchase multiple times in the future" (Zeithaml, 1988), with high internal consistency (α=0.93). The control variable scale adapted Zemack-Rugar et al.' s (2017) ad liking scale with five items measuring "unattractive/attractive" dimensions, showing high internal consistency (α=0.89).

2.4.5 Experimental Results

First, manipulation checks confirmed that the impression-based anthropomorphism group (M=5.42, SD=1.33) perceived impression-based cues significantly higher than the non-anthropomorphism group (M=3.38, SD=1.99, t(284)=-10.17, p<0.01), and the interaction-based anthropomorphism group (M=5.41, SD=1.19) perceived interaction-based cues significantly higher than the non-anthropomorphism group (M=3.20, SD=1.98, t(283)=-11.40, p<0.01). Product type manipulation checks showed that utilitarian product group ratings (M=3.75, SD=1.80) were significantly lower than value-expressive product group ratings (M=5.80, SD=0.95, t(426)=-14.52, p<0.01) on the 1-7 scale. These results confirm successful manipulation of both anthropomorphism cue types and product type in Experiment 1c.

Second, brand anthropomorphism main effects were significant under certain conditions. For utilitarian products, purchase intention scores were significantly higher in the impression-based group (M=12.39, SD=5.10) versus non-anthropomorphism (M=10.89, SD=3.71, t(152)=-2.08, p<0.05), and in the interaction-based group (M=13.06, SD=4.42) versus non-anthropomorphism (M=10.89, SD=3.71, t(144)=-3.21, p<0.01). For value-expressive products, purchase intention scores were significantly lower in the impression-based group (M=8.16, SD=4.04) versus non-anthropomorphism (M=9.68, SD=4.56, t(130)=2.02, p<0.05), and in the interaction-based group (M=7.63, SD=3.62) versus non-anthropomorphism (M=9.68, SD=4.56, t(137)=2.93, p<0.01). Thus, Hypothesis 1 received partial support.

For moderation effects, product type and anthropomorphism type were converted to dummy variables (non-anthropomorphism=(0,0), impression-based=(1,0), interaction-based=(1,1); utilitarian=0, value-expressive=1). ANCOVA with gender, age, and brand image liking as covariates revealed that impression-based anthropomorphism significantly affected purchase intention (F(1,419)=4.87, p<0.05), as did interaction-based anthropomorphism

($F(1,419)=9.07$, $p<0.01$). However, product type alone had no significant effect ($F(1,419)=1.83$, $p>0.05$). To test Hypothesis 2, cross-product terms were analyzed, revealing significant interactions between impression-based anthropomorphism and product type ($F(1,419)=8.68$, $p<0.05$, partial $^2=0.020$) and between interaction-based anthropomorphism and product type ($F(1,419)=15.93$, $p<0.01$, partial $^2=0.037$).

Post-hoc analysis revealed that for utilitarian products, purchase intention was significantly higher in the impression-based group ($M=12.39$, $SD=5.10$) versus non-anthropomorphism ($M=10.89$, $SD=3.71$, $t(152)=-2.08$, $p<0.05$), and in the interaction-based group ($M=13.06$, $SD=4.42$) versus non-anthropomorphism ($M=10.89$, $SD=3.71$, $t(144)=-3.21$, $p<0.01$). For value-expressive products, purchase intention was significantly lower in the impression-based group ($M=8.16$, $SD=4.04$) versus non-anthropomorphism ($M=9.68$, $SD=4.56$, $t(130)=2.02$, $p<0.05$), and in the interaction-based group ($M=7.63$, $SD=3.62$) versus non-anthropomorphism ($M=9.68$, $SD=4.56$, $t(137)=2.93$, $p<0.01$). Thus, Hypothesis 2 was supported.

Experiment 1c partially verified Hypothesis 1 while fully verifying Hypothesis 2. Anthropomorphized utilitarian brands received higher purchase intention than non-anthropomorphized brands, with both impression-based and interaction-based groups scoring higher than non-anthropomorphism. Conversely, anthropomorphized value-expressive brands received lower purchase intention than non-anthropomorphized brands, with both anthropomorphism groups scoring lower than non-anthropomorphism. In other words, for utilitarian products, both impression-based and interaction-based anthropomorphism effectively increase purchase intention, consistent with previous research (Aggarwal & McGill, 2007; Kim & McGill, 2011). However, for value-expressive products, anthropomorphism negatively affects purchase intention. As Bei et al. (2004) and Shen (2006) found, consumers have different acceptance levels for different marketing techniques when facing different product types. Thus, anthropomorphism strategies are not universally applicable. This experiment suggests utilitarian brands benefit from anthropomorphic marketing, while value-expressive brands do not, as it reduces product attractiveness. The underlying mechanism may relate to brand identification, which Experiment 2 will explore.

Experiment 2

Building on Experiment 1c' s results that anthropomorphism increases purchase intention for utilitarian products (with both impression-based and interaction-based groups outperforming non-anthropomorphism) while decreasing it for value-expressive products, Experiment 2 investigates the underlying mechanism. Having established that anthropomorphism affects purchase intention with product type as a moderator, Experiment 2 examines whether brand identification mediates the relationship between anthropomorphism type and purchase intention, and whether it also mediates the interaction effect between anthropomor-

phism and product type on purchase intention.

3.2 Participants

This experiment was conducted both online via Wenjuanxing and offline on Shanghai Jiao Tong University campus, including students and faculty. After excluding questionnaires with overly short completion times, 583 valid responses were collected, with 50.8% male and 49.2% female participants, average age 22.5 years.

3.3 Experimental Design

The experiment employed a 3 (impression-based anthropomorphism vs. interaction-based anthropomorphism vs. non-anthropomorphism) × 2 (utilitarian product vs. value-expressive product) design, creating six questionnaire types (non-anthropomorphism/utilitarian, non-anthropomorphism/value-expressive, impression-based/utilitarian, impression-based/value-expressive, interaction-based/utilitarian, interaction-based/value-expressive).

3.4 Experimental Materials

Experiment 2 used the same originally designed brands "Yummy" and "Tesmer" as Experiment 1c, with identical material settings to the pilot experiment.

3.5 Experimental Procedure

Participants first viewed pre-designed brand materials, then completed scales measuring purchase intention (dependent variable), brand identification (mediator including individual and social identification dimensions), manipulation check items for anthropomorphism and product type (more concise than original scales), and brand image liking (control variable). Finally, demographic information was recorded including gender, age, education, monthly income, and prior exposure to brand anthropomorphism.

For the mediator variable, this experiment referenced Rio et al. (2001, 2006) and Sha et al. (2010), using a 6-item 7-point scale to measure brand identification. Items like "I think this brand' s personality matches my personality" assessed individual identification, while items like "I think using this brand can demonstrate my social status" assessed social identification. Post-experiment internal consistency was high for individual identification (α=0.92) and social identification (α=0.94). Purchase intention scales, control variable scales, and manipulation check items were identical to Experiment 1c.

3.6 Experimental Results

Manipulation checks confirmed that the impression-based anthropomorphism group (M=5.18, SD=1.52) perceived impression-based cues significantly higher than the non-anthropomorphism group (M=3.42, SD=1.94, t(369)=-9.77,

$p<0.01$), and the interaction-based group ($M=4.88$, $SD=1.60$) perceived interaction-based cues significantly higher than the non-anthropomorphism group ($M=3.26$, $SD=1.92$, $t(394)=-9.15$, $p<0.01$). Product type manipulation checks showed utilitarian product group ratings ($M=3.85$, $SD=1.80$) were significantly lower than value-expressive product group ratings ($M=5.61$, $SD=1.16$, $t(581)=-14.16$, $p<0.01$). These results confirm successful manipulation of both anthropomorphism cue types and product type.

To test the mediating roles of individual and social identification, hierarchical regression was employed. First, independent variables were dummy-coded (non-anthropomorphism=(0,0), impression-based=(1,0), interaction-based=(1,1)). For individual identification mediation: Step 1 regressed purchase intention on anthropomorphism cues while controlling for brand image liking, gender, and age. For utilitarian products, impression-based cues significantly predicted purchase intention ($\beta=0.98$, $p<0.01$, $R^2=0.08$), as did interaction-based cues ($\beta=0.94$, $p<0.01$, $R^2=0.08$). For value-expressive products, both impression-based ($\beta=-1.19$, $p<0.01$, $R^2=0.21$) and interaction-based cues ($\beta=-0.91$, $p<0.01$, $R^2=0.20$) significantly predicted purchase intention, with anthropomorphism leading to lower purchase intention than non-anthropomorphism.

Step 2 regressed individual identification on anthropomorphism cues. For utilitarian products, both impression-based ($\beta=0.83$, $p<0.01$, $R^2=0.11$) and interaction-based cues ($\beta=0.70$, $p<0.01$, $R^2=0.11$) significantly enhanced individual identification. For value-expressive products, neither impression-based ($\beta=0.17$, $p>0.05$) nor interaction-based cues ($\beta=0.09$, $p>0.05$) significantly affected individual identification.

Step 3 regressed purchase intention on both anthropomorphism cues and individual identification. Individual identification was significant ($\beta=0.50$, $p<0.01$, $R^2=0.22$), while impression-based cues remained significant ($\beta=-0.42$, $p<0.05$, $R^2=0.22$) but interaction-based cues became non-significant ($\beta=-0.17$, $p>0.05$), indicating partial mediation by individual identification.

For social identification mediation: Step 1 was identical to above. Step 2 regressed social identification on anthropomorphism cues. For utilitarian products, neither impression-based ($\beta=0.03$, $p>0.05$) nor interaction-based cues ($\beta=-0.05$, $p>0.05$) significantly affected social identification. For value-expressive products, both impression-based ($\beta=0.53$, $p<0.05$, $R^2=0.06$) and interaction-based cues ($\beta=0.61$, $p<0.05$, $R^2=0.06$) significantly enhanced social identification.

Step 3 regressed purchase intention on anthropomorphism cues and social identification. Social identification was significant ($\beta=-0.09$, $p<0.01$, $R^2=0.14$), while both impression-based ($\beta=-0.07$, $p>0.05$) and interaction-based cues ($\beta=0.07$, $p>0.05$) became non-significant, indicating full mediation by social identification.

Experiment 2 replicated Experiment 1c' s findings: anthropomorphized utilitarian brands received higher purchase intention than non-anthropomorphized

brands, while anthropomorphized value-expressive brands received lower purchase intention. Building on this, Experiment 2 explored the underlying mechanism and found brand identification's mediating role. Specifically, brand anthropomorphism enhances consumers' individual and social identification (emotional connection and sense of belonging), thereby promoting purchase intention, validating previous research (Tildesley & Coote, 2009; Grissemann & Stokburger-Sauer, 2012; Tuškej et al., 2013; Lam et al., 2013). The results show that appropriate anthropomorphic design can resonate with consumers' self-image, enhancing brand identification (Graeff, 1996), and that brands matching personal characteristics and values gain greater consumer preference (Aaker, 1999).

General Discussion

This study focuses on the mechanism of brand anthropomorphism under different conditions and factors, specifically examining differential effects across product types and explaining these differences through underlying mechanisms. Literature review reveals that previous research introduced moderators primarily at the individual psychological level, such as consumer types and internal psychological constructs, but rarely examined product attributes themselves as moderators. Therefore, using product type—a variable unrelated to consumer psychology—as a moderator has innovative significance. This study excavates the influence mechanisms of utilitarian versus value-expressive product types on brand anthropomorphism effectiveness, finding that anthropomorphic means generate more positive purchase intention for utilitarian brands but reduce purchase intention for value-expressive brands. This boundary condition discussion extends brand anthropomorphism research. Additionally, this study introduces brand identification with its individual and social dimensions as mediators, providing theoretical support and rationality—a variable not previously examined in brand anthropomorphism research, thus broadening theoretical directions and supplementing more influencing factors in the impact chain.

The experiments verified brand anthropomorphism' s effect on consumer purchase intention. Specifically, impression-based and interaction-based anthropomorphic cues positively affect purchase intention under certain conditions: anthropomorphized utilitarian brands received higher purchase intention than non-anthropomorphized brands, with both anthropomorphism groups outperforming non-anthropomorphism. Conversely, anthropomorphized value-expressive brands received lower purchase intention, with both anthropomorphism groups scoring lower than non-anthropomorphism. The study also found product type' s moderating role between anthropomorphism and purchase intention. For utilitarian brands, both impression-based and interaction-based anthropomorphism generated more positive purchase intention. However, for value-expressive products, both impression-based and interaction-based anthropomorphism reduced purchase intention compared to non-anthropomorphism. These results align with Bei et al. (2004) and Shen (2006), demonstrating that anthropomorphism strategies are not universally applicable and consumer acceptance varies by prod-

uct type. Therefore, the findings recommend that enterprises should decide on anthropomorphic marketing strategies based on product characteristics and positioning.

Grounded in brand congruence theory (Sirgy, 1982) and brand personality theory (Aaker, 1999), this study examined the mediating roles of individual and social identification dimensions. Experiment 2 found that both individual and social identification mediate the relationship between brand anthropomorphism and purchase intention—anthropomorphism enhances brand identification, thereby increasing purchase intention, consistent with previous research (Grissemann & Stokburger-Sauer, 2012; Lam et al., 2013). Specifically, impression-based and interaction-based anthropomorphism enhance individual identification for utilitarian brands, while both approaches enhance social identification for value-expressive brands. No previous research has applied brand identification to brand anthropomorphism studies. Aaker (1999) and Kumar et al. (2000) demonstrated that brands matching personal characteristics and values generate higher identification, evaluation, and preference—precisely the goal of brand anthropomorphism, creating deeper consumer-brand connections. Therefore, introducing brand identification as a mediator has theoretical foundation and research significance.

Furthermore, an interaction effect exists between brand anthropomorphism and product type, influencing purchase intention through brand identification. For utilitarian products, anthropomorphic marketing enhances individual identification but not social identification. For value-expressive products, individual identification shows no significant difference between anthropomorphism conditions, but social identification differs significantly. Brand anthropomorphism affects purchase intention through both individual and social identification mediators, with product type serving as a moderator. Anthropomorphism significantly enhances individual identification for utilitarian products because their functional attributes closely connect with individual identification' s self-characteristics and values dimension, creating resonance. Anthropomorphism significantly enhances social identification for value-expressive products because their social attributes correlate more strongly with sensory enjoyment and social status demonstration, connecting more closely with brand identification's social dimension—highlighting status or characteristics when displayed to others or society.

Theoretically, this study reveals that the interaction between brand anthropomorphism and product type influences purchase intention through individual and social identification mediation. For utilitarian products, anthropomorphism enhances individual identification; for value-expressive products, it enhances social identification. This conclusion advances understanding of connections between brand anthropomorphism, brand identification, and cognitive consistency theory. Practically, the study provides evidence for anthropomorphic image design, advertising, and marketing strategies, enabling enterprises and marketing managers to design approaches based on specific contexts. For value-expressive brands like luxury watches or automobiles, neither impression-

based nor interaction-based anthropomorphism may achieve desired effects. The study advises enterprises and marketers to analyze specific situations case-by-case, cautiously employing brand anthropomorphism based on product type and consumer characteristics. Specifically, luxury watches and similar categories are becoming common in daily life but remain underexplored in anthropomorphism research, which has mostly focused on single dimensions of appearance or interaction. This study simultaneously examines both impression-based and interaction-based cues for these categories, theoretically supplementing previous research and practically aiding real marketing decisions about brand-level anthropomorphism. The findings indicate that enterprises considering anthropomorphic branding must account for product positioning. For utilitarian products providing functional attributes, both impression-based and interaction-based anthropomorphism can enhance individual identification and purchase intention. For value-expressive products providing sensory enjoyment like pleasure and happiness, anthropomorphism is unnecessary.

Despite theoretical contributions to research gaps and debates, this study has limitations: First, in product type selection, food represented utilitarian products and luxury watches represented value-expressive products. Future research could expand product categories, such as examining anthropomorphism in luxury automobiles or stationery. Second, regarding individual characteristics, future studies could examine moderators like consumers' social motivation, narcissism, or inferiority, combining them with product type moderation to build more comprehensive influence chains. Third, regarding consumption contexts, online versus offline purchase impacts could be considered. For instance, Liu et al. (2020) verified that influencers affect purchase intention through two types of perceived shopping value. Regarding usage contexts, public versus private usage effects could be examined. Tian et al. (2001) found that when consumers use products publicly, they focus more on others' perceptions and have higher needs for identity and image expression, which doesn' t occur in private usage contexts. Future research could further explore interactions between consumption/usage contexts and anthropomorphic cue types on purchase intention. Fourth, additional dependent variables like brand attitude could be introduced. From a marketing perspective, brand attitude is the source of purchase intention, and incorporating brand attitude would extend the influence chain. Previous research found that anthropomorphism makes consumers more relaxed with lower perceived risk, enhancing brand attitude (Jarvenpaa & Leidner, 1999), while brand identification significantly affects brand attitude (Lam et al., 2013).

References

[1] Jin Liyin. Research on Brand Equity Driving Model Based on Brand Personality and Brand Identification[J]. Journal of Beijing Technology and Business University (Social Sciences Edition), 2006(01):38-43. DOI:10.16299/j.1009-6116.2006.01.008.

[2] Jin Fei, Zhu Huawei. Consumer Sense of Power and Impulse Buying[J]. Acta

Psychologica Sinica, 2016, 48(07):880-890.

[3] Liu Fengjun, Meng Lu, Chen Siyun, Duan Shen. Research on the Influence and Mechanism of Internet Celebrity Live Streaming on Consumer Purchase Intention[J]. Chinese Journal of Management, 2020, 17(01):94-104.

[4] Sha Zhenquan, Jiang Yuwei, Wen Fei. Empirical Research on the Influence of Virtual Brand Community Experience on Community Members' Brand Identification[J]. Management Review, 2010, 22(12):79-88. DOI:10.14120/j.cnki.cn11-5057/f.2010.12.004.

[5] Shen Yongzheng. The Action and Inaction of Brand Strategy[J]. 21st Century Business Review, 2006(05):34-35.

[6] Wang Xuhui, Feng Wenqi. Research on the Influence of Brand Anthropomorphism on Brand Equity in SoLoMo Mode[J]. Journal of Business Economics and Management, 2016(10):5-16. DOI:10.14134/j.cnki.cn33-1336/f.2016.10.001.

[7] Aaker J L. The malleable self: The role of self-expression in persuasion[J]. Journal of marketing research, 1999, 36(1): 45-57.

[8] Aggarwal P and McGill A L. Is that car smiling at me? Schema congruity as a basis for evaluating anthropomorphized products[J]. Journal of consumer research, 2007, 34(4): 468-479.

[9] Batra R and Ahtola O T. Measuring the hedonic and utilitarian sources of consumer attitudes[J]. Marketing letters, 1991, 2: 159-170.

[10] Bei L T, Chen E Y I, Widdows R. Consumers' online information search behavior and the phenomenon of search vs. experience products[J]. Journal of family and economic issues, 2004, 25: 449-467.

[11] Chandler J and Schwarz N. Use does not wear ragged the fabric of friendship: Thinking of objects as alive makes people less willing to replace them[J]. Journal of Consumer Psychology, 2010, 20(2): 138-145.

[12] Crowley A E, Spangenberg E R, Hughes K R. Measuring the hedonic and utilitarian dimensions of attitudes toward product categories[J]. Marketing letters, 1992, 3: 239-249.

[13] Delbaere M, McQuarrie E F, Phillips B J. Personification in advertising[J]. Journal of Advertising, 2011, 40(1):

[14] Elbedweihy A M, Jayawardhena C, Elsharnouby M H, Elsharnouby T. H. Customer relationship building: The role of brand attractiveness and consumer–brand identification[J]. Journal of Business Research, 2016, 69(8): 2901-2910.

[15] Epley N, Akalis S, Waytz A, Cacioppo, J. T. Creating social connection through inferential reproduction: Loneliness and perceived agency in gadgets, gods, and greyhounds[J]. Psychological science, 2008, 19(2): 114-120.

[16] Epley N, Waytz A, Akalis S, Cacioppo, J. T. When we need a human: Motivational determinants of anthropomorphism[J]. Social cognition, 2008, 26(2):

143-155.

[17] Epley N, Waytz A, Cacioppo J T. On seeing human: a three-factor theory of anthropomorphism[J]. Psychological review, 2007, 114(4): 864.

[18] Fournier S. Consumers and their brands: Developing relationship theory in consumer research[J]. Journal of consumer research, 1998, 24(4): 343-373.

[19] Graeff T R. Using promotional messages to manage the effects of brand and self-image on brand evaluations[J]. Journal of consumer marketing, 1996, 13(3): 4-18.

[20] Grissemann U S and Stokburger-Sauer N E. Customer co-creation of travel services: The role of company support and customer satisfaction with the co-creation performance[J]. Tourism management, 2012, 33(6): 1483-1492.

[21] Guido G and Peluso A M. Brand anthropomorphism: Conceptualization, measurement, and impact on brand personality and loyalty[J]. Journal of Brand Management, 2015, 22: 1-19.

[22] Gupta S, Melewar T C, Bourlakis M. A relational insight of brand personification in business-to-business markets[J]. Journal of General Management, 2010, 35(4): 65-76.

[23] Jarvenpaa S L and Leidner D E. Communication and trust in global virtual teams[J]. Organization science, 1999, 10(6): 791-815.

[24] Kim S and McGill A L. Gaming with Mr. Slot or gaming the slot machine? Power, anthropomorphism, and risk perception[J]. Journal of Consumer Research, 2011, 38(1): 94-107.

[25] Kumar N, Scheer L, Kotler P. From market driven to market driving[J]. European management journal, 2000, 18(2):

[26] Laksmidewi D, Susianto H, Afiff A Z. Anthropomorphism in advertising: The effect of anthropomorphic product demonstration on consumer purchase intention[J]. Asian Academy of Management Journal, 2017, 22(1).

[27] Lam S K, Ahearne M, Mullins R, Hayati, B., Schillewaert N. Exploring the dynamics of antecedents to consumer–brand identification with a new brand[J]. Journal of the Academy of Marketing Science, 2013, 41: 234-252.

[28] Landwehr J R, McGill A L, Herrmann A. It' s got the look: The effect of friendly and aggressive "facial" expressions on product liking and sales[J]. Journal of marketing, 2011, 75(3): 132-146.

[29] Puzakova M and Aggarwal P. Brands as rivals: Consumer pursuit of distinctiveness and the role of brand anthropomorphism[J]. Journal of Consumer Research, 2018, 45(4): 869-888.

[30] Puzakova M, Kwak H, Rocereto J F. When humanizing brands goes wrong: The detrimental effect of brand anthropomorphization amid product wrongdoings[J]. Journal of marketing, 2013, 77(3): 81-100.

[31] Puzakova M, Kwak H, Rocereto J. Pushing the envelope of brand and personality: Antecedents and moderators of anthropomorphized brands[J]. ACR North American Advances, 2009.

[32] Sirgy M J. Self-concept in consumer behavior: A critical review[J]. Journal of consumer research, 1982, 9(3):

[33] Stokburger-Sauer N, Ratneshwar S, Sen S. Drivers of consumer-brand identification[J]. International journal of research in marketing, 2012, 29(4): 406-418.

[34] Tian K T, Bearden W O, Hunter G L. Consumers' need for uniqueness: Scale development and validation[J]. Journal of consumer research, 2001, 28(1): 50-66.

[35] Tildesley A E and Coote L V. This brand is me: a social identity based measure of brand identification[J]. ACR North American Advances, 2009.

[36] Tuškej U, Golob U, Podnar K. The role of consumer–brand identification in building brand relationships[J]. Journal of business research, 2013, 66(1): 53-59.

[37] Van der Heijden H and Sørensen L S. Measuring attitudes towards mobile information services: an empirical validation of the HED/UT scale[C]//ECIS. 2003: 765-777.

[38] Vignovic J A and Thompson L F. Computer-mediated cross-cultural collaboration: Attributing communication errors to the person versus the situation[J]. Journal of Applied Psychology, 2010, 95(2): 265.

[39] Voss K E, Spangenberg E R, Grohmann B. Measuring the hedonic and utilitarian dimensions of consumer attitude[J]. Journal of marketing research, 2003, 40(3): 310-320.

[40] Zeithaml V A. Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence[J]. Journal of marketing, 1988, 52(3): 2-22.

[41] Zemack-Rugar Y, Moore S G, Fitzsimons G J. Just do it! Why committed consumers react negatively to assertive ads[J]. Journal of Consumer Psychology, 2017, 27(3): 287-301.

Sample Experimental Materials

Consumer Purchase Intention Scale

This survey concerns a luxury watch brand image. The following content will show you the brand' s image picture. Please carefully view the brand image and description, then answer the questions below.

Please indicate your agreement with the following statements about the brand (1=strongly disagree, 7=strongly agree): - I would purchase this brand's product - I would recommend this brand to friends and family - I would purchase this brand multiple times in the future

Brand Identification Scale

Please indicate your agreement with the following statements about the brand (1=strongly disagree, 7=strongly agree): - I think this brand' s personality matches my personality - I identify with the values this brand represents - I identify with the lifestyle this brand represents - I think using this brand can demonstrate my social status - I think using this brand can help me gain respect from others - I think using this brand can help me differentiate myself from different types of people

Brand Liking Scale

How do you perceive this brand? (1=strongly disagree, 7=strongly agree): - Unattractive / Attractive - Unlikable / Likable - Unpleasant / Pleasant

Product Type Scale

How would you categorize this brand' s product: - Utilitarian product (necessities providing functional value) —-Value-expressive product (non-essential items providing pleasure and enjoyment)

Brand Anthropomorphism Type Scale

Please indicate your agreement with the following statements about the brand image (1=strongly disagree, 7=strongly agree): - I think this brand' s image has human-like facial features - I think this brand' s image has human-like expressions - I think this brand' s image has a human-like body shape - I think this brand' s image looks like a person - I think this brand' s image has its own opinions and ideas - I think this brand' s image has its own personality - I think this brand' s image communicates and interacts with me like a person - I think this brand' s image can experience emotions

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