Innocence versus Coolness: the influence of brand personality on consumers’ preferences

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Abstract
Purpose – Building on the theory of brand psychological ownership, this paper aims to explore the mediating role of brand psychological ownership in the relationship between brand personality (innocence/coolness) and consumers’ preferences, as well as identify the boundary conditions of this relationship.

Design/methodology/approach – To test the hypotheses, a series of four experiments were conducted in Wuhan, a city in southern China, using questionnaires administered at two universities and two supermarkets. Hypotheses were tested using PLS-SEM in SmartPLS 4.

Findings – The results indicate that brand personality, specifically the dimensions of innocence and coolness, has a significant impact on consumers’ brand preferences. Brands with a cool personality are preferred over those with an innocent personality. Moreover, the relationship between brand personality and consumers’ brand preferences is moderated by power motivation and identity centrality.

Originality/value – This study contributes to the literature by differentiating between brand personality of innocence and coolness as two separate constructs and proposing brand psychological ownership as a mechanism through which brand personality affects brand preferences. The study’s samples were drawn from universities and supermarkets in southern China, providing evidence for the significant moderating effects of power motivation and identity centrality on consumers’ brand preferences.

Keywords Brand personality, Brand psychological ownership, Power motivation, Identity centrality

Paper type Research paper

1. Introduction
Brands hold significant symbolic and expressive value for individuals as a consumption symbol of self-expression. Consumers often choose brands that are compatible with their personality traits, making it essential for brand marketers to build a distinctive brand personality to attract consumer attention and strengthen consumer–brand interaction (Barcelos et al., 2018; Lee et al., 2018). Innocence and coolness personalities, representing different stages of self-development, are the most commonly used brand personalities in the current marketing environment (Warren et al., 2019; Zhang and Zhou, 2020).

Innocence is commonly associated with childlike traits such as obedience, naivety and dependence (Kramarae and Treichler, 1985) and is often linked to an individual’s childhood and immaturity (Beverland and Farrelly, 2010; Monden, 2022). The innocent brand personality represents the stage of self-immaturity and attracts great attention from the market through verbal expression (who is not a child yet) and ideological communication (pursuing a simple life like a child) (Li, 2018). For instance, Tiffany & Co. frequently selects young and fresh-faced actresses as spokespersons for their Tiffany Paper Flowers® jewelry line to convey an innocent brand personality.

Meanwhile, coolness is also a widely used brand personality dimension in marketing, representing the stage of independence and maturity in self-development. For example, the Gabrielle Chanel fragrance line encourages consumers to express themselves and is inspired by Chanel’s rebellious experiences. This cool brand personality has solidified Chanel’s position as the world’s leading luxury brand. Similarly, as Armani’s global
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beauty spokesperson, Cate Blanchett’s portrayal of brand authenticity and independence embodies the cool brand personality and has revitalized Armani’s sales.

Brands invest considerable effort and resources into creating brand personality that resonate with customers (Luffarelli et al., 2023). Numerous academic studies across different fields, such as tourism (Rutter et al., 2018), social media (Sevin, 2016) and others, have examined the impact of brand personality on various aspects of consumer attitudes and behaviors, including commitment (Valette-Florencce and Valette-Florencce, 2020), trust (Tong et al., 2018) and engagement (Mora Cortez and Ghosh Dastidar, 2022). However, the existing research on brand personality is limited to traditional unidimensional traits such as sincerity, excitement, competence, sophistication and ruggedness (Yang et al., 2020; Villagra et al., 2021).

For instance, Aagerup (2020) suggested that warm brands focus on product quality and consumers’ interests, while competent brands have expertise in related fields and emphasize brand status (Bratanova et al., 2015). Mora Cortez and Ghosh Dastidar (2022) explored the positive influence of brand personality dimensions (excitement, competence and ruggedness) on consumer engagement in a B2B environment. In the retail and hospitality industries, competence, sincerity and excitement are the three most influential brand personality traits that positively correlate with consumer loyalty (Tran et al., 2013). In addition, Jiao et al. (2022) investigated the effect of argument quality in commercial advertising on the differentiation of a sincere and an exciting brand personality. Su and Reynolds (2017) found that brand personality drives different brand choices, and consumers tend to express their self-image through an excited or a sincere brand personality. Meanwhile, Willems (2022) argued that enthusiasm is a personality trait that attracts consumers regardless of the retail environment. Table 1 provides a summary of the most recent literature on brand personality in the field of marketing.

The current literature on brand personality has largely focused on the influence of individual traits, such as excitement or competence, on consumer attitudes. However, little attention has been given to the comparison of different brand personalities, such as innocence and coolness, which represent distinct stages of personal development. To address this gap, this study proposes a brand personality framework that incorporates both innocence and coolness dimensions. Building upon the theory of brand psychological ownership, the current research seeks to uncover new insights into the effects of different brand personalities on consumer preferences and to investigate the moderating roles of power motivation and identity centrality. The current research is conducted in the context of various consumer product categories and aims to contribute to a more comprehensive understanding of the impact of brand personality on consumer behavior.

Specifically, this study is composed of four experiments that examine the influence of brand personality (innocence/coolness) on consumers’ preferences. Experiment 1 demonstrates that a cool brand personality can improve consumers’ brand preferences more effectively than an innocent brand personality. Experiment 2 verifies the causal chain model from brand personality to brand psychological ownership and then to consumers’ preferences, showing that brand personality affects psychological ownership, which leads to different brand preferences among consumers. Experiment 3 explores the moderating effect of power motivation, establishing corresponding boundary conditions for the main effect. It finds that brand personality (innocence/coolness) can effectively influence brand preferences of individuals with a high level of power motivation. Experiment 4 analyzes the moderating effect of individuals’ identity centrality on the main effect. The results suggest that, for individuals with a low level of identity centrality, brands adopting a cool personality are more likely to improve consumers’ brand preferences than those adopting an innocent personality.

2. Theoretical background

In this section, the researchers present the key theoretical foundations for the development of conceptual models. Specifically, the researchers elaborate on the definition of brand personality and its influence on consumer-brand relationships. The researchers then define the innocence dimension of brand personality, review previous studies on coolness, describe consumer behaviors based on different dimensions of brand personality, including brand perception and consumers’ brand psychological ownership, and present a summary table of the literature. Finally, the researchers demonstrate how consumers’ power motivation and levels of identity centrality intervene in shaping consumer behavior and brand preferences.

2.1 Brand personality

Aaker (1997) defined brand personality as a set of personality traits associated with a brand. Brand personality involves individuals’ subjective perceptions of brand characteristics (Loureiro et al., 2020) and is the result of positive interactions between consumers and brands (Chiang and Yang, 2018). First, the functional benefits of brand personality suggest that brand personality is an influential part of the individual relationship between brands and consumers (Machado et al., 2019) and helps to build emotional connections between brands and consumers (Sander et al., 2021). For example, brand personality is an essential external cue that influences consumers’ purchase decisions (Keller, 2009), and consumers can gain a sense of comfort through brand personality cues (Shukla, 2011). Second, as one of the important symbolic features (Japutra and Molinillo, 2019), brand personality is also the carrier of consumer self-expression, which helps consumers express different aspects of themselves. For example, consumers broadly choose brands that match their actual personality traits (Huber et al., 2018; Japutra et al., 2019) or unique brands that reflect their ideal personality to communicate, maintain or enhance self-awareness (Mandal et al., 2021). A high degree of consistency between brand personality and consumers’ personality leads to more positive brand attitudes, higher brand stickiness and increased purchase intention (Holmes, 2021; Lee et al., 2020). Therefore, by shaping valuable brand personality, brands can establish connections with various stakeholders (Baştug et al., 2020) to develop successful differentiated positioning strategies (Phau et al., 2020).

However, innocence and coolness, which are the dominant brand personalities in the current market, represent different stages of an individual’s self-development (Ocen, 2015), and there are no studies comparing the differences between these two brand personalities. Innocence is an immature personality trait (Alessio and Jöhnnsdottir, 2011) associated with an individual’s infancy (Kennedy et al., 2022), and innocent individuals have a strong sense of dependence on their parents and their
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Source: Authors
surroundings (Fought, 2009). Coolness is a mature trait in which individuals desire to be free from constraints and pursue independence (Cross, 2002). In addition, individuals express themselves freely by exhibiting cool styles to escape the control and possession of others (Kegan, 1982; McAdams, 1988). Innocence and coolness are the two endpoints of individuals’ self-development stages, and they are different expressions of the self-development stages in cultural construction (Brougère, 2013). According to the life stage development model of Levinson (1978), the life stages experienced by individuals have specific characteristics of activities and psychological changes, and the mature internal characteristics directly affect the consumption preferences of individuals (Lawrence, 1996). Therefore, this paper mainly explores the influencing mechanism of these two brand personalities, which represent different developmental stages of individuals, on consumers’ preferences.

Innocence is a common brand personality, through which brand marketers build a brand image that is in line with consumers’ good wishes (Hao et al., 2021). Innocence includes the purity and innocent nature of girlish and boyish (Dyer, 1978), which can be dually manifested through the inner self (Mayeza, 2018) and visual expression (Duschinsky, 2013). Maynard and Taylor (1999) considered innocence as an individual’s self-expression mode of childhood, which is an attribute that includes basic characteristics such as compliance (Miller, 2011), purity (Lei et al., 2021), dependence (Fought, 2009) and nonaggressiveness (Tan, 2014). It represents an immature stage of self-development (Ocen, 2015). On the one hand, Maynard and Taylor (1999) first discussed how to construct an advertising image full of innocence based on the differences in advertising between European and American cultures. The study demonstrated the purity of an individual’s desire to seek help through innocent childlike words or actions. On the other hand, consumers who seek innocence are routinely judged negatively based on attributes such as compliant, childlike and nonthreatening. For example, innocence conveys traits of innocuity and low ego defense (Hinton, 2014), and consumers who prefer an innocent appearance and personality are typically viewed as immature and lacking assertiveness (Maruyama and Woosnam, 2021). Monden (2014) found that innocence is highly correlated with stereotypes of obedience, passivity and incompetence. When an individual’s behavior, expressed through tone (Pressey and Harris, 2023) or gesture, is overly innocuous, it dilutes or even masks their more mature traits (Kogut and Meji, 2022), resulting in some degree of risk to public opinion. Existing research on innocence has mainly focused on the social and cultural domain (Brickman, 2016; Ilicic, 2016), and so far, few studies have fully explored the mechanisms of innocence brand personality’s influence on consumers’ preferences.

Coolness is becoming the dominant ethic in contemporary consumer society (Liu et al., 2020) and is increasingly resonating globally (Brown, 2021). Warren and Campbell (2014) defined coolness as an autonomous, dynamic and socially constructed positive personality trait (Dar-Nimrod et al., 2018). As a synonym for recognition and appreciation (Bogicevic et al., 2021), coolness represents a mature stage of self-development and drives consumption trends by giving symbolic meaning to products or brands (Loueiro et al., 2020). People perceive coolness through the target’s personality, character or the appearance of its specific style (Gennari, 2022). Therefore, coolness is a kind of subjective judgment (Sundar et al., 2014). Brands can be judged by packaging, slogans, spokespeople (Warren et al., 2019) and other visual cues of products to form a cool brand personality (Duggal and Verma, 2019) with aesthetic appeal. Existing studies on cool brands have explored the attributes of cool and its influence on consumers in different consumption situations (Jiménez-Barreto et al., 2022). For example, Huang et al. (2021) found that the use of AI service robots in hotels can improve consumers’ perceptions of coolness, which ultimately contributes to customer satisfaction and usage intention. Taking product quality as a prerequisite for brand coolness, Bagozzi and Khoshnevis (2022) tested the influence of brand coolness on WOM and purchase intention. Khoi and Le (2022) showed that cool luxury hotel brands positively influenced customers’ brand engagement through brand satisfaction and brand love. Table 2 provides a summary of the most recent literature on innocence and coolness in the field of marketing.

Although existing studies have explored the influence of innocence and coolness as sociocultural styles (Bloem, 2014; Ocejo, 2017) on consumption behavior, few studies have introduced innocence and coolness to the field of brand personality (Batra, 2019) and compared the differences between the two mainstream of brand personalities. As different stages of individuals’ self-development, innocent and cool brand personalities have different effects on individuals’ psychology and behavior. Accordingly, this study addresses the above issues and explores the influence of brand personality on consumers’ preferences and its underlying mechanism based on the theory of brand psychological ownership.

2.2 Brand psychological ownership
Ownership exists in various objectives (Baer and Brown, 2012; Shu and Peck, 2011), and the perceived ownership of an object plays a dominant role in an individual’s self-construction. Through the perception of ownership of objects, the personal significance of individuals will increase (McCracken, 1986; Vandewalle et al., 1995), and thus the object becomes part of the individual’s extended self (Van Dyne and Pierce, 2004). Psychological ownership refers to the degree to which an individual perceives a close connection between the object and the self, and the psychological state that the object belongs to one’s own psychological state (Pierce et al., 2001). Brown et al. (2014) believed that psychological ownership emphasizes an individual’s possession of the object, rather than whether the individual has actual legal ownership. Therefore, in the field of marketing, Chang et al. (2015) defined brand psychological ownership as a psychological phenomenon in which people have the desire to possess a brand and expect a sense of control over the brand. As a cognitive-emotional construct, brand psychological ownership reflects an individual’s awareness, thoughts and feelings about the brand (Pierce et al., 2003). Consumers use brands to define themselves and to maintain self-consistency or self-improvement (Pierce et al., 2001). Possessiveness is not only a source and motivator of psychological ownership but also a symbolic representation of the self (Kumar, 2019). Consumers who develop psychological ownership of a brand believe that they have a strong connection with the brand and have made an emotional investment in the brand, so they can
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| Source: Authors |

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**Note:** The table continues with more entries not shown in the current view. The entries include additional research on coolness with further antecedents and consequences, and studies examining coolness in various contexts such as hotel tourism, luxury fashion brands, restaurant industry, technology products, tourism destinations, service brands, and mass-tige marketing, among others. The consequences range from brand warmth, brand-self connections, passionate desire, brand experience, brand love, and various aspects of brand personality and attachment. The table also highlights the nuances in the attributes associated with each dimension, such as being oneself, being rounded, being social, having a sense of humor, being calm, being groomed, being unpretentious, being sensitive and caring, usefulness, high status, popularity, subcultural characteristics, and advanced technology (VR).
possess the brand (Chang et al., 2015) and communicate the possessiveness signal to others. Therefore, according to the theory of brand psychological ownership, people generate brand psychological ownership through three antecedent signals (exerting control over the brand, investing in the brand and establishing self-brand connections) (Pierce et al., 2003). First, control refers to the ability to use a brand, and it also means possession (Furby, 1978). A controlled brand can ultimately be viewed as a part of the self (Brown et al., 2014). Second, brand investment refers to the investment of time, energy or labor in the brand (Belk, 1988). When consumers invest their energy, time and labor in a brand (Barki et al., 2008), they will develop a sense of ownership (Pierce et al., 2003), which increases their brand psychological ownership. Finally, self-brand connections refer to the degree to which consumers incorporate the brand into their self-concept (Escalas and Bettman, 2003). Individuals define the self by establishing self-brand connections (Kemp et al., 2012) and increasing brand familiarity and intimacy, thereby promoting brand psychological ownership.

2.3 Power motivation
Rucker et al. (2012) defined power as the asymmetrical control of valuable resources in social relationships. Power motivation refers to the intensity of people’s desire to influence others (cognitively, emotionally or behaviorally) and gains recognition (Winter, 1992), which reflects an individual’s enduring desire for social status and success (Luria and Berson, 2013). As a mental state (Galinsky et al., 2003), power results from structural differences in socioeconomic status (Dubois et al., 2015; Kraus et al., 2009) and situational factors. Therefore, individuals have different levels of experience with the motivational drive of power (McClelland, 1975), and the pursuit of power depends not only on personal characteristics but also on the situations (Ng et al., 2011; Zhang et al., 2010).

A large number of previous studies have explored the critical influence of power motivation on individuals’ attitudes and behaviors (Anderson et al., 2012). For example, Fodor (2010) argued that individuals with a high level of power motivation may derive satisfaction from the use of power in the workplace by seeking direct and legitimate control over others (McClelland and Boyatzis, 1982). Fodor and Carver (2000) found a positive effect of power motivation on creativity. Individuals with a high level of power motivation tend to be proactive, more risk-tolerant, responsible and eager to learn (Chan et al., 2000), which is conducive to enhancing creativity training (Hogan and Holland, 2003; Latham and Pinder, 2004). Baumann et al. (2016) confirmed that prosocial power motivation plays a role in guiding and supporting others (McAdams, 1988), caring for children (Chasiotis et al., 2006), making prosocial decisions (Magee and Langner, 2008) and helping others (Aydinli et al., 2014), among other positive effects. The existing literature suggests that power motivation is a key factor in consumer decision-making (Stoeckart et al., 2017). Therefore, this study explores the moderating effect of power motivation on the relationship between brand personality and consumers’ preferences.

2.4 Identity centrality
Identity centrality refers to the importance or psychological attachment of an individual to his or her identity (Stets and Burke, 2000). It can be divided into two levels, central identity and peripheral identity, according to different roles in the construction of the self-structure (Settles, 2004). Central identities refer to the prominent and persistent central position of identity in an individual’s self-concept, and peripheral identities refer to the weakened and temporary peripheral position of identity in an individual’s self-concept (Harmon-Kizer et al., 2013). Because identity is a fundamental driver of consumer behavior (Oyserman, 2009). Specifically, consumers use identity to socially categorize and express themselves (Reed et al., 2012), and brands use identity to target people (Chernev et al., 2011) and guide individuals’ attitudes and consumption choices (LeBoeuf et al., 2010). Therefore, this study examines the moderating effect of identity centrality (central identity/peripheral identity) on the relationship between brand personality and consumers’ preferences.

3. Research overview
This research consists of four experiments. The following sections outline the conceptual development and specific research methods of each experiment. Experiment 1 explored the influence of brand personality on consumers’ preferences and showed that cool brand personality could improve consumers’ brand preferences more than innocent brand personality (H1). Experiment 2 examined the mediating role of brand psychological ownership. Brand personality could influence consumers’ brand psychological ownership and make consumers have different brand preferences (H2), which tested the theoretical logic of the main effect. Experiments 3 and 4 analyzed the moderating effects of power motivation (H3) and the level of individuals’ identity centrality (H4), respectively, established corresponding boundary conditions for the main effect and increased the generalizability of the study by developing different advertising slogans of the target brand stimulus. Based on these theoretical underpinnings, Figure 1 presents the conceptual framework for this study. See Appendix Table A2 for experimental data results.

4. Experiment 1: the influence of brand personality on consumers’ preferences
The researchers conducted Experiment 1 to investigate whether different brand personalities had varying effects on consumers’ brand preferences and which personality was more effective in enhancing brand preferences.

4.1 Conceptual development
Innocence and coolness are two distinct styles. Innocence often reflects immature self-characteristics (Guha et al., 2022) of low autonomy, low ego defense (Valor et al., 2021) and low competence (Rodero et al., 2013). On the contrary, rebelliousness (Mohiuddin et al., 2016), authenticity (Kock et al., 2019), innovation (Raptis et al., 2017) and other elements of coolness generally emphasize the mature self-trait (Ocen, 2015) of high autonomy, high ego defense (Braun et al., 2016) and high competence (Stuppy et al., 2020). Specifically, first, innocence symbolizes an individual’s lack of ability to act freely and represents a low autonomy state (Dougher and Pecknold, 2016). Second, Javidan (2011) claimed that innocence involves
immature traits of innocuity and low ego defense. Furthermore, innocence is highly correlated with low competence (Monden, 2014). People infer the competence of individuals based on their sense of innocence, and innocent individuals are considered incompetent due to their lack of sense of independence (Mas et al., 2021). Therefore, innocence usually involves the immature psychological essence of low autonomy, low ego defense and low competence (Duschinsky, 2013; Apolloni, 2016).
On the other hand, instead of being attached to a specific physical or mental stage, coolness emphasizes the mature psychological nature (Kjeldgaard and Askegaard, 2006) of high autonomy (Michael, 2015), high ego defense (Zuboff, 2015) and high competence (Burton, 2020). First, Anik et al. (2017) believed that coolness represents a state of unconstrained high autonomy, and image advertising of coolness can attract mature consumers who are eager to explore themselves independently (Brougère, 2013). Second, this positive psychological state of coolness is associated with high ego defense (Bazzini et al., 2010). Cool individuals control changes in their self-image through unconscious psychological defenses to demonstrate strong attractiveness (Oh et al., 2013). Moreover, coolness is an innovative cultural expression mode formed in a stressful environment, reflecting a critical ability required for psychological survival (Dinerstein, 2017). For example, Chang et al. (2019) found that coolness enhances individuals’ perceptions of brand competence. Therefore, coolness, which includes elements of high autonomy, high ego defense and high competence, is one of the most important characteristics of an individual’s mature temperament (Kopylov, 2012). Individuals seek maturity and express their personality through the perception of coolness (Zhang et al., 2021).

In conclusion, compared with the innocent personality containing immature psychological nature such as low autonomy, low ego defense and low competence, brands adopting cool personality is more conducive to improving consumers’ brand preferences:

**H1.** Consumers prefer brands adopting a cool personality to an innocent personality.

### 4.2 Methods

#### 4.2.1 Participants

Based on the method of Cohen (1977), with an effect size of \( f = 0.25 \) and an expected power of 0.80 (Leenaars et al., 2016; Miao et al., 2021), this experiment calculated a required sample size of 158 participants using G’Power 3.1 software. Consequently, 192 participants were recruited from a university and offered 10 RMB to complete a series of survey activities about a Bluetooth earphone brand. Participants were randomly assigned to one of three groups: innocence, coolness and control group. The final sample size was \( (N = 176, \text{aged from 18 to 28 years old, } M = 21.87, \text{SD } 1.94, \text{female } 47.73\%) \). The sample size of each group was \( n_{\text{coolness}} = 57, \text{n}_{\text{innocence}} = 60, \text{n}_{\text{control group}} = 59 \).

#### 4.2.2 Stimuli and procedure

A virtual Bluetooth earphone brand called DHO was created with two different brand personalities (innocence/coolness) using festival publicity pictures, see the Appendix for details. To ensure the effectiveness of this manipulation, the researchers recruited 72 participants (aged from 18 to 35 years old, \( M = 24.26, \text{SD } 3.62, \text{female } 56.34\%) \) online and randomly assigned them into two groups (innocence group/coolness group) for the pretest. Participants in each group received a festival publicity picture of the Bluetooth earphone brand with a relevant brand personality used in Experiment 1, and they were asked to rate two personality dimensions of the target brand (7 subscales, 1 = strongly disagree, 7 = strongly agree): “To what extent does the brand have a sense of innocence (low autonomy, low ego defense, low competence, immaturity),” and “To what extent does the brand have a sense of coolness (high autonomy, high ego defense, high competence, maturity)” (Warren et al., 2019). The results showed that participants in the coolness group scored significantly higher on the coolness dimension than the innocence group \( [M_{\text{coolness}} = 5.52, \text{SD } 0.77, M_{\text{innocence}} = 2.73, \text{SD } 0.81, t(70) = 14.79, p < 0.001, d = 3.53] \), and the innocence group scored significantly higher on the innocence dimension than the coolness group \( [M_{\text{coolness}} = 2.42, \text{SD } 0.81, M_{\text{innocence}} = 5.44, \text{SD } 0.67, t(70) = 17.30, p < 0.001, d = 4.06] \). The results ensured the effectiveness of the manipulation in Experiment 1.

In the main experiment, the researchers introduced the virtual DHO Bluetooth earphone brand information to the participants: “Experience a unique sound quality, immerse yourself in it. The DHO Bluetooth earphone incorporates professional noise reduction technology and ergonomic design to express your individuality and showcase your fashion sense.” The researchers told the participants that this activity aimed to gather consumer feedback on the new brand image and asked participants to evaluate it carefully. To control the influence of innocence on individuals’ feelings of nostalgia, as found in previous studies (McVeigh, 2000), all the participants were asked to recall a past event from their lives: “Think of a nostalgic event in your life. Specifically, try to think of a past event that makes you feel the most nostalgic. Take a few moments to think about the nostalgic event and how it makes you feel” (Zhou et al., 2012). Participants then completed the nostalgia manipulation check item: Now I feel very nostalgic (7 subscales, 1 = strongly disagree, 7 = strongly agree; Wildschut et al., 2006).

After that, the participants of each group were presented with a brand festival picture with corresponding personality. The innocence group was shown an innocence-style brand festival picture, the coolness group was shown a coolness-style brand festival picture and the control group was shown a brand festival picture with no discernible personality. Consumers tend to form strong positive feelings of nostalgia, as found in previous studies (Jia et al., 2023). This separate evaluation setup allows the researchers to demonstrate the differences in consumers’ preferences for different brand personalities in a different paradigm and avoid the confounding effect of visual stimuli. Therefore, participants rated the target brand on a seven-point scale (where 1 = not at all to 7 = very much) on how much they liked it, how much they were interested in learning more about it and how likely they were to buy it. These three items were combined to create a brand preference scale that was previously used by Galoni et al. (2020) to test brand preferences.

The researchers then used Hagvédts’s (2011) affective dimensions scale to measure the participants’ emotional state and asked them to rate the brand status (“The status of the brand is a very low”; 7 subscales, 1 = strongly agree, 7 = strongly disagree; Kao, 2015) and report on other confounding items, such as
personal interests and hobbies and shopping experiences. Finally, the researchers asked the participants to recall the elements of the target brand’s festival publicity picture, answer whether their preference for the Bluetooth earphone brand depended on past shopping experiences, report the personality (including the innocence and coolness dimensions) of the target brand and the picture, and guess the purpose of the experiment.

### 4.3 Results

#### 4.3.1 Manipulation check

Nine participants reported the wrong elements of the brand’s festival publicity picture. Seven participants’ preferences for Bluetooth earphone brand depended on previous shopping experiences and no participant correctly guessed the real purpose of the experiment. There was no significant difference among the three groups in nostalgia \( F(2, 173) = 0.56, p = 0.575, M_{\text{cooledness}} = 4.60, SD = 0.82, M_{\text{innocence}} = 4.50, SD = 0.89, M_{\text{control}} = 4.66, SD = 0.80 \), emotional state \( F(2, 173) = 0.58, p = 0.563, M_{\text{cooledness}} = 4.09, SD = 0.69, M_{\text{innocence}} = 4.05, SD = 0.75, M_{\text{control}} = 4.19, SD = 0.71 \) and brand status \( F(2, 173) = 0.96, p = 0.386, M_{\text{cooledness}} = 4.11, SD = 0.79, M_{\text{innocence}} = 3.88, SD = 0.76, M_{\text{control}} = 4.02, SD = 1.04 \). The coolness group scored significantly higher on the coolness dimension than the innocence group \( M_{\text{coolness}} = 5.26, SD = 1.03, M_{\text{innocence}} = 2.80, SD = 0.97, t(173) = 13.88, p < 0.001, d = 2.46 \) and the control group \( M_{\text{control}} = 4.08, SD = 0.88, t(173) = 6.61, p < 0.001, d = 1.23 \). The innocence group scored significantly higher on the innocence dimension than the coolness group \( M_{\text{innocence}} = 5.13, SD = 0.85, M_{\text{coolness}} = 2.74, SD = 0.95, t(173) = 14.80, p < 0.001, d = 2.65 \) and the control group \( M_{\text{control}} = 3.76, SD = 0.82, t(173) = 8.54, p < 0.001, d = 1.64 \). The manipulation effectively affected most of the participants.

#### 4.3.2 Brand preferences

The results indicated significant differences in brand preferences among the three groups of participants \( F(2, 173) = 116.14, p < 0.001 \). Participants in the coolness group \( M_{\text{coolness}} = 4.69, SD = 0.46 \) had a higher brand preference than those in the innocence group \( M_{\text{innocence}} = 3.34, SD = 0.53, t(173) = 15.22, p < 0.001, d = 2.72 \) and the control group \( M_{\text{control}} = 3.95, SD = 0.44, t(173) = 8.32, p < 0.001, d = 1.64 \). The control group had a higher brand preference than the innocence group \( t(173) = 6.94, p < 0.001, d = 1.25 \). The results supported H1.

### 4.4 Findings

The findings of Experiment 1 confirmed H1, which suggested that brands adopting a cool personality can enhance consumers’ brand preferences more effectively than an innocent one. In Experiment 2, the researchers introduced brand psychological ownership as a mediator variable to further examine the internal mechanism of the main effect.

### 5. Experiment 2: the mediating role of brand psychological ownership between brand personality and consumers’ preferences

Experiment 2 aimed to investigate the underlying mechanism of brand personality’s influence on consumers’ brand preferences and to test the mediating role of brand psychological ownership in the relationship between brand personality and consumers’ preferences.

#### 5.1 Conceptual development

In the context of this study, brand personality affects consumers’ brand psychological ownership, resulting in different preferences. Specifically, when the brand personality is innocent, which is an immature state with low autonomy, low ego defense and low competence, the individual’s cognitive responses to the naive children are activated. Immaturity is a psychological trait that is highly correlated with low possessiveness (Quartz and Asp, 2015). Immature individuals are more dependent and constrained by others (Ocen, 2015) and lack the ability to strive for their own objects (Warren et al., 2018). Therefore, the immature innocent brand personality shows the low dominance of the target brand, which reduces consumers’ commitment to the brand as well as the degree of self-brand connections (Sangalang et al., 2013). Thus, consumers’ brand psychological ownership and brand preferences are reduced.

First, autonomy produces varying degrees of possessiveness by influencing the sense of control. Specifically, autonomy refers to the degree to which individuals follow their own desires (Wertenbroch et al., 2020). Individuals with low autonomy lack the ability to act independently and have difficulty freely controlling behavioral outcomes (Yu et al., 2018; Sandberg et al., 2022). Therefore, the low autonomy characteristic of innocent brands can reduce individuals’ attention to the dependent self (Mayeza, 2018) and weaken the dominance of the target brand, which is not conducive to arousing people’s possessiveness. Second, the level of competence affects an individual’s willingness and desire to invest, and people are typically reluctant to invest energy in things with low competence (Aaker et al., 2010). Competence refers to an individual’s effectiveness in realizing his or her self-intentions (Wang and Zhang, 2020). Moreover, the perception of a brand’s competence influences consumers’ judgments and purchase intentions (Wang et al., 2016). Therefore, the low competence trait of innocent brands indicates that individuals lack the effective ability to realize their self-intentions (Ferraro, 2010), which will reduce consumers’ time, energy and labor investments (Fournier and Avery, 2011). Furthermore, low defensiveness is detrimental to individual’s self-definition and the formation of self-brand connections. Innocent brands are more compliant and vulnerable (Goff et al., 2014), highlighting lower ego defense (Dyer, 2019). Ego defense is the root of human thinking, speaking and mental activity, and individuals protect the self from internal needs (Granitz and Forman, 2015) and external manifestations of conflict (Dickinson and Ashby, 2015) through it. Therefore, the low ego defense trait of the innocence brands indicates the immaturity of the individuals’ self-development and reduces the clarity and differentiation of self-perception. As a result, it is not conducive to the individual’s self-definition, thereby reducing the self-brand connections (Sangalang et al., 2013). In summary, when the brand personality is innocent, the elements of low autonomy, low ego defense and low competence contained in innocence can weaken the dominance of the target brand and reduce the consumers’ propensity to invest in the brand and the
degree of self-brand connections, thereby reducing their brand psychological ownership and brand preferences.

Coolness emphasizes elements such as rebelliousness (Mohiuddin et al., 2016), authenticity (Kock et al., 2019) and innovation (Raptis et al., 2017). Brand personality of coolness is a brand personality with mature traits of high autonomy, high ego defense and high competence. Possessiveness results from characteristics associated with maturity (such as self-confidence, power and status), and mature individuals are also more wise and vigilant (Gorn et al., 2008) and less easily controlled (Kinard, 2015). Therefore, a mature cool brand personality indicates the dominance of the target brand (Lili and Dalton, 2014), which is beneficial to improve brand investment and self-brand connections (Runyan et al., 2013), thereby enhancing consumers’ brand psychological ownership (Morhart et al., 2015) and brand preferences.

First, existing research shows that autonomy and possessiveness are highly correlated, and individuals with high autonomy are free to pursue objects without the influence of others (Kang et al., 2021; Mangold and Zschau, 2019). The high autonomy of cool brands reduces the consumer’s sense of control over the brand, indicating that cool brands are not easily controlled. When individuals feel a low sense of control over things around them, the desire to regain control increases (Landau et al., 2015). Therefore, the high autonomy of cool brands stimulates consumers to possess the brand more strongly. Second, people tend to spend more time and energy on things with high competence (Pazili-Salehi et al., 2022) and increase their investment propensity and desire for objects with high competence (Kirmani et al., 2017). Individuals make cognitive evaluations by perceiving the competence of a target through observable signals (Bellezza et al., 2014). Therefore, the high competence characteristics of cool brands are beneficial to increase consumers’ time, energy and labor investment (le Grand, 2020). Moreover, a high level of defensive competence is conducive to an individual’s self-definition and the formation of self-brand connections (Kemp et al., 2012). The ego is a positive motivational structure, and elements such as rebelliousness and authenticity within coolness indicate a high ego defense of the brand (Annesley, 2021), which reflects the maturity of individuals’ self-development (Brown, 2015). Moreover, it improves the clarity and differentiation of self-cognition and helps individuals to define themselves (Rocha, 2021), thus increasing the self-brand connections. In summary, a cool brand personality enhances the dominance of the target brand, which is conducive to enhancing brand investment propensity and degree of self-brand connections, thereby promoting consumers’ brand psychological ownership and brand preferences:

\[ H2. \text{ Brand psychological ownership mediates the relationship between brand personality and consumers’ preferences.} \]

5.2 Method
5.2.1 Participants
Based on the method of Cohen (1977), with an effect size of \( d = 0.5 \) and an expected power of 0.80 (Leenaars et al., 2016; Miao et al., 2021), this experiment calculated a required sample size of 128 participants using G’Power 3.1 software. Therefore, 150 participants were recruited from a supermarket in exchange for 10 RMB to complete a series of survey activities about a sunglass brand. Participants were randomly assigned to the innocence group or the coolness group. The final sample was \( N = 138 \), aged from 19 to 33 years old, \( M = 24.24, SD = 3.38, \text{female 57.14\%} \), and the sample size of each group was \( n_{\text{coolness}} = 70, n_{\text{innocence}} = 68 \).

5.2.2 Stimuli and procedure
A virtual sunglass brand PEM was created with two different brand personalities (innocence/coolness) using brand spokesperson pictures, see the Appendix for details. To ensure the effectiveness of this manipulation, the researchers recruited 76 participants (aged from 19 to 33 years old, \( M = 24.24, SD = 3.38, \text{female 52.63\%} \) online and randomly assigned them into two groups (innocence group/coolness group) for the pretest. Participants in each group received a brand spokesperson picture of the sunglass brand with a relevant brand personality used in Experiment 2, and they were asked to rate the same two personality dimensions of the target brand as those in Experiment 1. The results showed that participants in the coolness group scored significantly higher on the coolness dimension than the innocence group \( [M_{\text{coolness}} = 5.08, SD = 0.72, M_{\text{innocence}} = 2.87, SD = 0.61, t (74) = 14.39, p < 0.001, d = 3.31] \), and the innocence group scored significantly higher on the innocence dimension than the coolness group \( [M_{\text{coolness}} = 2.70, SD = 0.81, M_{\text{innocence}} = 5.26, SD = 0.79, t (74) = 13.94, p < 0.001, d = 3.20] \). The results ensured the effectiveness of the manipulation in Experiment 2.

In the main experiment, the researchers introduced the virtual PEM sunglass brand information to the participants: “Dazzling appearance, free swimming, PEM sunglass integrates fashion and beauty into products, swaying the spirit of creativity, exploring the new generation power of maintaining love and daring to pursue.” The researchers told the participants that this activity aimed to collect consumers’ opinions on the new brand spokesperson and asked participants to evaluate it carefully. Following this, participants recalled a past event in their life, completed the same nostalgia manipulation check item as used in Experiment 1 and then reported brand engagement according to two items of Styvéen (2010) [(a) I have a strong interest in brand–consumer interaction; (b) Engaging in social interaction with brands is an important part of my shopping life; 7 subscales, 1 = strongly disagree, 7 = strongly agree].

Then, participants were presented with the relevant picture of the brand spokesperson depending on their assigned group (innocence group/coolness group). The researchers asked participants to report their preference for the target brand and rate consumers’ brand psychological ownership according to three items (7 subscales, 1 = strongly disagree, 7 = strongly agree) in Peck and Shu’s (2009) research. The researchers then measured the participants’ emotional state, brand status and other confounding items, such as personal interests, hobbies and shopping experiences. Finally, participants were asked to recall the appearance of the target brand’s spokesperson, answer whether their preference for the sunglass brand depended on previous shopping experiences, rate the personality of the target brand and guess the purpose of the experiment.
Brand personality

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5.3 Results

5.3.1 Manipulation check

Nine participants reported the wrong appearance of the brand spokesperson, three participants’ preferences for sunglasses brand depended on previous shopping experiences and no participant correctly guessed the real purpose of the experiment. There was no significant difference between the two groups in nostalgia [M_coolness = 4.36, SD = 0.72, M_innocence = 4.43, SD = 0.78, t (136) = 0.54, p = 0.589, d = 0.09], brand engagement [M_coolness = 3.84, SD = 0.83, M_innocence = 3.90, SD = 0.72, t (136) = 0.41, p = 0.682, d = 0.08], emotional state [M_coolness = 4.03, SD = 0.68, M_innocence = 3.97, SD = 0.69, t (136) = 0.50, p = 0.620, d = 0.09] and brand status [M_coolness = 4.16, SD = 0.67, M_innocence = 4.06, SD = 0.82, t (136) = 0.74, p = 0.463, d = 0.13]. The coolness group scored significantly higher on the coolness dimension than the innocence group [M_coolness = 5.01, SD = 0.88, M_innocence = 3.21, SD = 0.76, t (136) = 12.91, p < 0.001, d = 2.19]. The innocence group scored significantly higher on the innocence dimension than the coolness group [M_coolness = 3.07, SD = 0.86, M_innocence = 5.15, SD = 0.82, t (136) = 14.57, p < 0.001, d = 2.48]. The manipulation effectively affected most of the participants.

5.3.2 Brand psychological ownership

The results indicated significant differences in brand psychological ownership between the two groups. Participants in the coolness group (M_coolness = 4.46, SD = 0.71) had a higher brand psychological ownership than those in the innocence group [M_innocence = 3.47, SD = 0.67, t (136) = 8.44, p < 0.001, d = 1.43].

5.3.3 Brand preferences

The results showed that there were significant differences in the preferences of participants in the two groups. Participants in the coolness group (M_coolness = 4.48, SD = 0.66) had a higher brand preference than those in the innocence group [M_innocence = 3.58, SD = 0.62, t (136) = 8.23, p < 0.001, d = 1.41].

5.3.4 Mediation analysis

This study used SmartPLS 4 as the statistical tool to analyze the proposed theoretical model and hypotheses. To ensure the validity of the results, this study also tested for common method bias using various statistical indicators, including variance inflation factor (VIF), $R^2$ and coefficient of determination ($R^2$).

The model’s predictive power, as measured by $R^2$, was found to be 0.835, indicating that 83.5% of variations in brand preferences were explained by brand personality and brand psychological ownership. The effect size, as measured by $F^2$, showed that brand personality had a significant impact on brand psychological ownership ($F^2 = 0.53$), and brand psychological ownership had a significant impact on brand preferences ($F^2 = 3.04$). Collinearity and standard method bias were addressed through VIF, and the study was considered bias-free with no values equal to or greater than 2.91.

Structural equation modeling: PLS-SEM results showed that brand personality had a significant impact on brand psychological ownership ($\beta = 1.18$, $t = 8.62$, $p < 0.001$). Brand psychological ownership had a significant impact on brand preferences

$$(\beta = 0.87, t = 20.59, p < 0.001).$$

Also, brand personality did not directly affect brand preferences ($\beta = 0.13, t = 1.58, p = 0.114$). Brand psychological ownership mediated the relationship between brand personality and brand preferences ($\beta = 1.03$, $t = 7.93, p < 0.001$), see Figure 2 for details.

5.4 Findings

The results of Experiment 2 provided support for $H2$, which posited that brand psychological ownership served as a mediator between brand personality and consumers’ preferences. This finding not only confirmed the theoretical model proposed in this study but also demonstrated the applicability of psychological ownership theory in the field of brand. Experiment 3 introduced power motivation as a moderator variable to establish a clearer boundary for the main effect.

6. Experiment 3: the moderating effect of power motivation

Experiment 3 aimed to investigate the moderating effect of power motivation on the relationship between brand personality and consumers’ preferences.

6.1 Conceptual development

Existing research shows that an individual’s level of power motivation influences his or her perception of external brand cues (Furley et al., 2019). Consumers with a high level of power motivation derive pleasure from influencing others and feel disgusted when others influence them (Popelnkha et al., 2021). Besides, they tend to have a high level of dominance and a strong desire to influence and control their environment (Kasser, 2017; Lloyd and Pennington, 2020). Therefore, consumers with a high level of power motivation are particularly sensitive to individual differences in society and tend to identify and establish individual differences through nonverbal signals such as brand external cues (e.g. brand personality) (Mason et al., 2010). In this way, they can present a decent social image, maintain a favorable social status (Lian et al., 2012) and construct positive emotional experiences (Herziger et al., 2020). Conversely, consumers with a low level of power motivation have no desire to influence others (Schultheiss et al., 2008), nor do they expect to be recognized and appreciated by others. Therefore, compared to consumers with a high level of power motivation, consumers with a low level of power motivation are less sensitive to individual differences in society (Galinsky et al., 2006). Moreover, they are not inclined to identify individual differences

Figure 2 The mediation effect of Experiment 2

Source: Authors
through external brand cues (Cui et al., 2020; Samaha et al., 2014), which indicates the social status (Jin and Huang, 2019). Thus, in the context of this study, power motivation moderates the relationship between brand personality and consumers’ preferences. Specifically, consumers with a high level of power motivation are particularly sensitive to individual differences (Dubois et al., 2012) in society and are more likely to perceive individual differences in brands. Therefore, consumers with a high level of power motivation are sensitive to the differences in brand personality (innocence/coolness). At this point, adopting a cool personality is more conducive to activating consumers’ brand psychological ownership than an innocent personality (Chen et al., 2019; Roy and Naidoo, 2021), thereby increasing consumers’ brand preferences. However, individuals with a low level of power motivation are less sensitive to brands as a symbol of social identity (Lalwani and Forcum, 2016). Individuals with a low level of power motivation pay less attention to differences in external brand cues when making consumption choices (Lammers, 2016). As a result, it is difficult for brand personality to influence consumers’ preferences through brand psychological ownership for those with a low level of power motivation:

H3. The level of power motivation moderates the relationship between brand personality and consumers’ preferences. For individuals with a high level of power motivation, they prefer brands adopting a cool personality to an innocent personality. For individuals with a low level of power motivation, brand personality will not significantly affect their brand preferences.

6.2 Method

6.2.1 Participants

Based on the method of Cohen (1977), with an effect size of \( d = 0.5 \) and an expected power of 0.80 (Leenaars et al., 2016; Miao et al., 2021), this experiment calculated a required sample size of 128 participants using G’Power 3.1 software. Accordingly, 150 participants were recruited from a supermarket and offered 10 RMB to participate in a survey about an electric toothbrush brand. Participants were randomly assigned to the innocence group or the coolness group. To measure participants’ power motivation level, this experiment used the “The Dominance Scale” developed by Steers and Braunstein (1976), which assessed an individual’s inclination toward controlling the environment, influencing or directing others, expressing opinions forcefully or enjoying leadership. The final sample size was \( N = 139 \), aged from 18 to 29 years old, \( M = 22.06, SD = 2.10, \) female 50.36%, and the sample size of each group was \( n_{\text{coolness}} = 71, n_{\text{innocence}} = 68 \).

6.2.2 Stimuli and procedure

A virtual electric toothbrush brand called GVX was created with two different personalities (innocence/coolness) through the product design, see the Appendix for details. To ensure the effectiveness of the manipulation, the researchers recruited 75 participants (aged from 18 to 27 years old, \( M = 21.49, SD = 1.80, \) female 46.67%) online and randomly assigned them into two groups (innocence group/coolness group) for the pretest. Participants in each group received the product design of the electric toothbrush brand with a relevant brand personality used in Experiment 3, and they were asked to rate the same two personality dimensions of the target brand as those in Experiment 1. The results showed that the coolness group scored significantly higher on the coolness dimension than the innocence group \([M_{\text{coolness}} = 5.05, SD = 0.87, M_{\text{innocence}} = 3.49, SD = 0.77, t (73) = 8.27, p < 0.001, d = 1.90]\), and the innocence group scored significantly higher on the innocence dimension than the coolness group \([M_{\text{coolness}} = 3.71, SD = 0.80, M_{\text{innocence}} = 4.97, SD = 0.83, t (73) = 6.69, p < 0.001, d = 1.55]\). The results ensured the effectiveness of the manipulation in Experiment 3.

Before the main experiment, the researchers asked all participants to fill out “The Dominance Scale,” and then introduced the information of the virtual electric toothbrush brand to the participants: “The GVX electric toothbrush boasts textured colors and an elegant design, offering users the freedom to choose their preferred style. With its beautiful gum care and mysterious blossom features, the toothbrush exudes a unique modern vibe,” indicating that consumers’ opinions on the new brand were hoped to be collected and asked participants to evaluate it carefully.

After recalling a past event in their life and completing the same nostalgia manipulation check item as used in Experiment 1, all participants were asked to rate their level of brand engagement using the same two items as those in Experiment 2. Each participant was presented with a picture of a product design with a relevant personality corresponding to their assigned group (innocence group/coolness group). They were asked to report brand preference, brand psychological ownership, emotional state, brand status and other potentially confounding factors related to the target brand as those in previous experiments. Finally, participants were asked to recall the name of the target brand, indicate whether their preferences for the electric toothbrush brand were influenced by previous shopping experiences, rate the brand personality and guess the purpose of the experiment.

6.3 Results

6.3.1 Manipulation check

Six participants reported the wrong brand name, seven participants’ preferences for electric toothbrush brand depended on previous shopping experiences and no participant correctly guessed the real purpose of the experiment. The results indicated no significant differences between the two groups in nostalgia \([M_{\text{coolness}} = 4.24, SD = 0.82, M_{\text{innocence}} = 4.28, SD = 0.91, t (137) = 0.27, p = 0.786, d = 0.05]\), brand engagement \([M_{\text{coolness}} = 4.19, SD = 0.87, M_{\text{innocence}} = 4.21, SD = 0.82, t (137) = 0.06, p = 0.952, d = 0.02]\), emotional state \([M_{\text{coolness}} = 4.06, SD = 0.71, M_{\text{innocence}} = 3.91, SD = 0.71, t (137) = 1.20, p = 0.233, d = 0.21]\) and brand status \([M_{\text{coolness}} = 3.65, SD = 0.72, M_{\text{innocence}} = 3.51, SD = 0.80, t (137) = 0.27, p = 0.786, d = 0.18]\). The coolness group scored significantly higher on the coolness dimension than the innocence group \([M_{\text{coolness}} = 5.15, SD = 0.97, M_{\text{innocence}} = 3.01, SD = 0.74, t (137) = 14.60, p < 0.001, d = 2.48]\). The innocence group scored significantly higher on the innocence dimension than the coolness group \([M_{\text{coolness}} = 3.27, SD = 0.94, M_{\text{innocence}} = 4.99, SD = 0.82, t (137) = 11.46, p < 0.001, d = 1.95]\). The manipulation effectively affected most of the participants.
6.3.2 Brand psychological ownership
The results showed that the interaction between brand personality and power motivation could significantly affect brand psychological ownership ($F = 7.33, p < 0.05$). The simple slope test analysis showed that brand personality did not affect brand psychological ownership ($-1 \text{ SD}, \beta = 0.24, t = 1.22, p = 0.225$) at a low level of power motivation. However, in the case of a high level of power motivation, the brand personality could significantly influence the brand psychological ownership ($+1 \text{ SD}, \beta = 0.99, t = 5.07, p < 0.001$).

6.3.3 Brand preferences
The results showed that the interaction of brand personality and power motivation could significantly affect brand preferences ($F = 7.99, p < 0.05$). The simple slope test analysis showed that brand personality did not affect brand preference ($-1 \text{ SD}, \beta = 0.21, t = 1.08, p = 0.283$) at a low level of power motivation. However, in the case of a high level of power motivation, the brand personality could significantly affect the brand preference ($+1 \text{ SD}, \beta = 0.98, t = 5.10, p < 0.001$). The results provided the basis for $H3$.

6.3.4 Moderated mediation analysis
The model’s predictive power, as measured by $R^2$, was found to be 0.946, indicating that 94.6% of variations in brand preference were explained by brand personality and brand psychological ownership. The effect size, as measured by $R^2$, showed that brand personality had a significant impact on brand psychological ownership ($F^2 = 0.15$), and brand psychological ownership had a significant impact on brand preference ($F^2 = 15.20$). The interaction of brand personality and power motivation on brand psychological ownership was significant ($F^2 = 0.05$). Collinearity and standard method bias were addressed through VIF, and the study was considered bias-free with no values equal to or greater than 2.07.

Structural equation modeling: The results showed that brand personality had a significant impact on brand psychological ownership ($\beta = 0.62, t = 4.35, p < 0.001$). Brand psychological ownership had a significant impact on brand preference ($\beta = 0.96, t = 44.22, p < 0.001$). Also, brand personality did not influence brand preference ($\beta = 0.01, t = 0.36, p = 0.723$). Brand psychological ownership mediated the relationship between brand personality and brand preference ($\beta = 0.59, t = 4.27, p < 0.001$, CI [0.33, 0.87]). Individuals’ power motivation could effectively moderate the relationship between brand personality and consumers’ preferences through brand psychological ownership ($\beta = 0.33, t = 2.76, p < 0.05$, CI [0.10, 0.55]). When the individual’s power motivation was low, brand personality could not significantly affect the brand preference through brand psychological ownership ($-1 \text{ SD}, \beta = 0.23, t = 1.21, p = 0.228$, CI $[-0.15, 0.61]$). When the individual’s power motivation was high, the indirect effect of brand personality on brand preference was significant ($+1 \text{ SD}, \beta = 0.95, t = 5.26, p < 0.001$, CI [0.61, 1.32]), see Figure 3 for details.

6.4 Findings
Experiment 3 confirmed the moderation effect of individuals’ power motivation on the impact of brand personality on consumers’ preferences, thus supporting $H3$. Specifically, the results showed that brand personality could not significantly affect the brand preferences of individuals with a low level of power motivation. However, for individuals with a high level of power motivation, brands with a cool personality were found to improve their brand preferences more than brands with an innocent personality.

7. Experiment 4: the moderating effect of identity centrality
Experiment 4 explored the moderating effect of identity centrality on the relationship between brand personality and consumers’ preferences.

7.1 Conceptual development
Existing research has shown that an individual’s level of identity centrality affects his or her perception of brand psychological ownership. Consumers with a high level of identity centrality tend to be more dynamic (Quinn and Chaudoir, 2009), pay more attention to social situational stimuli (such as brand personality styles) (Abrams and Hogg, 2010) and maintain their own reputation and image (Lee et al., 2010). First, consumers with a high level of identity centrality (central identity) protect themselves and communicate their identity by expressing a strong possessiveness toward their objects (Bhattacherjee et al., 2014). Second, individuals respond more positively to information that evokes self-identity (Reed et al., 2012). Similarly, consumers with a high level of identity centrality express and affirm their self-identity by investing more time, energy and labor in their objects (Jung et al., 2018). Furthermore, identity centrality belongs to the subjective evaluation of individuals and has a certain degree of autonomy (Murnieks et al., 2020). Consumers with a high level of identity centrality explain their self-concept and fulfill their identity commitments (Kachanoff et al., 2016) by strengthening the self-brand connections (Murnieks et al., 2020). In summary, consumers with a high level of identity centrality are particularly sensitive to social contextual stimuli. In addition, they are more likely to increase brand psychological ownership and actively demonstrate self-identity centrality through expressing possessiveness and strengthening brand investment and self-brand connections.

Conversely, consumers with a low level of identity centrality (peripheral identity) are not sensitive to perceptions of self-reputation and image (Burt, 2004), nor are they concerned with the social situational stimulus of brand personality styles.
Based on the method of Fletcher and Everly (2021) by expressing possessiveness (He et al., 2014) and enhancing brand investment (Jung et al., 2016) and self-brand connections (Harmon et al., 2009).

Thus, in this research context, the level of identity centrality (central identity/peripheral identity) of individuals can effectively moderate the influence of brand personality (innocence/coolness) on consumers’ preferences. Specifically, when individuals have a low level of identity centrality, they do not tend to exhibit psychological ownership through social situational stimuli (such as brand personality styles) (Lee et al., 2010), nor do they focus on expressing the salience of self-identity (Fletcher and Everly, 2021). When a brand adopts a cool personality rather than an innocent one, it is easier for it to enhance consumers’ brand psychological ownership and brand preferences by increasing their brand possessiveness, brand investment propensity and the degree of self-brand connections.

As a result, a brand with a cool personality is more likely to be preferred by consumers with a low level of identity centrality than an innocent one. However, when the individuals’ level of identity centrality is high, regardless of whether the brand adopts an innocent or a cool personality, consumers will exhibit a higher possessiveness (Lee et al., 2010), a higher investment propensity (Jung et al., 2016), and a deeper self-brand connection (Kachanoff et al., 2016) toward the brand. That is, consumers will exhibit higher brand psychological ownership of the brand to actively express the salience of self-identity and maintain their reputation and image (Lee et al., 2010). At this point, for consumers with a high level of identity centrality, it is difficult for brand personality to influence consumers’ preferences through brand psychological ownership:

\[ H4. \text{ The level of identity centrality moderates the relationship between brand personality and consumers’ preferences.} \]

For individuals with a low level of identity centrality, they prefer brands adopting a cool personality to an innocent personality. For individuals with a high level of identity centrality, brand personality will not significantly affect individuals’ brand preferences.

### 7.2 Method

#### 7.2.1 Participants

Based on the method of Cohen (1977), with an effect size of \( d = 0.5 \) and an expected power of 0.80 (Leenaars et al., 2016; Miao et al., 2021), this experiment calculated a required sample size of 128 participants using G’Power 3.1 software. Therefore, 150 participants were recruited in a supermarket in exchange for 10 RMB to complete a series of survey activities about a coffee brand. Participants were randomly assigned to the innocence group or the coolness group. The identity centrality level of participants was measured based on two items from Harmon-Kizer et al. (2013). The final sample size was \( N = 136 \), aged from 18 to 29 years old, \( M = 22.03, SD = 2.08 \), female 50.74%, and the sample size of each group was \( n_{\text{coolness}} = 67, n_{\text{innocence}} = 69 \).

#### 7.2.2 Stimuli and procedure

A virtual coffee brand called QNJ was created with two different personalities (innocence/coolness) through its logo, see the Appendix for details. To ensure the effectiveness of this manipulation, the researchers recruited 83 participants (aged from 19 to 28 years old, \( M = 21.99, SD = 1.92, 43.37\% \) female) online and randomly assigned them into two groups (innocence group/coolness group) for the pretest. Participants in each group received the brand logo of the coffee brand with a relevant brand personality used in Experiment 4, and they were asked to rate two personality dimensions of the target brand as those in Experiment 1. The results indicated that the coolness group scored significantly higher on the coolness dimension than the innocence group \( [M_{\text{coolness}} = 4.85, SD = 0.85, M_{\text{innocence}} = 3.83, SD = 0.70, t (81) = 5.98, p < 0.001, d = 1.31] \), while the innocence group scored significantly higher on the innocence dimension than the coolness group \( [M_{\text{coolness}} = 3.20, SD = 0.78, M_{\text{innocence}} = 4.69, SD = 0.87, t (81) = 8.24, p < 0.001, d = 1.80] \). These results ensured the effectiveness of the personality styles manipulation in Experiment 4.

Before the main experiment, the researchers administered two items from Harmon-Kizer et al. (2013) to measure participants’ level of identity centrality. Then, participants were introduced to information about the virtual coffee brand: “Explore the flavor of the planet and make coffee accessible. QNJ coffee strives to make a cup of coffee accessible to every average person. Delicious coffee allows everyone to experience life with their hearts.” The researchers indicated that they were interested in gathering consumers’ opinions about the new brand and asked participants to evaluate it carefully.

Following this, all participants were asked to recall a past event in their life and complete the same nostalgia manipulation check item as used in Experiment 1. Then, participants’ brand engagement was measured using the same two items as used in Experiment 2. Next, participants in each group (innocence group/coolness group) were shown a brand logo with corresponding personality. The researchers asked participants to report brand preference, brand psychological ownership, emotional state, brand status and other confounding items related to the target brand as used in previous experiments. Finally, participants were asked to recall the name of the target brand, indicate whether their preferences for the coffee brand depended on the previous shopping experiences, rate the brand personality and guess the purpose of the experiment.

#### 7.3 Results

##### 7.3.1 Manipulation check

Seven participants reported the wrong brand name, eight participants’ preferences for coffee brand depended on their previous shopping experiences and no participant correctly guessed the real purpose of the experiment. There was no significant difference between the two groups in nostalgia \( [M_{\text{coolness}} = 4.60, SD = 0.84, M_{\text{innocence}} = 4.52, SD = 0.82, t (134) = 0.53, p = 0.596, d = 0.10] \), brand engagement \( [M_{\text{coolness}} = 4.45, SD = 0.78, M_{\text{innocence}} = 4.51, SD = 0.93, t (134) = 0.40, p = 0.688, d = 0.07] \), emotional state \( [M_{\text{coolness}} = 3.96, SD = 0.68, M_{\text{innocence}} = 3.87, SD = 0.68, t (134) = 0.73, p = 0.467, d = 0.13] \) and the evaluation of brand status \( [M_{\text{coolness}} = 3.78, SD = 0.76, M_{\text{innocence}} = 3.67, SD = 0.78, t (134) = 0.83, p = 0.407, d = 0.14] \). The coolness group scored significantly higher on the coolness dimension.
than the innocence group \( [M_{\text{coolness}} = 5.01, SD = 0.90, M_{\text{innocence}} = 3.70, SD = 0.88, t(134) = 8.67, p < 0.001, d = 1.47] \). The innocence group scored significantly higher on the innocence dimension than the coolness group \( [M_{\text{coolness}} = 3.43, SD = 0.82, M_{\text{innocence}} = 4.93, SD = 0.81, t(134) = 10.69, p < 0.001, d = 1.84] \). The manipulation effectively affected most of the participants.

### 7.3.2 Brand psychological ownership

The results showed that the interaction between brand personality and identity centrality could significantly affect brand psychological ownership \( (F = 62.8, p < 0.001) \). The simple slope test analysis showed that brand personality could significantly affect brand psychological ownership \( (b = 1.49, t = 9.44, p < 0.001) \) at a low level of identity centrality. However, in the case of a high level of identity centrality, the brand personality did not affect the brand psychological ownership \( (+1 SD, \beta = -0.29, t = -1.82, p = 0.070) \).

### 7.3.3 Brand preferences

The results showed that the interaction between brand personality and identity centrality could significantly affect brand preferences \( (F = 49.9, p < 0.001) \). The simple slope test analysis showed that brand personality could significantly affect brand preferences \( (b = 1.43, t = 8.81, p < 0.001) \) at a low level of identity centrality. However, in the case of a high level of identity centrality, the brand personality did not affect the brand preferences \( (+1 SD, \beta = -0.20, t = -1.24, p = 0.216) \). The results provided the basis for \( H4 \).

### 7.3.4 Moderated mediation analysis

The model’s predictive power, as measured by \( R^2 \), was found to be 0.962, indicating that 96.2% of variations in brand preferences were explained by brand personality and brand psychological ownership. The effect size, as measured by \( R^2 \), showed that brand personality had a significant impact on brand psychological ownership \( (F^2 = 0.22) \), and brand psychological ownership had a significant impact on brand preferences \( (F^2 = 23.18) \). The interaction of brand personality and identity centrality on brand psychological ownership was significant \( (F^2 = 0.48) \). Collinearity and standard method bias were addressed through VIF, and the study was considered bias-free with no values equal to or greater than 1.98.

**Structural equation modeling:** The results showed that brand personality had a significant impact on brand psychological ownership \( (\beta = 0.60, t = 4.35, p < 0.000) \). Brand psychological ownership has a significant impact on brand preferences \( (\beta = 0.98, t = 4.35, p < 0.000) \). Also, brand personality did not directly affect brand preferences \( (\beta = 0.02, t = 52.29, p = 0.101) \). Brand psychological ownership mediated the relationship between brand personality and brand preferences \( (\beta = 0.59, t = 4.32, p < 0.000, CI [0.32, 0.86]) \). Individuals’ identity centrality could effectively moderate the relationship between brand personality and consumers’ preferences through brand psychological ownership \( (\beta = -0.77, t = 9.48, p < 0.001, CI [0.90, -0.59]) \). When the individual’s level of identity centrality was high, brand personality could not significantly affect the brand preference through brand psychological ownership \( (+1 SD, \beta = -0.28, t = 1.53, p = 0.126, CI [-0.63, 0.09]) \). When the individual’s level of identity centrality was low, the indirect effect of brand personality on brand preference was significant \( (-1 SD, \beta = 1.48, t = 8.81, p < 0.001, CI [1.14, 1.79]) \), see Figure 4 for details.

### 7.4 Findings

The results provided support for \( H4 \), demonstrating that individuals’ level of identity centrality could moderate the impact of brand personality on consumers’ preferences. Specifically, for those with a low level of identity centrality, a brand with a cool personality was found to be more effective at improving brand preference compared to one with an innocent personality. Conversely, for individuals with a high level of identity centrality, brand personality did not significantly affect brand preference.

### 8. General discussion

#### 8.1 Conclusions

This study demonstrated the influence of brand personality (innocence/coolness) on consumers’ preferences through four experiments. Experiment 1 showed that brands adopting a cool personality could improve consumers’ brand preferences more than an innocent personality. Experiment 2 verified the causal chain model for the main effect from brand personality to brand psychological ownership and then to consumers’ preferences. Experiment 3 explored the moderating effect of the level of individuals’ power motivation on the main effect. For individuals with a high level of power motivation, brands adopting a cool personality can improve their brand preferences more than an innocent one. Experiment 4 analyzed the moderating effect of individual identity centrality level on the main effect. For individuals with a low level of identity centrality, brands adopting a cool personality can improve their brand preferences more than an innocent one.

#### 8.2 Theoretical contributions

The theoretical contributions of this study are mainly reflected in the following aspects:

First, this study enriches and extends the brand personality research literature. Existing research on brand personality ignores the importance of these two brand personalities, innocence and coolness, in this conceptual structure and their potential impact on consumers’ preferences. As a result, the influence of innocence and coolness on brand preferences is unclear and inconsistent. Therefore, this study provides a new research perspective to explain the heterogeneity of consumers’ preferences.

**Figure 4 Moderated mediation analysis**

Source: Authors
brand preferences related to innocence and coolness by introducing a two-dimensional structure of brand personality variables derived from sociocultural styles.

On the one hand, this study extends the research findings of coolness perceptions on consumer behavior. Existing research on coolness is relatively scattered and lacks a clear theme and direction. However, this study builds on previous studies and directly compares and analyzes two common but completely different brand personalities to discuss how different brand personalities essentially affect consumers’ preferences, rather than focusing on a single degree of coolness or noncoolness of brands or products (Yin et al., 2014). Hence, it further expands the basic understanding of coolness in the existing literature.

On the other hand, innocence has been the subject of a small number of studies in the fields of advertising and Japanese cultural economics. After Maynard and Taylor (1999) first discussed how to construct an advertising image with a sense of innocence, few empirical studies have further analyzed the influence mechanism of the innocent style. Combined with the existing literature, based on the core dimension of innocence, that is, the connotation of four main elements, namely, low autonomy, low ego defense, low competence and immature characteristics, this study complements and improves the influence mechanism and theoretical perspective of innocence and has opened up new research directions for follow-up research.

Second, this study sheds light on the influence of the perception of brand psychological ownership on preferences between different brand personalities. By focusing on the specific context of brands, this research creatively examines the significant role that brand psychological ownership plays in the preferences of brand personality (innocence and coolness) based on a three-dimensional perspective of brand psychological ownership (possessiveness, brand investment and self-brand connections). For the first time, the mediation model of brand psychological ownership between brand personality and consumers’ preferences has been validated. The theoretical link between brand personality and brand psychological ownership was identified, thereby explaining and connecting the implicit psychological perception of brand psychological ownership and consumers’ preferences. The relationship between explicit variables establishes a more detailed causal chain, providing a more in-depth exploration of how brand personality affects consumers’ preferences, both theoretically and empirically, and addressing the deficiencies of existing studies.

Finally, this study also explores the moderating role of individuals’ power motivation and identity centrality, establishing clear boundary conditions for the main effect. Existing research on power motivation has mostly focused on leadership (Luria and Berson, 2013), creativity (Latham and Pinder, 2004) and social interaction (Furley et al., 2019). Similarly, research on identity centrality has primarily focused on employee performance (Fletcher and Everly, 2021), online opinion leaders (Lee et al., 2010) and uncertainty perceptions (Wagoner et al., 2018), among others. Few studies have explored the influence of power motivation and identity centrality on consumers’ decisions and behaviors in the brand domain. This study introduces power motivation and identity centrality into the main research framework and designs relevant consumption situations for the research. It also confirms that for individuals with a low level of power motivations and belonging to central identities, the influence of brand personality on their preferences is weakened by brand psychological ownership. This finding further expands the research context of power motivation and identity centrality, provides a fresh perspective for discussion both in both theory and application and comprehensively and systematically explains the marketing effect and boundary conditions of brand personality.

8.3 Managerial contributions
Enterprises often use different styles of brand personality in their marketing plans to communicate specific messages to the market and achieve their market goals. Consumers make inferences and evaluations about brands (Wang et al., 2018) and their users (Jerónimo et al., 2018) through brand personality. This research focuses on the market effects of brand personality and provides a practical basis for companies to design and implement brand personality strategies more effectively by exploring the influence of brand personality styles on consumers’ preferences (Chen et al., 2021; Jiménez-Barreto et al., 2021).

First, this research provides an interesting direction for exploring the aesthetics of brand personality. Brand managers can create different brand personalities for different categories of consumer goods brands (e.g. utilitarian brands and hedonic brands) through various themes such as advertising, spokespersons, product design and physical properties such as different facial express and slogans to enhance consumer perceptions and preferences (Puligadda and VanBergen, 2023).

Another way for brands to use the internal mechanism of “brand personality–consumers’ preferences” is by inducing consumers to extract stable information about brand psychological ownership, which can positively influence their brand purchase preference. As more and more consumers are pursuing a cool style in the market, brands should consider using a cool style rather than an innocent one as a persuasive marketing tool to enhance consumers’ brand psychological ownership and create a higher preference for the brand to successfully differentiate their brand from competitors (Koskie and Locander, 2023).

In addition, it is important to note that the influence of brand personality on consumers’ preferences has certain boundary conditions. Specifically, for consumers with a low level of power motivation or a high level of individual identity centrality, it may be difficult for brands to effectively influence their brand preferences through personality strategies alone. Therefore, it is important for enterprises to carefully consider the power motivation and identity centrality of their target consumers when formulating brand personality strategies. By aligning their brand personality with the needs and preferences of their target consumers, companies can effectively manage their brand personality and improve their brand positioning.

8.4 Limitations and future research
Consumers often associate heavy visual cues of brands with positive psychological experiences (Maeng and Aggarwal, 2018). However, this study only focuses on physical features such as brand spokesperson and shape and examines the influence of brand personality on consumers’ preferences.
Future research can comprehensively understand other aspects of brand visual cues (e.g. product description, texture) and further explore their market effects in the brand domain from the perspective of visual design.

In addition, this study only explores the moderating effect of different levels of individuals’ power motivation and identity centrality on the relationship between brand personality and consumers’ preferences. Future research could consider the potential downstream effects of others’ status in society and their signal validity or product category on brand personality and consumers’ behavior.

Finally, this study compared and analyzed the influence of the two brand personalities on consumers’ preferences in the context of Chinese consumption. However, different cultures may have different perceptions of innocence and coolness (Gerber and Geiman, 2012). Therefore, future studies can explore the influence of the two brand personalities on consumers’ attitudes and behaviors in a cross-cultural context to gain a broader understanding of the market effects of brand personality.

References


Brand personality

Wenting Feng, Yuqiong Xia and Lijia Wang


**Further reading**


Appendix

Figure A1  Brand festival publicity picture stimuli (Experiment 1)

Source: Authors
**Figure A2**  Brand spokesperson stimuli (Experiment 2)

**Source:** Authors

**Figure A3**  Product design stimuli (Experiment 3)

**Source:** Authors

**Figure A4**  Brand logo stimuli (Experiment 4)

**Source:** Authors
Table A1 Measurement scales

<table>
<thead>
<tr>
<th>Construct</th>
<th>Scale items</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand psychological ownership</td>
<td>I feel like this is my brand</td>
<td>Peck and Shu (2009)</td>
</tr>
<tr>
<td></td>
<td>I feel a very high degree of personal ownership of the brand</td>
<td></td>
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<tr>
<td></td>
<td>I feel like I own this brand</td>
<td></td>
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<tr>
<td>Power motivation</td>
<td>I seek an active role in the leadership of a group</td>
<td>Steers and Braunstein (1976)</td>
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<td></td>
<td>I am trying to influence those around me to see things my way</td>
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<tr>
<td></td>
<td>I find myself organizing and directing the activities of others</td>
<td></td>
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<tr>
<td></td>
<td>I strive to gain more control over the events around me at work</td>
<td></td>
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<tr>
<td></td>
<td>I strive to be “In command” when I am working in a group</td>
<td></td>
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<tr>
<td>Identity centrality</td>
<td>I feel that identity is a part of my self-concept across various situations, and it is important to how others view me</td>
<td>Harmon-Kizer et al. (2013)</td>
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<tr>
<td></td>
<td>I feel that identity is part of my self-concept, but does not help define myself across various situations, nor does it matter how others view me</td>
<td></td>
</tr>
<tr>
<td>Brand preference</td>
<td>How much do you like the brand?</td>
<td>Galoni et al. (2020)</td>
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<tr>
<td></td>
<td>How much are you interested in learning more about the brand?</td>
<td></td>
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<tr>
<td></td>
<td>How much are your likelihood of buying the brand?</td>
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Source: Authors

Table A2 Independent samples t-test and ANOVA results table

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<th>Predictors</th>
<th>Coolness group</th>
<th>Innocence group</th>
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<th>t</th>
<th>p-Value</th>
<th>d</th>
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Note: \(*^*\) \(p < 0.001\)

Sources: Copyright Yuanping Xu; Authors
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