

**REVIEW**

The 3 C's of anthropomorphism: Connection, comprehension, and competition

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Email: l.yang@moore.sc.edu**Abstract**

Anthropomorphism, or imbuing nonhuman entities with human traits, is widely prevalent in the marketplace. The last decade of consumer research demonstrates that when imbued with human characteristics, anthropomorphized brands and products become active participants in the consumption experience and are viewed and treated fundamentally differently than those viewed simply as objects. We identify three dimensions around how consumers relate to anthropomorphized entities: connection, comprehension, and competition. The first two C's highlight how anthropomorphized brands and products benefit consumers by fulfilling belongingness needs (connection) and helping consumers understand unfamiliar situations and products (comprehension). In contrast, the competition dimension highlights how anthropomorphized brands and products are perceived as adversaries or potential threats to consumers' individual goals. By identifying competition as the third C, we illuminate self-protection as an additional motivation that shapes consumers' responses to anthropomorphized entities—a motivation that has not been directly accounted for in previous theorizing.

KEYWORDS

anthropomorphism, branding, mind perception, schema, social connection

1 | INTRODUCTION

Anthropomorphism, or imbuing nonhuman entities with human traits, is prevalent in the marketplace. Products bear subtle resemblances to humans, such as the “facial” features of a car's headlights and grille, and the curves of a Coke bottle. Products are portrayed as engaging in human activities and mannerisms, like the forlorn slouch of a discarded IKEA desk lamp sitting in the rain, whereas anthropomorphized spokes-characters like the M&M candies and Mr. Clean have personal aspirations and elaborate back stories (Characters, 2019; The Origin of Mr. Clean, 2019). Even without the nudging of marketers, consumers spontaneously anthropomorphize the products they frequently engage with, from naming their cars to imploring their crashing computers to stop “messing” with them. The self-propelled motion of smart home gadgets like the Roomba vacuum cleaner and voice command recognition of AI assistants

like Amazon's Alexa further encourage anthropomorphism by giving these devices the semblance of goal-oriented behavior and personality. Anthropomorphized brands and products are all around us.

The common intuition is that making brands and products appear more human renders them more endearing and allows consumers to connect with them at a deeper level, resulting in strong, long-lasting, positive relationships. In addition to supporting this intuition, the last decade of consumer research shows that anthropomorphism has much broader implications. When imbued with human characteristics, anthropomorphized brands and products become active participants in the consumption experience and are viewed and treated fundamentally differently than those viewed simply as objects. Anthropomorphized entities take on the rich and complex persona of a human being, with all the intentions and goals, feelings and emotions, and hopes and desires that go with that person. When these nonhuman entities take on a human form, considerations usually

reserved for interpersonal human interactions come to the fore. Thus, consumers treat and judge anthropomorphized brands and products based on a different set of rules from those traditionally used for brands and products seen as objects. Consumers spontaneously and effortlessly apply norms and criteria typically reserved for judging other people when judging these anthropomorphized entities.

Although marketers have intuitively adopted this brand-as-person metaphor for a fairly long time, academic research in this area is just beginning to catch up. In this review, we focus on the last decade of research on anthropomorphism, with emphasis on research in the consumer context. In particular, we suggest that there are three different dimensions around which marketers can derive value from the key research findings on anthropomorphism and how consumers relate to anthropomorphized entities: connection, comprehension, and competition. These 3 C's of anthropomorphism synthesize the different findings in this area, while also highlighting the unique contribution of marketing researchers to this multi-faceted phenomenon.

2 | THE 3 C'S OF ANTHROPOMORPHISM

Aggarwal and McGill (2007) kicked off anthropomorphism research in the consumer domain by providing an initial lens for understanding when consumers perceive products as human and when this leads to favorable product evaluations. They demonstrated that ads activating a human schema (e.g., promoting a "product family") and marketing products with humanlike features (e.g., two larger "parent" and two smaller "children" bottles) elicited anthropomorphism and more favorable evaluations. Thus, a match between the activated schema (family) and the features of the schema (two parents and two kids) led to a congruency effect that translated into a positive evaluation of the anthropomorphized product. However, the positive fit effect between the activated human schema and product features only held when the activated schema was inherently positive (e.g., good twins) and was attenuated when it was negative (e.g., evil twins), suggesting that there is an additional effect of the affective tag associated with the primed human schema that influences product evaluation.

Concurrent with the research by Aggarwal and McGill (2007), an important piece of research on anthropomorphism was being conducted in social psychology. Rather than examining the consequences of anthropomorphism, Epley, Waytz, and Cacioppo (2007) focused on its antecedents, offering a framework for when people are likely to anthropomorphize. They proposed that anthropomorphism is multiply determined by three key antecedents. The first was cognitive in nature and related to the activation of human-related knowledge (elicited agent knowledge), similar to the human schema activation examined by Aggarwal and McGill (2007). The other two antecedents were motivational in nature: the desire among people for social connectedness (sociality motivation) and the need to make sense of the world around them (effectance motivation). Together, these two papers have formed the backbone for much of the subsequent anthropomorphism research in the consumer domain.

Since 2007, the field has matured greatly and revealed sub-areas focused largely on the different effects of anthropomorphism. We categorize these various studies in terms of three main themes: connection, comprehension, and competition. The first two C's indicate that anthropomorphizing brands and products benefits consumers by fulfilling belongingness needs (connection) and framing unfamiliar situations and products in familiar human terms (comprehension; Epley et al., 2007). When nonhuman entities are anthropomorphized, they become active agents that can be a source of belonging and social connection for consumers. Engaging in anthropomorphism can help satisfy consumers' fundamental needs for connection and competence, leading to enhanced well-being (Chen, Sengupta, & Adaval, 2018). These anthropomorphized entities have the ability (at least in part) to fulfill people's belongingness needs and inoculate them against the social and psychological pain of loneliness (Reimann, Nuñez, & Castano, 2017). This sense of connection also elicits in consumers the desire to protect and care for anthropomorphized entities, making consumers more reluctant to discard old products and less likely to refuse prosocial requests (Ahn, Kim, & Aggarwal, 2014; Chandler & Schwarz, 2010).

Anthropomorphism can also prove useful when consumers need help making sense of uncertain situations and deciphering unfamiliar brands and products. By helping consumers comprehend these entities with distinctly human traits, anthropomorphizing helps fulfill the effectance motivation (Epley et al., 2007). Anthropomorphism shapes how consumers think about and understand nonhuman entities by activating characteristics and expectations usually attributed only to humans. When products are endowed with humanlike facial features, consumers interpret product "faces" in the same way they would a person's. When nonhuman entities are seen as having humanlike mental capacities, consumers apply traits fundamental to person perception (e.g., warmth, competence) and also utilize naïve theories of human behavior when forming impressions of these entities. Thus, anthropomorphism allows consumers to make sense of unfamiliar products and brand contexts by framing their perceptions of these entities in human terms.

Whereas the connection and comprehension dimensions of anthropomorphism align with Epley et al.'s (2007) two motivational underpinnings of anthropomorphism (sociality and effectance, respectively), the competition dimension highlights a different motivation that reflects the unique character of commercial consumer-product interactions. Compared with the social world, the commercial world is less communal, more transactional in nature, and consequently has a strong element of competition in it—competition for resources, for profit, for share of the pie, for reputation, for standing. To be sure, the social world too contains adversarial and competitive elements, for example, competition for status, romantic partners, and power. However, competition sits rather more at the surface in a context characterized by "let the buyer beware." In this context, a different set of goals enters the "interpersonal" calculus as stakeholders vie for a larger share of the pie and see the transaction as a zero-sum game: "I lose if you win." Interactions with consumers are inherently exchange-based, where for-profit companies strive



to extract the most money for themselves, potentially at the cost of consumer welfare. Therefore, the cooperative mindset that fosters social connections, which is a key antecedent in the framework proposed by Epley et al. (2007), is more of a rarity when there is a monetary price tag attached to the interaction.

In the cutthroat, competitive marketplace, anthropomorphized entities are not always seen as benign partners. By taking on human characteristics, anthropomorphized entities are endowed with an independent mind, the ability to be autonomous and agentic, and to possess their own separate intentions. With these human abilities, an anthropomorphized entity may be perceived as an adversary or potential threat to consumers' individual goals. When it is unclear whether an anthropomorphized entity's intentions and desires align with those of the consumer, consumers may feel the need to protect themselves from potential threats. As such, interpersonal concerns related to social power, autonomy, and trust loom large and influence how people assess the consumption situation. By investigating the competition dimension, consumer research reveals an additional motivation—self-protection—underlying how people respond to and interact with anthropomorphized entities that has not been directly accounted for in the psychology literature. In Table 1, we summarize the 3 C's of anthropomorphism, delineate their motivational underpinnings, and identify key factors that influence consumer outcomes for each dimension.

In terms of scope, this review does not cover papers in which anthropomorphism is only implied and seen merely as a precursor to another focal phenomenon being studied. However, we do recognize that anthropomorphism was first examined in consumer research, albeit indirectly, in Aaker's (1997) work on brand personality and Fournier's (1998) work on brand relationships, among others. Drawing from human personality research, which proposed that personality could be distilled down to the "Big Five" traits, Aaker (1997) demonstrated that consumers' perceptions of brands could also be distilled down to five personality types—sophistication, sincerity, excitement, competence, and ruggedness—that encompass the broad variety of personalities attributed to brands in the marketplace. By identifying personality traits specific to brands, Aaker's work implied that in order for brands to be seen as having personality traits (which are inherently human), consumers must first engage in some form of anthropomorphism. In her work on brand relationships, Fournier (1998) not only acknowledged that consumers

readily endow brands with human qualities, she also observed that for a brand to be a legitimate relationship partner, it must be an active member of the relationship dyad, suggesting that brand anthropomorphism is an essential prerequisite for consumer–brand relationships. However, Fournier's (1998) primary focus was to demonstrate that the relationships that consumers formed with brands (e.g., flings, secret affairs, committed partnerships) could contain the nuance and drama found in the relationships that consumers form with other humans.

Although both Aaker and Fournier's pioneering research imply that consumers readily imbue brands with humanlike characteristics, their focus was on delineating the specific content and nuances of brand personalities and relationships, respectively, rather than on understanding the broader implications of seeing nonhuman entities as humans in the consumer context. Other related work by Nass and Moon (2000) on human–computer interactions, Muniz and O'Guinn (2001) on brand community, Aggarwal (2004) on brand relationship norms, Thompson, MacInnis, and Park (2005) on brand attachment, and Carroll and Ahuvia (2006) on brand love also implicitly acknowledged the phenomenon of brand anthropomorphism in their research. As such, by applying relational and other quintessentially human concepts to the study of consumer–brand interactions, this prior research assumed that consumers anthropomorphize brands but did not study this phenomenon in any direct manner.

Our primary focus is to review and synthesize consumer research that explores the varied facets of when and why consumers view products, brands, and other entities through a human lens and attribute humanlike characteristics to them. We concentrate on the anthropomorphism of brands and products, but also discuss the anthropomorphism of abstract concepts such as money, time, and nature that have important implications for consumer psychology and behavior. In the following sections, we center our discussion on papers that seek to understand how perceptions and behaviors change when brands and products are attributed human characteristics, and elaborate on them as viewed through the lens of connection, comprehension, and competition.

3 | FIRST C OF ANTHROPOMORPHISM: CONNECTION

Consumers spend almost all of their waking hours interacting with various products, from driving their cars to work and writing emails on their computers, to chatting with friends on their phones. Not only do consumers need products to accomplish important tasks, products also need consumers to be properly stored and maintained in order to continue functioning. This level of mutual interdependence creates many opportunities for forming connections, especially when the products are anthropomorphized (Epley, Akalis, Waytz, & Cacioppo, 2008). Anthropomorphism changes the meaning of interactions with brands and products—from utilitarian, symbolic, or experiential to becoming more interpersonal and social in nature. For instance, research participants expressed more favorable

TABLE 1 Summary of the 3 C's of anthropomorphism and their underlying motivations

Dimension	Motivation	Relevant factors
Connection	Sociality	Loneliness and social exclusion Social norms and obligations Social crowding
Comprehension	Effectance	Uncertainty Presence of human features Naïve theories
Competition	Self-protection	Social hierarchy Importance of autonomy Indicators of trust

attitudes toward a clock after stroking it, but only if the clock was anthropomorphized with a pair of cartoon eyes and their actions could be interpreted as signs of affection (Hadi & Valenzuela, 2014). Importantly, this effect was driven by increased feelings of attachment elicited by the affectionate stroking behavior. Consumers also feel a stronger sense of connection with brands and products that exhibit a human touch. Using a handwritten typeface on packaging enhances the perceived humanness in a brand, which leads to greater emotional attachment (Schroll, Schnurr, & Grewal, 2018). Relatedly, handmade products are seen to be more humanized because they carry in them the essence of the artisan who created them, and more importantly, the love with which the product was created (Fuch, Schreier, & Van Osselaer, 2015).

As such, anthropomorphized brands and products can stand in for human interpersonal interactions by fulfilling needs for social reconnection and even inoculating consumers from psychological and physical pain. When faced with social rejection or exclusion from their social group, consumers may seek comfort in the connections that they form with anthropomorphized products and brands. Feelings of such an intimate and close connection with anthropomorphized objects can also elicit the desire to care for and protect a broad range of anthropomorphized entities, ranging from possessions such as cars and couches to more abstract concepts such as brands and social causes. However, consumers may also desire social disconnection, and when this is the case, anthropomorphizing brands can lead to distancing behaviors.

3.1 | Reconnection after social exclusion

Connecting with and fostering positive social relationships with other humans is a fundamental need (Baumeister & Leary, 1995). Therefore, when one's sense of belonging is threatened, people are motivated to restore it by seeking out new sources of social connection with humans and nonhumans alike (Mandel, Rucker, Levav, & Galinsky, 2017; Maner, DeWall, Baumeister, & Schaller, 2007). Lonely individuals are more likely to anthropomorphize technological gadgets by perceiving them as having a mind of their own (Epley et al., 2008) and more likely to feel attached to and favor anthropomorphized products after giving them an affectionate gesture like a hug (Hadi & Valenzuela, 2014). Fulfilling the fundamental need for social connection through anthropomorphic products can also result in positive consequences by enhancing feelings of energy and vitality and, in turn, strengthening self-control (Chen et al., 2018).

Because consumers can derive social benefits from anthropomorphized entities similar to those experienced through interpersonal interactions, they are more attracted to anthropomorphized products when belongingness needs are salient (Chen, Wan, & Levy, 2017). In one study, college students played a game of Cyberball (Williams, Cheung, & Choi, 2000) and were induced to feel either socially excluded (i.e., teammates rarely passed them the ball) or included (i.e., ball passing was distributed evenly among players; Chen et al., 2017). Participants were more likely to choose M&Ms over another option when they imagined the brand had come alive as

a human (vs. an object), but this effect was observed only for participants who felt socially excluded after playing Cyberball. These effects were strongest for anthropomorphized brands positioned as stable partners rather than flaky flings, further underscoring consumers' desire to reestablish meaningful social connections and using anthropomorphized brands to fulfill this need (Chen et al., 2017).

In fact, interacting with anthropomorphized products can reduce subsequent efforts to reconnect with other humans (Mourey, Olson, & Yoon, 2017). In one study, MTurk participants were socially excluded or included via Cyberball and then viewed an anthropomorphized Roomba vacuum cleaner that was positioned to resemble a smiling face or a non-anthropomorphized Roomba that was rotated 90 degrees and no longer resembled a face. Socially excluded participants anticipated spending less time on the phone with friends and family when they viewed the anthropomorphized versus non-anthropomorphized Roomba. That is, interacting with an anthropomorphized Roomba (that appeared to be smiling) seemed to fulfill participants' needs for belongingness and to reduce their desire to reconnect with family and friends (Mourey et al., 2017). In other studies, socially excluded participants who viewed anthropomorphized products reported having fewer Facebook friends and volunteered for fewer surveys relative to those viewing objectified products, indicating that viewing anthropomorphized products satisfied excluded participants' need for social assurance (Mourey et al., 2017).

Not only can interactions with anthropomorphized brands and products serve as effective proxies for human interpersonal interactions, anthropomorphized brands, especially loved ones, can even mitigate the negative effects of psychological and physical pain more generally by being a source of social support (Reimann et al., 2017). In one study, MTurk participants recalled a painful situation and subsequently rated their pain. They were then exposed to a loved brand and administered a second pain rating. Participants who anthropomorphized their loved brand exhibited a greater drop in pain relative to those who objectified their loved brand. Therefore, the strong, committed relationships that consumers form with anthropomorphized brands can also serve as a social resource that helps consumers inoculate themselves from painful experiences.

3.2 | Connection fosters protection

Viewing nonhuman entities through a human lens can elicit behaviors originally aimed at optimizing social functioning with other humans. Imbuing nonhuman entities with human qualities, especially the ability to experience pain and pleasure, can garner an empathic and altruistic response from consumers and increase feelings of discomfort at the prospect of hurting the anthropomorphized entity (Epley & Waytz, 2010; Waytz, Epley, & Cacioppo, 2010). For example, when MTurk participants read that Google had been a victim of corporate espionage, those who anthropomorphized the brand expressed more sympathy for the brand relative to those who had not (Rai & Diermeier, 2015). These



higher levels of sympathy were driven by participants' higher ratings of anthropomorphized Google's capacity to experience pain and suffering.

When anthropomorphism activates social norms for treating others as humans, the treatment of these entities takes on a moral tone (Gray, Gray, & Wegner, 2007). For instance, the more humanlike participants viewed their cars, the more reluctant they were to replace their old cars with new ones (Chandler & Schwarz, 2010). The basis for making replacement decisions also took on a more human tone for these participants, with the car's perceived warmth taking precedence over perceptions of the car's quality in shaping their replacement decisions. That is, consumers relied on social norms to make replacement decisions for anthropomorphized products, so instrumental criteria became less appropriate and relational criteria became the main determinants of replacement decisions. Consistent with this notion, individual differences in the tendency to anthropomorphize positively correlate with hoarding behaviors and thought patterns, especially the emotional attachment and feelings of responsibility for products that prevent hoarders from discarding useless items (Timpano & Shaw, 2013). Evidently, when products are anthropomorphized, consumers view their relationships with these products in more social, emotional terms, which is why warmth rather than functionality becomes the salient factor in replacement decisions (Chandler & Schwarz, 2010).

Related research examines the role of anticipated guilt when people are faced with an appeal for help from an anthropomorphized prosocial cause. The guilt associated with the failure to help other humans is reflected in how people feel about failing to help anthropomorphized entities (Ahn et al., 2014). College students were more likely to agree to compost food waste after viewing an anthropomorphized garbage bin imploring people to "Please feed me food waste only!" These increased composting intentions were driven by the desire to avoid feeling guilty about their potential inaction when the garbage bin was anthropomorphized, suggesting that participants felt a sense of moral responsibility toward these social causes and did not want to let down these entities who were appealing for help (Ahn et al., 2014).

The social connection fostered by anthropomorphism is a key driver of the desire to help and protect nonhuman entities in need. Enhanced feelings of connectedness drive the positive effect that anthropomorphizing nature has on conservation efforts (Tam, Lee, & Chao, 2013). College students viewing environmental-awareness posters anthropomorphizing nature (e.g., featuring a sad-faced Earth) expressed greater interest in conservation behaviors and environmental activism relative to those who viewed posters with no anthropomorphism, and this effect was driven by greater feelings of connectedness with nature (e.g., agreement with "I often feel a sense of oneness with the natural world around me"; Tam et al., 2013). Anthropomorphizing animals can similarly enhance feelings of connectedness that drive greater desire to help and protect animals in need (Butterfield, Hill, & Lord, 2012; McConnell, Brown, Shoda, Stayton, & Martin, 2011).

3.3 | When consumers desire disconnection

Consumers may at times desire social disconnection, and when this is the case, they exhibit distancing behaviors toward anthropomorphized brands. Much like their feelings toward other humans, consumers can vary in whether or not they wish to connect with anthropomorphized entities. Although anthropomorphizing an entity imbues it with human characteristics and makes it a source for social connection, this same process of humanization can also elicit distancing behaviors if consumers wish to create social distance between themselves and other people.

Environmental factors like social crowding can lead consumers to push away anthropomorphized brands and products in an attempt to reduce interpersonal contact (Puzakova & Kwak, 2017). When anthropomorphized brands are attributed minds of their own (Epley et al., 2007), socially crowded consumers withdraw from anthropomorphized brands that express intentions for social interaction (Puzakova & Kwak, 2017). Socially crowded undergraduate students expressed less interest in purchasing a luggage brand when it was anthropomorphized relative to when it was not, but only when the brand was positioned as interaction-oriented (e.g., using the slogan "Together, you and I will explore new places!"). Thus, when an anthropomorphized brand declares its intention to interact with a consumer in a socially crowded context, for consumers who desire social distance this brand becomes less appealing. Anthropomorphism in and of itself does not trigger consumers' negative reactions; it is the anthropomorphized brand's intentions to interact that drive socially crowded consumers' withdrawal from interpersonally oriented entities (Puzakova & Kwak, 2017).

Priming the concept of money (vs. time) can also deter consumers from seeking out social connection with anthropomorphized products (Wan, 2018). Whereas money-minded people are only interested in social relationships that facilitate the pursuit of their personal goals, time-minded people view social relationships as a source of emotional connection with others (Mogilner & Aaker, 2009; Vohs, Mead, & Goode, 2006). These different approaches to interpersonal relationships also translate into how consumers interact with anthropomorphized products. When MTurk participants were primed with the concept of money versus time, they expressed less interest in purchasing an anthropomorphized backpack (Wan, 2018). However, when the anthropomorphized product was framed as functional, money-primed participants expressed more purchase interest because the instrumental benefits of fostering a relationship with the anthropomorphized product were made apparent.

Consumers' attitudes toward anthropomorphized brands also activate the same social-interaction goals elicited by disliked and liked people, so consumers interact with anthropomorphized brands as they do with humans, with the goal of ensuring an effective interaction with them (Aggarwal & McGill, 2012). For disliked brands, consumers exhibit behavior that contrasts away from that suggested by the brand. If the disliked brand is positioned as a partner (i.e., the brand and the consumer "team up"), consumers are likely to exhibit behavior that is opposite to the partner brand's image (as if to say, "I

don't want to work with you"). Conversely, for disliked brands that are positioned as a servant brand (where the brand works alone to serve the consumer), consumers are likely to exhibit behavior that is consistent with the servant brand's image (as if to say, "I don't need you—I can take care of myself"). For instance, college students who disliked the partner brand Kellogg's (viewed as healthy) expressed less interest in taking the stairs and chose to take the elevator instead, exhibiting somewhat unhealthy behavior. On the other hand, those who disliked the servant brand Volvo (viewed as safe) were more likely to choose a risky gambling option over a safer alternative. In contrast, for liked brands positioned as partners, consumers exhibit behavior that assimilates with the brand's image, as if to suggest "let's work together." For liked brands positioned as servants, consumers exhibit behavior that is opposite to that suggested by the brand image (i.e., to "get out of the way" of the valued work being undertaken by the brand). However, this is only the case when consumers anthropomorphize these brands but not otherwise, demonstrating that only anthropomorphism activates these social-interaction goals, not the brand image alone.

4 | SECOND C OF ANTHROPOMORPHISM: COMPREHENSION

Consumers often have very little control over marketplace events, such as the ups and downs of the stock market, product recalls by brands, and changing prices of products. When faced with uncertain and unpredictable circumstances, people draw from their own knowledge and experiences to make sense of the situation. Given that consumers are well versed in the knowledge about themselves and other humans, anthropomorphizing unpredictable entities and relying on human schemas to predict their future behaviors can provide a sense of understanding and control over nonhuman entities (Waytz, Morewedge et al., 2010). Consistent with effectance motivation (i.e., the desire to effectively manage one's environment by increasing one's ability to make sense of, and to predict an agent's actions; Epley et al., 2007), consumers use their rich associations and knowledge about humans to understand and comprehend anthropomorphized entities in many different ways. Consumers attribute higher levels of warmth and competence—the two fundamental dimensions of person perception—to anthropomorphized entities like brands and even to seemingly instrumental and fungible items such as money. They readily perceive facial features, such as eyes and mouths, in products, interpreting the "faces" of these products in the same way they would a person's. Consumers also apply naïve theories used to understand the complex and ambiguous behaviors of humans when forming impressions of anthropomorphized brands and products.

4.1 | Attributions of warmth and competence

People rely primarily on traits related to warmth and competence to form global impressions of individual people (Wojciszke, 1994; Wojciszke, Bazinska, & Jaworski, 1998). Whereas warmth describes

traits related to a person's emotional, interpersonal characteristics, which involves the consideration of others' needs, competence describes traits related to a person's ability to achieve his or her goals, which involves effective, decisive behavior aimed at getting things done (Fiske, Cuddy, Glick, & Xu, 2002). Given that these two dimensions are fundamental to person perception, when brands and products are anthropomorphized, they are also imbued with higher levels of warmth and competence. For instance, when college students viewed ads portraying products engaging in human behaviors (e.g., a moisturizer bottle drinking water through a straw), they rated these brands higher on human personality traits (e.g., friendly, honest, intelligent, successful) relative to when they did not anthropomorphize the advertised products (Delbaere, McQuarrie, & Phillips, 2011). In terms of competence, anthropomorphizing an autonomous vehicle makes it appear more deliberate and capable of transporting passengers safely (Waytz, Heafner, & Epley, 2014); and the extent to which a computerized poker partner resembles a human (e.g., having a face) relates to how intelligent the computerized partner is perceived to be (Koda & Maes, 1996).

Attributing human characteristics to anthropomorphized entities can also have interesting downstream consequences. For instance, anthropomorphizing money leads to greater attributions of human traits, which impacts donation behaviors (Zhou, Kim, & Wang, 2018). When MTurk participants imagined that money had come to life as a person, they were more likely to perceive money as possessing warmth (e.g., generous, helpful) and competence (e.g., confident, responsible) relative to those who simply described the physical features of money. Given that warmth is the key predictor of helping behavior (Cuddy, Fiske, & Glick, 2007), elevated perceptions of money's warmth (but not competence) drove higher levels of financial donations (Zhou et al., 2018). Anthropomorphizing products can also make them appear more whimsically cute, fun, and playful (Nenkov & Scott, 2014). In turn, consumers become more reward-focused and more likely to indulge. For instance, undergraduates who used an ice cream scoop shaped like a person (versus a plain scoop) served themselves larger scoops and ate more ice cream. Therefore, activating the warmth traits of fun and playfulness via an anthropomorphized product has a surprising effect on indulgent consumption behaviors.

4.2 | Decoding product "faces"

From an early age, humans are especially attuned to other people's faces and are highly skilled in using facial features to decode a person's inner emotions and behavioral dispositions (Mondloch et al., 1999). Not only are consumers quick to perceive faces in everyday objects (Windhager et al., 2008), they also interpret the "faces" of products in the same way they would a person's. For instance, when a car served as its own spokesperson (i.e., by speaking in the first person), college students preferred a car with a "smiling" grille over one with a "frowning" grille because smiling was more consistent with their schema for spokespeople (Aggarwal & McGill, 2007). Consumers also rely on a car's "eyes" and "mouth" to distinguish between different models (Keaveney, Herrmann, Befurt, & Landwehr,



2012) and respond positively to car faces designed to resemble baby faces (e.g., round face, large eyes; Miesler, Leder, & Herrmann, 2011). Like their perceptions of human faces, consumers rely on a product's "eyes" and "mouth" to determine its aggressiveness, but they only rely on a product's "eyes" to determine its friendliness (Landwehr, McGill, & Herrmann, 2011). Consumers indicated greater liking for cellphones and cars that had "faces" with upturned mouths and slanted eyes, with the pleasure elicited from the friendly mouth and the arousal elicited from the aggressive eyes driving these preferences. A subsequent analysis of mass-market car sales in Germany replicated this effect in the field: Car designs with upturned grilles and slanted headlights garnered the highest sales (Landwehr et al., 2011).

Another human facial feature that translates into product perception is face width-to-height ratio, where higher ratios convey greater dominance (Maeng & Aggarwal, 2018). Online participants were willing to pay more to rent cars with higher face width-to-height ratios, an effect driven by how dominant they perceived the cars to be, but this effect was attenuated when an affiliation (vs. dominance) goal was activated. The positive effect of higher width-to-height ratios also held for clock faces, but only when participants were considering these clocks for public use at work and not for private use at home. These boundary conditions illustrate that product faces with high face height-to-width ratios are interpreted as more dominant and preferred only when the consumption context calls for displays of dominance. An analysis of car manufacturers doing business in the United States revealed that car models with higher face-to-width ratios were also priced higher, suggesting that car manufacturers priced their products to take advantage of consumers' willingness to pay more for cars with dominant faces (Maeng & Aggarwal, 2018).

Notably, although consumers interpret the "facial" features of anthropomorphized products in the same way they do human faces, the prevalence of certain features and how consumers use their interpretations to inform product preferences can differ. Whereas human facial expressions conveying mixed emotions are difficult to attain and may be viewed as unnatural, a product's "face" can be easily arranged to convey mixed emotions and capitalize on both pleasure-inducing friendliness and arousal-inducing aggressiveness (Landwehr et al., 2011). Moreover, cars and cellphones are publicly used, so consumers may see them as extensions of themselves and forms of self-expression (Belk, 1988; Bodner & Prelec, 2003). Consumers' attraction to these types of products is often driven by the product's ability to help its owner signal desirable traits to others, as when consumers prefer car faces that express dominance through high width-to-height ratios (Maeng & Aggarwal, 2018). This stands in contrast to the interpersonal considerations that usually govern preferences for other people (Goodwin, Piazza, & Rozin, 2014) and often lead to negative responses to dominant-looking human faces (Carré, McCormick, & Mondloch, 2009; Stirrat & Perrett, 2010). Thus, the same features that garner negative responses to human faces actually garner positive responses to product "faces" when consumers relate to products differently than they do to other humans.

4.3 | Applying naïve theories of human behavior

Because comprehending other individuals' behaviors is essential to social functioning, people develop naïve theories of human behavior that reflect their intuitive understanding of human psychology (Heider, 1958). These theories often provide a useful framework for understanding ambiguous behavior and offer causal explanations for why people do the things they do, which help make sense of their social world and guide decision making. When entities are anthropomorphized, people also apply these naïve theories in comprehending and predicting the behaviors of humanized entities to bring clarity to uncertain consumption situations.

4.3.1 | Human traits are stable

When judging another human, people tend to assume that an underlying stable disposition (e.g., values, personality traits) drives that person's behavior (Gawronski, 2004). Therefore, people expect that a person's future behaviors will be consistent with and similar to current behaviors because they all stem from the same underlying stable, internal disposition (Ross & Nisbett, 1991). When entities are anthropomorphized, consumers apply this same naïve theory to explain the behaviors of these humanized entities. When changes in the stock market are described as intentional actions (e.g., the Nasdaq flirted with the 2000 mark), consumers are more likely to believe that stock market movements are volitional and internally driven, leading them to erroneously assume the market will continue behaving in the same way (Morris, Sheldon, Ames, & Young, 2007). Expectations of stable dispositions can have negative consequences in light of product wrongdoings because consumers are more likely to hold anthropomorphized brands responsible and to expect continued negative future behaviors (Puzakova, Kwak, & Rocereto, 2013). For instance, when college students learned that the vitamin supplement brand Airborne was accused of false advertising in a class-action lawsuit, they expressed less favorable attitudes toward Airborne when the brand was anthropomorphized compared with when it was not (Puzakova et al., 2013).

Despite the tendency to assume that underlying dispositions are stable and therefore produce consistent behavior (Gawronski, 2004), people do vary in whether they believe these underlying dispositions can be changed (Molden, Plaks, & Dweck, 2006). Whereas entity theorists believe humans are born with traits that rarely change and expect behavioral consistency, incremental theorists believe these traits are malleable and expect behavioral variance depending on the situation (Dweck, Chiu, & Hong, 1995). When brands are anthropomorphized, these divergent theories are applied to assess negative brand behaviors (Puzakova et al., 2013). In one study, college students read that a fictional blender brand failed to create creamy smoothies, which garnered many customer complaints. Whereas participants primed with an entity theory perspective attributed more responsibility and expressed less favorable attitudes when the brand was anthropomorphized versus when it was not, those primed with an incremental theory view were not affected by

brand anthropomorphism. Other studies demonstrated that entity theorists were also more likely to expect continued negative brand performance from an anthropomorphized relative to a non-anthropomorphized brand (Puzakova et al., 2013).

4.3.2 | Physical beauty is good

Another common assumption is that physically attractive people are also fundamentally good and therefore worthy of more favorable judgments (Dion, Berscheid, & Walster, 1972; Langlois et al., 2000). When products are anthropomorphized, consumers also prefer more physically attractive products over less attractive but functionally superior options (Wan, Chen, & Jin, 2017). This preference for physically attractive anthropomorphized products manifests not only in preferences but also in the quantity of resources that consumers allocate in search of appearance- versus function-related information. In a series of studies, product anthropomorphism garnered greater preferences for more physically attractive products over more functional products across a broad range of categories, including battery chargers, cereal, and laptop computers (Wan et al., 2017). Importantly, endorsement of the “beautiful-is-good” belief regarding *people* drove this effect and discounting this belief attenuated this effect, further indicating that consumers relied on their naïve theories about humans to inform the judgments of anthropomorphized products.

4.3.3 | Relational orientation guides interpretations of fairness

People can differ in how they relate to others in interpersonal interactions. Whereas those with an agentic orientation are focused on pursuing their own personal interests, those with a communal orientation are focused on pursuing strong, fulfilling social relationships (Abele & Wojciszke, 2014). These different orientations shape how people interpret the intentions of others. Agentic people are sensitive to cues indicating that others are also out for themselves whereas communal people are especially sensitive to cues indicating that others also want to get along (Kashdan, Mishra, Breen, & Froh, 2009). These same naïve theories based on interpersonal orientation can influence how consumers interpret the fairness of price changes implemented by anthropomorphized versus non-anthropomorphized brands (Kwak, Puzakova, & Rocereto, 2015). Consumers tend to make sense of price changes by thinking about the underlying brand intentions, especially when the brand is anthropomorphized. Agentic consumers are more likely to interpret price increases as a brand's attempt to take advantage and exploit them, leading to higher perceptions of unfairness when the brand is anthropomorphized compared with when it is not. In contrast, communal consumers are less likely to assume that price increases reflect a selfish desire to exploit others. Instead, communal consumers are more sensitive to positive indicators and interpret price *decreases* as a brand's attempt to build goodwill, leading to higher perceptions of fairness when the brand is anthropomorphized compared with when it is not.

The different relational orientations fostered by consumers' self-construal can also shape expectations of anthropomorphized brands (Kwak et al., 2015). Independent consumers are focused on their personal interests and expect equitable exchanges in their social relationships, so they are more likely to interpret distributive injustice (e.g., price increases) as a violation of their social expectations when the brand is anthropomorphized versus not. In contrast, interdependent consumers value their social relationships and expect favorable treatment from relationship partners, so they are more likely interpret a brand's procedural injustice (e.g., failure to respond to a complaint) as a violation of their social expectations when the brand is anthropomorphized versus not. Therefore, the relational orientations and associated naïve theories that govern interpersonal interactions also govern how consumers judge an anthropomorphized brand's intentions and the (un)fairness of its behaviors.

4.3.4 | Focus on the sum, not the parts

Not only does anthropomorphism shape the types of impressions that consumers form of humanized brands and products, it also shapes how information is processed and integrated when consumers form these impressions. When assessing an object, consumers tend to focus on individual attributes employing an attribute-based processing strategy, especially when making comparisons between two alternatives. However, when assessing a person, people tend to take on a holistic perspective, integrating various attributes to form an overall impression of who that person is (Fiske & Neuberg, 1990; Hamilton & Sherman, 1996). Therefore, when brands and products are anthropomorphized, consumers view them through a similar human lens and apply an integrated approach of impression formation (Huang, Wong, & Wan, 2019). Consequently, consumers adopt different approaches when choosing between two anthropomorphized products compared to choosing between two non-anthropomorphized products.

In an eye-tracking study, when comparing two anthropomorphized options, undergraduates adopted a more holistic approach to product evaluation, scanning all the features of one option first before moving on to the next option (Huang et al., 2019). In another study, undergraduates chose between two snacks: One option was rated better on average across three attributes, and the other was rated better on two of the three attributes. When the snacks were anthropomorphized, participants were more likely to consider all attributes together and select the overall better option. In contrast, when the products were not anthropomorphized, participants were more likely to compare individual dimensions and select the option that performed better on more dimensions despite being inferior overall. Thus, anthropomorphism also impacts the way in which consumers process information about brands and products, which in turn influences their ultimate choices.



5 | THIRD C OF ANTHROPOMORPHISM: COMPETITION

Whereas our first two C's of anthropomorphism focus on how anthropomorphizing brands and products serves consumers' needs for social connection and greater understanding, the final C examines how anthropomorphism affects consumers with regard to another important and widely prevalent aspect of social interaction—interpersonal conflict and competition. For consumers, functioning in the commercial world has an element of competition, broadly defined as making sure one is purchasing a good product and not being cheated. In the commercial world with its survival of the fittest mentality, consumers understand that those who have fewer resources and control are at a disadvantage and likely to be exploited. Consumers often find themselves trying to maintain control over their own outcomes and protect themselves in the marketplace where their own goals and personal interests may not always be prioritized and sometimes may directly compete with those of brands and companies (e.g., companies are trying to sell high while customers are trying to buy low). Rather than take a brand or advertiser's actions at face value, consumers recognize that these behaviors often reflect strategies specifically designed to influence their attitudes and behaviors for the company's profit, so consumers often approach brands and products with a healthy dose of skepticism (Friestad & Wright, 1994).

When imbued with human characteristics, an anthropomorphized entity becomes an active participant in the consumption experience. It has its own intentions and goals that may or may not align with those of the consumer, and it can even take credit and responsibility for the consumption outcome. When that is the case, consumers may feel uncertain about how to interpret an anthropomorphized entity's actions and feel threatened by its presence. To assess the situation and infer the entity's intentions, consumers rely on factors important for navigating potential interpersonal competition and conflict, such as social power, attempts to limit autonomy, and assessments of trust. So, in addition to the need to socially connect with others and to make sense of the surrounding environment, the instinct to see the "other" as a potential rival and to protect oneself drives consumer attitudes and behaviors in interactions with anthropomorphized entities. Given the self-interest-focused interaction between consumers and products in a commercial context, it is not surprising that this somewhat combative aspect of anthropomorphizing products has been identified primarily in consumer research.

5.1 | Power and status

In the competitive marketplace in which everyone is out for themselves, where consumers feel they stand in the social hierarchy can influence how they expect to be treated by brands and companies. In everyday interpersonal interactions, low power and status confer poor treatment whereas high power and status garner favorable treatment (Fiske & Dépret, 1996; Keltner, Gruenfeld, &

Anderson, 2003). When products and brands are anthropomorphized, consumers expect to be treated according to these same social power-based norms. When consumers are faced with a risky situation such as playing a slot machine or assessing their likelihood of contracting skin cancer, whether they feel powerful or not shapes their risk assessments (Kim & McGill, 2011). College students who felt powerless perceived greater risk and showed less willingness to gamble when interacting with a slot machine compared with those who felt powerful—but only when the slot machine was anthropomorphized. Moreover, when consumers' outcomes align with how power dynamics work in the interpersonal world, they are more likely to anthropomorphize the risk-laden entity. When gambling with a slot machine, undergraduates low in power anthropomorphized the slot machine more if they lost because the negative outcome aligned with how low-power people are treated in the interpersonal world. In contrast, undergraduates high in power anthropomorphized the slot machine more if they won because the slot machine seemed to be giving them what they wanted.

When time is anthropomorphized as a powerful adversary, feeling low in power heightens the aversiveness of wait time in the consumption context, resulting in reduced patience from low- compared with high-powered consumers (May & Monga, 2013). When time was anthropomorphized (e.g., think about Mr. Tyme standing between you and the sunglasses), undergraduates who felt low versus high in power found waiting more aversive and were therefore more willing to pay a premium for expedited shipping. Furthermore, only low-powered participants were sensitive to the influence of time, whose intentions loomed large for those with little control. When time was anthropomorphized and framed as beneficent (e.g., time improves the taste of cheese), low- versus high-powered participants became *more* patient. In sum, when an entity is anthropomorphized, people interact with it in keeping with social roles and norms. People who are low in power act as if they are at the mercy of this anthropomorphized entity, whereas those high in power act as if they are able to wield their power and control these entities.

Where consumers stand in terms of their financial status is another important factor that shapes expectations for how others, including anthropomorphized entities, will treat them in the marketplace (Kim & McGill, 2018). To maximize profit, companies often extend preferential treatment to customers who spend the most while putting out subtle signals to deter customers who spend the least. Thus, consumers who are financially low in status expect brands to treat them poorly relative to more affluent consumers because they do not offer high financial benefits for these brands. Consequently, these poor customers assess anthropomorphized brands less positively and these effects are mediated by their expectations of how they will be treated. Conversely, affluent consumers expect that because of their financial attractiveness to businesses, they will be treated especially well and are entitled to special attention. MTurk participants who felt poor versus rich were more likely to predict that an anthropomorphized self-driving car (vs. a non-anthropomorphized car) would steer them into a barrier and risk hurting them as

a passenger in order to save a crowd of people on the road. Because of their expectations of unfavorable treatment, those low (vs. high) in financial status are also more reluctant to attribute greater agency to the product. However, when poor consumers anticipate better treatment (e.g., the company making the product supports low-income people), they attribute greater agency to the anthropomorphized product. Thus, as long as interpersonal norms indicate favorable treatment, consumers are ready and willing to embrace the notion that a product has a mind of its own and its own intentions.

The desire for power can also influence consumers' preferences for different types of anthropomorphized entities (Kim & Kramer, 2015). Consumers high in materialism prefer to be masters rather than partners in their social relationships because they seek dominance and power (Burroughs & Rindfleisch, 2002). Because anthropomorphized brands often fulfill social needs, this desire for dominance is particularly salient when interacting with an anthropomorphized brand positioned as a servant, which is presented as being obsequious and servile to the consumers' desires and commands (Kim & Kramer, 2015). Consequently, materialists tend to evaluate anthropomorphized brands that are positioned as being a servant more positively compared with brands that are positioned as a partner to the consumer. Online participants high on materialism were willing to pay more for a fictitious Apple product when the brand was positioned as a servant (e.g., to serve and work for the customer) relative to a partner to the consumer (e.g., to co-create value with the customer). Underscoring materialistic consumers' desire for dominance in the interpersonal domain, this effect was observed only when the brand was anthropomorphized.

5.2 | Threats to autonomy

Although consumers often seek help from anthropomorphized assistants (Heerink, Kröse, Evers, & Wielinga, 2008) and enjoy interacting with them (Katz & Halpern, 2014), these effects reverse if consumers feel these assistants threaten their autonomy. When brands and products are anthropomorphized and consequently imbued with the ability to make decisions and engage in goal-directed behavior, they also gain the ability to limit the agency and autonomy of the consumers they interact with. Threats to autonomy are particularly salient in contexts where consumers are highly motivated to believe and ensure their accomplishments are solely attributed to their own hard work and abilities.

In the gaming context, endowing a computerized assistant with human traits can threaten consumers' sense of autonomy and subsequently lower their enjoyment of playing a game (Kim, Chen, & Zhang, 2016). When a helper is anthropomorphized, consumers are no longer just using a tool to help them play the game—they become dependent on someone else. In turn, receiving help from someone undermines the sense of personal accomplishment and enjoyment associated with achieving high scores, reaching advanced levels, and earning extra lives. Undergraduates enjoyed playing a word-completion game less when they received help from an anthropomorphized computer character (e.g., a computer with a smiling face) compared

with a non-anthropomorphized computer program (e.g., a computer with no face). However, this effect only held when autonomy was important to participants; when other concerns were made salient like time constraints or the need to successfully complete the task, anthropomorphizing helpers no longer influenced enjoyment.

Anthropomorphized digital assistants can also compromise the consumer experience in achievement contexts more generally (Kim, Zhang, & Park, 2018). Achievement settings suggest that seeking help from others is a signal of lower competence and intelligence, so people avoid seeking help from computerized assistants, especially if they are anthropomorphized. Further, this effect depends on individual differences related to personal theories of intelligence such that the effect is stronger for entity theorists who believe that traits are stable compared with incremental theorists who believe that abilities can be improved and further developed. When task performance signals a participant's intelligence, seeking help from an anthropomorphized versus a non-anthropomorphized assistant can be seen as a threat to one's intelligence, and hence such help is more likely to be shunned, especially by entity theorists.

Anthropomorphized brands positioned as unique can threaten consumers' sense of autonomy in expressing their own identities (Puzakova & Aggarwal, 2018). People want to feel that their own actions rather than the actions of others determine their behavior, especially acts related to identity expression (Bhattacharjee, Berger, & Menon, 2014). Because anthropomorphized brands are seen as intentional agents themselves (Epley and Waytz, 2010), embracing such brands can reduce consumers' perceived agency when expressing their own distinctiveness. Thus, when a distinctiveness goal is salient and the brand is distinctive (i.e., able to meet the goal), consumers will feel that their own agency in identity expression is reduced if the brand is anthropomorphized, and hence they will evaluate this brand less positively (Puzakova & Aggarwal, 2018). The effect is stronger for individuals high in need for agency and only when a distinctiveness goal is salient. Further, the effect is observed only when the brand is used in a public (vs. private) context because uniqueness motivation is more relevant in such situations. Finally, the effects are reversed when the anthropomorphized unique brand is positioned as a supporter rather than an intentional agent or as a competitor to the consumer, suggesting that the brand is evaluated more positively when it is not a threat to the consumer's perceived agency in identity expression.

Losing some autonomy and having an anthropomorphized entity share in the responsibility for one's actions can also influence consumers' ability to resist temptations (Hur, Koo, & Hofmann, 2015). In the interpersonal domain, the mere presence of other humans can make consumers feel less responsible for their own actions and reduce self-control (Garcia, Weaver, Moskowitz, & Darley, 2002; Van Dellen & Baker, 2011). When a tempting product is humanized (e.g., adding eyes and mouth to a cookie), it is imbued with agency and the ability to shoulder some of the responsibility for consumers' actions, resulting in less feelings of conflict related to giving in to temptation (e.g., eating the cookie; Hur et al., 2015). When undergraduates with strong dieting goals were asked to think of Krispy Kreme coming



to life as a person, they were less likely to report feeling conflicted about eating unhealthy Krispy Kreme doughnuts relative to those who did not anthropomorphize the brand. When the consumer is trying to “fight” the (tempting) product, he or she is more likely to lose the fight to an anthropomorphized product because imbuing it with agency causes consumers to lose some autonomy over their actions, and this lowers their perceived responsibility when giving in to temptation.

5.3 | Trust issues

Given that companies and consumers alike are primarily out for themselves in the highly competitive marketplace, interpersonal trust is rarely assumed and needs to be established. When products are anthropomorphized and imbued with their own goals and intentions, interpersonal trust becomes an important input that helps consumers decide whether they can rely on a product to have good intentions or if they must remain suspicious of its motives. Depending on what human characteristics become salient, anthropomorphism can either discourage or encourage consumers to be more trusting of a product's claims and actions. If anthropomorphizing a recommendation agent makes consumers feel like they are being surveilled, consumers can become suspicious and distrustful (Puzakova, Rocereto, & Kwak, 2013). In addition to eliciting negative feelings toward the recommendation agent and lowering evaluations, this sense of being scrutinized drives consumers to resist any attempts to solicit personal information. Therefore, customers who are asked to share personal information with the brand through interaction with an anthropomorphized agent are likely to feel uneasy at this intrusion by the humanlike entity and evaluate the brand negatively.

In contrast, when anthropomorphism endows a technological product with mindfulness and competence, trust can be enhanced, which increases the expectation that the anthropomorphized product will do a better job than one working mindlessly (Waytz et al., 2014). When a self-driving car was highly anthropomorphized in a driving simulation (e.g., named Iris, spoke in a conversational tone), undergraduates trusted it more, liked it more, and blamed it less for an accident than a self-driving car that was not anthropomorphized. This research is very timely in that it highlights the important relational consequence of endowing technology products with humanness: the idea that we trust these products even more to be able to deliver on the jobs they are designed to do in the first place. Consumers seem to be quite willing to give up their own agency when interacting with these anthropomorphized technological agents, allowing them to take charge of their lives and act with impunity.

A majority of the research in anthropomorphism has contrasted the effect of anthropomorphizing a nonhuman entity like a product or brand with the effect of the same entity when it is not anthropomorphized. An interesting departure from this is research by Touré-Tillery and McGill (2015) that juxtaposes anthropomorphized entities with actual humans by studying the extent to which human versus anthropomorphized messengers are seen as trustworthy in the context of ad-message persuasiveness. People who

are dispositionally low in interpersonal trust consider humans to be ill-intentioned and are generally skeptical of them. Because anthropomorphized messengers are not fully human, people low on trust are less skeptical of anthropomorphized entities, show greater trust, and see them as being more persuasive compared with their human counterparts. Further, the effect is mediated by perceived messenger goodwill. Attentiveness exacerbates the effect, with high-trust people liking the human messenger even more and low-trust people liking the human messenger even less compared with the anthropomorphized messenger. As with the Waytz et al. (2014) paper, this paper highlights the trust that people seem to put in anthropomorphized agents, potentially giving in too easily to whatever these agents have to “sell.”

6 | WHAT'S NEXT FOR ANTHROPOMORPHISM?

6.1 | Competition vs. Connection

Although consumer behavior research has delineated what factors loom large when people interact with anthropomorphized entities, exactly when and why people may view anthropomorphized entities as adversaries rather than supportive allies remains unclear. It seems paradoxical that anthropomorphized brands and products can at times be strong sources of social support and comfort, but at other times be perceived as threatening adversaries out to take advantage of people's weaknesses and take away their autonomy. Examining research distinguishing between the two fundamental dimensions of social cognition may hint at some important moderators (Abele & Wojciszke, 2014). On the one hand, a communal orientation aligns with the connection dimension, both emphasizing the pursuit of belongingness and strong social relationships. On the other hand, an agentic orientation aligns with the competition dimension, both emphasizing the pursuit of personal interests even at the costs of others' needs. Consumers vary in how much they value and focus on communion versus agency in their day-to-day lives (Abele & Wojciszke, 2014). Cross-culturally, collectivistic cultures emphasize attending to others and maintaining harmonious relationships whereas individualistic cultures emphasize attending to the self and maintaining one's own independence (Markus & Kitayama, 1991). Similar differences have been noted in terms of gender, whereby women are socialized to be kind and nurturing whereas men are taught to be dominant and aggressive (Eagly & Steffen, 1984).

In addition to shaping the types of naïve theories applied to understanding anthropomorphized entities (as discussed earlier), differences in communal and agentic orientation may also shape whether anthropomorphism elicits behaviors related to connection or competition. With their focus on communion, collectivist and female consumers may be naturally more inclined to use social cues and more readily connect with anthropomorphized brands. However, one could also make the opposite prediction such that these consumers being more socially connected already may not be as responsive to social messages from anthropomorphized entities

because they are less likely to feel lonely and to desire additional interpersonal connection. With their focus on agency, individualistic and male consumers may be more likely to perceive anthropomorphized entities as adversaries that can potentially threaten their autonomy and exploit their weaknesses. They may also be more sensitive to competitive factors (e.g., power dynamics) that can threaten their ability to pursue personal goals. In addition to enriching our understanding of anthropomorphism in general, identifying differences in how consumers relate to anthropomorphized entities across cultural and gender differences can help marketers segment and position their brands more effectively.

6.2 | Anthropomorphism on a continuum

The consumer research to date has done much to explain what happens when consumers anthropomorphize nonhuman entities, but this area of research is still relatively young and would greatly benefit from a deeper conceptual understanding of this phenomenon. Though they do not directly examine the intuition, prior researchers have suggested that anthropomorphism may occur on a continuum that ranges from being shallow and based on human schema to being rather deep and based on mind attribution (Aggarwal & McGill, 2017; Guthrie, 1993; Kim & McGill, 2011). At the more superficial level, imbuing brands and products with observable human traits may activate human schemas that structure how consumers interpret information about anthropomorphized entities. This surface-level anthropomorphism may be the driver behind the effects discussed in the Comprehension section. Consumers readily detect and interpret facial features in products that match their schemas for human faces. Similarly, the presence of human features may activate naïve theories of human behavior that are applied to interpret the behaviors of entities that are difficult to understand, such as the stock market or new brands.

However, anthropomorphism may sometimes suggest deeper human mental states that go beyond surface-level similarity between objects and people. Thus, Waytz, Morewedge et al. (2010) show evidence of people ascribing the powers of mind to nonhuman entities—for example, to possess agency and intent. When nonhuman entities are seen as having humanlike mental capacities, consumers apply social expectations and beliefs to such entities. To fulfill belongingness needs and inoculate against pain, people must perceive anthropomorphized entities as possessing empathy, kindness, and the intent to care for the ailing consumer. When anthropomorphized entities are capable of experiencing pain and suffering, consumers are more reluctant to cause them harm, as may be the case when replacing old products or complying with prosocial requests. This deeper attribution of mind may also play a key role in the research discussed in the Competition section. Here, consumers view anthropomorphized entities as active participants in the consumption experience, with their own desires that may conflict with those of the consumer. To thwart consumers' goals and threaten their autonomy, consumers must perceive anthropomorphized entities as having their own goals and the ability to assert their own will over the situation.

Another way to approach the varying depths of anthropomorphism is to consider the different ways in which it is manipulated. Although past research has combined multiple manipulations and used them interchangeably, there are qualitative differences suggesting that not all manipulations do the same thing. Visual characteristics that approximate a human face or body (e.g., a smiling car; Aggarwal & McGill, 2007) or human behaviors (e.g., a bottle of juice reclining on a chair; Puzakova et al., 2013) may activate more shallow levels of anthropomorphism related to human schemas. In contrast, describing an entity as having agency and its own goals (e.g., skin cancers make up a crime family that attacks people; Kim & McGill, 2011) reflects a deeper attribution of mind that may bring to prominence the underlying intentions of the anthropomorphized entity toward the consumer. Asking participants to imagine a brand has come alive and think about the brand's personality and appearance (Aggarwal & McGill, 2012) might activate both levels, depending on whether participants choose to focus on personality (mind) or physical appearance (schema). Another common manipulation is to have the anthropomorphized entity speak in the first person (e.g., "Hi! I am Lexus"; Aggarwal & McGill, 2007). By directly addressing the consumer, this manipulation may make interpersonal interactions and the associated social norms and concerns more salient for consumers, which may also lead to deeper attributions of mind.

From giving brands a humanlike name (e.g., Mr. Clean and Alexa), to adding brand mascots and brand characters (e.g., Pillsbury Doughboy and Michelin Man), to modifying product shape to look more humanlike (e.g., the Pom bottle shape and the smiling VW Beetle car), marketers employ many different ways to endow their products and brands with humanity. Understanding not just the effectiveness of these anthropomorphizing strategies but also the subtle ways in which these may lead to different responses from consumers can have direct implications for how marketers develop their branding strategies.

6.3 | Human vs. Artificial minds

With recent advances in technology and artificial intelligence (AI), consumers are increasingly encountering nonhuman entities that can approximate behavior and thought patterns that are unprecedentedly close to those of humans. Although both are capable of making complex decisions, consumers do view artificial minds as distinct from human minds. They expect artificial minds to be highly competent and close to perfect in executing calculable tasks and making predictions (Dzindolet, Peterson, Pomranky, Pierce, & Beck, 2003; Parasuraman & Manzey, 2010). Relative to a human's advice, people believe a computer agent's advice is more rational and are less likely to verify its recommendations (Bahner, Huper, & Manzey, 2008; Dijkstra, Liebrand, & Timminga, 1998; Singh, Molloy, & Parasuraman, 1993). However, once an artificial mind makes an error, people lose trust dramatically (Madhavan, Wiegmann, & Lacson, 2006) and are less likely to choose an AI-powered forecaster over a human forecaster, even if the human is twice as likely to err than AI (Dietvorst, Simmons, & Massey, 2014). Artificial minds are further perceived to lack the human ability to



experience pain and pleasure (Gray et al., 2007), and therefore cannot be trusted to make moral decisions (Bigman & Gray, 2018).

Our review of anthropomorphism research suggests two possible avenues for enhancing consumers' willingness to use and rely on AI. First, given that anthropomorphism can enhance perceptions of a nonhuman entity's warmth and ability to experience pain and suffering (Epley & Waytz, 2010; Herak, Kervyn, & Thomson, 2019; Waytz, Morewedge et al., 2010), making an artificial mind appear more human and imbuing it with human traits like empathy and vulnerability could potentially compensate for this perceived lack of experience and feeling. Initial research suggests that humanizing automated decision aids is useful in combating people's aversiveness to relying on artificial minds following errors (De Visser et al., 2016). In one study, an automated advisor was humanized by featuring a video of a man saying phrases like "Let me think" while the computer presumably came up with a recommendation. Relative to a non-anthropomorphized advisor that communicated through blinking lights and beeping sounds, college students indicated less dramatic drops in trust in the anthropomorphized advisor as it became less reliable.

Because technology has the capability to create robots that can express emotions, recognize social cues, and embody other uniquely human traits (Breazeal, 2003; Breazeal & Aryananda, 2002), anthropomorphism may be one way to make consumers more comfortable with artificial minds. However, traits related to emotions and morality tend to be strongly essentialized and perceived as fixed and difficult to change (Haslam, Bain, Douge, Lee, & Bastian, 2005; Haslam, Bastian, & Bissett, 2004), so seeing artificial minds display these characteristics may be strange for consumers (Gray & Wegener, 2012). Robots that are too similar to actual humans in physical appearance can be aversive and make consumers uncomfortable (Mende, Scott, Van Doorn, Grewal, & Shanks, 2019; Mori, 1970). Compared to human service providers, robots designed with human features (e.g., face, arms) elicit greater feelings of unease and discomfort in consumers, driving them to cope with compensatory behaviors (Mende et al., 2019). In fact, reminding consumers that these humanoid robots are nonhuman machines can reduce coping behaviors, suggesting that anthropomorphism plays a key role in consumer discomfort toward humanoid robots. Thus, anthropomorphism may not always make consumers more comfortable with relying on artificial minds, especially those designed to replace humans, but it remains to be explored where and under what circumstances this occurs.

Second, in addition to making AI appear more human and more capable of compassion and experience, perhaps another important part of making AI more acceptable to consumers is to change the context in which consumers interact with anthropomorphized AI. Some of the apprehension surrounding the reliance on AI may stem from the competitive nature of the commercial context where consumers often encounter products powered by AI. AI is perceived as highly competent, but it is also perceived as lacking the ability to experience pain and suffering and therefore unable to appreciate these experiences when assisting humans (Gray et al., 2007). The prospect of relying on AI that in some ways is more sophisticated than the human mind (e.g., memory, performing complex calculations) but in other

ways quite lacking (i.e., feeling love, pain) can be especially scary and disconcerting if it is within a context where everyone (including AI) is out for themselves. This concern may be amplified when AI is perceived as possessing its own goals and intentions and the stakes are high, such as when consumers consider autonomous vehicles, robo-investors, and algorithm-based medical decision making.

Taking consumer-AI interactions out of the competitive, commercial context and situating these interactions in a more communal setting may help consumers be more accepting and willing to rely on AI to help them achieve their goals. For instance, poor relative to rich consumers provided more favorable evaluations and indicated higher willingness to pay for an app created by a company that valued and supported those with limited financial resources (Kim & McGill, 2018). In such communal contexts, consumers may even readily embrace AI-powered robots as social companions and go as far as preferring them over human companionship because robots can provide a sense of support and affection without the demands for reciprocation (Turkle, 2010).

7 | CONCLUSION

Consumer research in anthropomorphism has come a long way in the past decade. This short and recent period of investigation is all the more surprising given how commonplace it is for marketers to imbue their brands and products with human traits and for consumers, prompted or on their own, to see brands and products as possessing some degree of humanity. Going forward, it will be important for researchers to go beyond incremental projects that look at yet another context or product where anthropomorphism has an effect, although this work may still uncover useful insights. Even more, researchers may wish to take a more thoughtful approach by focusing on developing theories that give us deeper insights into the role of humanness in marketing and the subtle ways in which different forms of anthropomorphism manifest and affect behavior. This work coincides with work in social psychology on the antecedents and consequences of anthropomorphism but offers a distinct contribution by exploring the sometimes indulgent and sometimes dangerously competitive world of consumption. Both lines of research may shed light on the question that has long intrigued psychologists and philosophers alike: What does it really mean to be human?

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