The Influence of Anthropomorphism on Choosing Multiple Products From an Assortment

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This research finds that anthropomorphism (vs. non-anthropomorphism) leads consumers to choose a whole set of products from an assortment, even at the cost of including less-preferred options. This effect occurs because anthropomorphism promotes a holistic thinking style, which is good at identifying relationships between objects.

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New Perspectives on Anthropomorphism: Examining the Role of Anthropomorphism in Financial Decision-Making and Consumer Welfare
Chair: Eric Levy, University of Cambridge, UK

Paper #1: Is Money Worth Saving? Money Anthropomorphism Increases Saving Behavior
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Paper #2: Beauty (Value) Is in the Eye of the Beholder: How Anthropomorphism Affects the Pricing of Used Products
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Marina Puzakova, Lehigh University, USA
Hyokjin Kwak, Drexel University, USA
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Paper #3: Moral Identity and Brand Anthropomorphism
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Sara Kim, University of Hong Kong, Hong Kong
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Paper #4: The Influence of Anthropomorphism on Choosing Multiple Products from an Assortment
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SESSION OVERVIEW
The purpose of this special session is to present research offering fresh theoretical perspectives and novel empirical contexts examining anthropomorphism in consumer behavior. The four papers are well-grounded in theory, and related in their focus on implications for consumer welfare and financial decision-making more specifically-areas that have been largely overlooked in empirical studies of anthropomorphism. We believe that this session would be of interest to researchers studying anthropomorphism, financial decision-making, and consumer welfare more generally. We think that the session will stimulate discussion among researchers in these subjects, and that the four papers will provide new ideas for future research in anthropomorphism and related areas.

The first paper by Wang, Kim, and Zhou finds that when money is anthropomorphized, people will save more money rather than spend it. This research has important implications for consumer financial decision-making and welfare, since it suggests that anthropomorphizing money might be an effective way to get people to save more money. Consumers do not save enough money, particularly in the United States where credit scores and spending continue to rise (Camara 2012). It is estimated that over 85% of Americans would be in immediate financial difficulty if they lost their jobs or had to deal with any other crises (Jones 2015). Accordingly, a lot of research has been devoted to developing effective interventions to help consumers to reach their optimal saving levels (Ersner-Hershfield et al. 2011; Soman and Cheema 2011; Soman and Zhao 2011; Ulkumen and Cheema 2011). However, previous research on money saving usually treats money as an object or an instrument. In this research, we focus on a seemingly simple psychological shift in construing money—namely, anthropomorphizing money. Specifically, we examined whether imbuing money with humanlike characteristics can impact the amount of money consumers are willing to save.

The current research suggests that anthropomorphizing money leads people to perceive money as having the capacity to feel and sense (Gray, Gray and Wegner 2007); thus, anthropomorphized money is perceived to be capable of benefiting from good or suffering from evil (Gray, Young, and Waytz 2012). Consequently, compared to objectified money, anthropomorphized money is perceived to be more sensitive to harm and thus to be more vulnerable (Dijker 2010; Gray and Wegner 2009), which activates consumers’ protective tendency. Therefore, we argue that money anthropomorphism would significantly increase consumers’ saving intention, as consumers will attempt to protect anthropomorphized money from potential harm.

In conclusion, these four papers provide novel theoretical viewpoints and empirical contexts for examining the relationship between anthropomorphism, financial decision-making, and consumer welfare.

Is Money Worth Saving?
Money Anthropomorphism Increases Saving Behavior

EXTENDED ABSTRACT
Consumers do not save enough (Kotlizoff, Spivak, and Summers 1982), particularly in the United States, where credit scores continue to rise (Camara 2012). It is estimated that over 85% of Americans would be in immediate financial difficulty if they lost their jobs or had to deal with any other crises (Jones 2015). Accordingly, a lot of research has been devoted to developing effective interventions to help consumers to reach their optimal saving levels (Ersner-Hershfield et al. 2011; Soman and Cheema 2011; Soman and Zhao 2011; Ulkumen and Cheema 2011). However, previous research on money saving usually treats money as an object or an instrument. In this research, we focus on a seemingly simple psychological shift in construing money—namely, anthropomorphizing money. Specifically, we examined whether imbuing money with humanlike characteristics can impact the amount of money consumers are willing to save.

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A pilot study examined consumers’ natural tendency to anthropomorphize money, their general tendency to anthropomorphize non-human entities and their saving intention. Correlation analy-
ses showed that consumers’ natural tendency to anthropomorphize money was positively correlated with saving intention, whereas their general anthropomorphism tendency was not. In the main studies, we manipulated money anthropomorphism to test its causal effect on saving intention and behaviors; more importantly, we also sought to understand the psychological process that mediates this causal relationship, as well as some boundary conditions in which this relationship does or does not emerge.

In Study 1a, the money anthropomorphism manipulation followed Aggarwal and McGill (2012), in that participants were instructed to imagine that money had come to life as a person and to describe the sort of person money would be. Study 1A showed that participants were more likely to save a higher percentage of their income when they anthropomorphized it than when they construed it as an object or when they anthropomorphized a financial institution (e.g., a bank). Participants who construed a financial institute as a human were more likely to save their income than participants who construed money as an object.

In Study 1B, we used a different method to manipulate money anthropomorphism, in which participants were instructed to imagine that money had come to life as a person and think about what type of personality money would have. They rated money’s personality on five bipolar scales representing the Big Five personality traits (Gosling, Rentfrow and Swann Jr. 2003). To strengthen the manipulation, participants were also asked to describe what type of face money would have based on the personality they had described. Study 1B replicated study 1A’s findings with a different population.

In study 2, we used the same money anthropomorphism manipulation as Study 1b, but we used a different measure of saving intention and measured the perception of vulnerability associated with money to test the underlying mechanism for the positive effect of money anthropomorphism on saving intention. A mediation analysis showed that the effect of money anthropomorphism on participants’ intention to save money was mediated by increased vulnerability perception of money. That is, money anthropomorphism led people to consider money to be more vulnerable and thus made them more likely to protect it by saving it.

Study 3 examined a boundary condition for the money anthropomorphism effect. We hypothesized that when saving was construed as an unsafe option, saving money would not be an ideal way to protect money, and money anthropomorphism would not increase saving intention. Half of the participants were led to construe money saving as an unsafe option. Specifically, they read a news article that described a retirement account as not safe. The other half read a news article about food safety (i.e., control condition). The results revealed a significant interaction between money anthropomorphism and manipulation of perceived safety of saving money. Specifically, money anthropomorphism increased saving intention in the control condition, replicating the finding in the previous studies, but money anthropomorphism did not increase saving intention when participants construed saving money as an unsafe option.

Study 4 measured participants’ real saving plans. Specifically, we contacted students from a list of students who had received a scholarship to business school. Right after participants received the scholarship, they completed a survey in which we implemented money anthropomorphism and measured their saving and spending plans for the scholarship. The results showed that participants indicated a higher saving intention after construing money as a human and allocated a higher percentage of their scholarship to saving compared to participants who construed money as an object. In the last week of the semester, we contacted the students again and asked them to recall their actual spending of their scholarship money. The results showed that participants actually kept their saving plan and saved more money when they construed money as a human rather than as a mere object.

Beauty (Value) is in the Eye of the Beholder: How Anthropomorphism Affects the Pricing of Used Products

**EXTENDED ABSTRACT**

Marketers often strategically use anthropomorphism (i.e., imbuing nonhuman objects with humanlike characteristics; Aggarwal and McGill 2007) as a brand positioning strategy for their products and services. Overall, prior work in the area has shown the impact of brand anthropomorphization at different stages of brand relationship development and maintenance—on brand evaluations, consumer-brand interactions, and the relationship duration processes (Chandler and Schwarz 2010; Puzakova, Kwak, and Rocereto 2013). However, what is still missing from this past work is an understanding of the impact of brand anthropomorphization on consumer decisions after the relationships with the brand have dissolved. In this research, we fill this important gap by examining the impact of brand anthropomorphization on the valuation (selling vs. buying prices) of used products, the novel context in which consumer-brand relationships end with a pre-owner’s decision to dispose of a used product. Therefore, the present research aims to make a critical contribution to prior work on the endowment effect by showing that buyers and sellers are both influenced by the same factor, namely, brand positioning strategy.

Prior research in anthropomorphism demonstrates that consumers are more likely to develop stronger emotional connections and experiences with humanized (vs. nonhumanized) brands (Chandler and Schwarz 2010). Here, we posit that even after consumers decide to end their brand relationships, they will have stronger self-brand connections to the products when they are humanized (vs. nonhumanized) leading to higher product valuations and, thus, higher product selling prices. Next, we build on research demonstrating that during the relationship dissolution stage, individuals become particularly concerned with extending themselves in time and being connected to their past (Richins 1994). More specifically, we rely on prior research showing that consumers with more positive (vs. less positive) attitudes toward the past develop greater attachments to objects and people present in their past. Thus, we propose that sellers’ more positive attitudes toward the past are likely to facilitate their emotional connections to brands when they are anthropomorphized (vs. nonanthropomorphized), thus, resulting in higher selling prices for used products.

Next, in the buyer context, we propose a new social schema—relationship-dissolution-stigma—that buyers are likely to apply toward anthropomorphized brands while setting their prices for used products. In general, stigma is defined as an attribute that makes an individual to be perceived as deviant, less desired, and socially discredited (Goffman 1963). For example, past research delineates that people stigmatize others who ended their relationships (e.g., divorce, separation). Prior research indicates that divorced people tend to suffer from “informal, relational sanctions” and are perceived as less desirable as partners for new relationships (Konstam et al. 2016). Given that consumers also end relationships with their brands (Fournier 1998), we propose that buyers are likely to stigmatize anthropomorphized used products by perceiving them as “rejected” by a pre-owner, potentially unacceptable for other people, and as being responsible for relationship dissolution. Thus, an application of relationship-dissolution-stigma to an anthropomorphized (vs. nonanthropomorphized) used product is likely to decrease a buyer’s evalu-
vation of this used product, thus, resulting in lower buying prices. Furthermore, prior research suggests that the activation of stigma can be attenuated by people’s way of thinking. In particular, activating a creative mindset disrupts a reliance on stereotypical associations and results in incorporation of novel information into a decision-making process (Sassengen and Moskowitz 2005). As such, we propose that consumers with more creative mindsets are less likely to apply the relationship-dissolution stigma toward anthropomorphized used products, thus, attenuating the negative effect of brand anthropomorphization on buying prices for used products.

We tested these ideas in three studies. In each study, participants were randomly assigned to either a buying condition or a selling condition. In Study 1 (n = 120), in the seller condition, participants viewed an ad for a fictitious brand of toasters (anthropomorphized vs. non-anthropomorphized), were asked to imagine buying and owning the product for a year, and then selling it on eBay. We measured the minimum starting bid price for the product. Similarly, in the buyer condition, participants indicated the maximum price they would bid for the same used product. Study 2 (n = 124) examined the impact of anthropomorphism on buying and selling prices for a fictitious brand of juicers in the fixed-price setting (e.g., deals on Craigslist). The results of both studies showed that participants reported higher selling prices (Study 1: M_nonanth = $28.21, M_anth = $19.70; F(1,57) = 8.07, p < .05; Study 2: M_nonanth = $33.58, M_anth = $29.13; F(1,59) = 8.09, p < .05) and lower buying prices (Study 1: M_nonanth = $23.37, M_anth = $30.03; F(1,59) = 11.11, p < .05; Study 2: M_nonanth = $17.06, M_anth = $22.97; F(1,61) = 8.06, p < .05) for a humanized (vs. non-humanized) brand.

Next, in Study 3 (n = 183), in the seller condition, the results showed a significant main effect of brand anthropomorphization on selling prices (β = 10.75, p < .05) and a significant two-way interaction between brand anthropomorphization and consumers’ attitudes toward the past (β = 9.23, p < .05), thus, supporting our prediction that sellers’ attitudes toward the past moderates the core effect. In addition, we found that self-brand connection mediates the effect of brand anthropomorphization on selling prices only for respondents with more positive attitudes toward the past (a point estimate for the effect = 4.61; 95% CI = [.50, 12.73]). In the buyer condition, the results of ANOVA showed a significant main effect of brand anthropomorphization on buying prices (M_nonanth = $46.25, M_anth = $55.70; F(1,114) = 11.32, p < .05) and a significant interaction between a consumer’s mindset and brand anthropomorphization (F(1,114) = 4.11, p < .05), with anthropomorphism decreasing buying prices only for consumers with less creative mindsets (M_nonanth = $41.63, M_anth = $56.92; F(1,114) = 14.29, p < .05). Finally, relationship-dissolution stigma mediated the effect of brand anthropomorphization on buying prices only for participants with less creative mindsets (a point estimate for the effect = −1.69; 95% CI = [−4.90, −0.10]).

Overall, we find consistent evidence that brand anthropomorphization increases (decreases) selling (buying) prices of used products leading to stronger endowment effect. Our research provides novel theoretical insights into the boundary conditions of the core effects, as well as sellers and buyers’ differential psychological processes that influence prices of used products.

**Moral Identity and Brand Anthropomorphism**

**EXTENDED ABSTRACT**

Marketers frequently use anthropomorphized, or human-like representations of brands in their brand communications (Aggarwal and McGill 2007). For example, marketers can incorporate human-like facial features into their products, have a product “speak” to consumers in an advertisement, and describe a product using first-person language. Consumer researchers have made good progress over the past decade in uncovering the types of situations in which consumers will have a more positive vs. negative evaluation of anthropomorphized brands.

However, most (if not all) consumer research has considered brands simply as anthropomorphized vs. non-anthropomorphized, without investigating these perceptions more deeply. Prior research has not examined what individual or situational differences might lead consumers to consider an anthropomorphized brand as more (vs. less) human, and downstream consequences of this perception. We redress this oversight by examining the relationship between moral identity, brand humanness perceptions, and preferences for and attitudes toward anthropomorphized brands.

An influential perspective of morality holds that being a moral person involves expanding the circle of moral regard and care to include entities that extend well beyond oneself and one’s current situation (Singer 1981; 2009). For example, a highly moral person should give moral care to people in distant lands whom one may never actually meet, as well as to animals, nature, the environment, planet Earth, etc. Building on this perspective, research has shown that people higher in moral identity, defined as “a self-conception organized around a set of moral traits” (Aquino and Reed 2002), extend greater care to outgroups relative to in-groups (Reed and Aquino 2003). That is, people who place a greater importance on moral traits give more of their resources and care to social outgroups. A second major perspective on morality holds that “mind perception” is the essence of morality (Gray, Young, and Waytz 2012). Thus, individual and situational factors may impact whether an entity is perceived to have “mind” in the form of greater perceived humanness.

Based on these conceptualizations of morality, we predict that one’s moral identity should impact one’s attitudes toward and preferences for an anthropomorphized brand. Though anthropomorphized brands are not actually human, by nature they possess human-like cues and characteristics. A critical factor in evaluating whether entities are anthropomorphized is whether relevant agent knowledge is elicited (Epley, Waytz, and Cacioppo 2007); that is, whether knowledge about humans is used and applied in a particular situation. We believe that higher moral identifiers should be more likely to recognize, accept, and prefer these humanized characteristics to a greater extent than would people lower in moral identity. Formally,

**Hypothesis 1:** Consumers higher in moral identity, relative to consumers lower in moral identity, will exhibit greater preference for an anthropomorphized brand (vs. a non-anthropomorphized brand).

**Hypothesis 2:** Consumers higher in moral identity, relative to consumers lower in moral identity, will perceive an anthropomorphized (vs. non-anthropomorphized) brand to seem more human, which will mediate the interactive effect of moral identity and anthropomorphism on brand preference.

Studies 1, 2, and 3 tested H1, and studies 2 and 3 tested H2. Each of the three studies used a different form of anthropomorphism, and a different product type, to ensure the generalizability of the findings. Study 1 manipulated anthropomorphism through a 1st vs. 3rd person description of a product—“JK Battery” (manipulation taken from Chen, Wan, and Levy 2017), and measured participants’ moral identity using the Aquino and Reed (2002) moral identity scale. Results showed a significant interaction, whereby consumers higher in
moral identity displayed higher purchase intentions for the anthropomorphized (vs. non-anthropomorphized) brand. Interestingly, there was a negative main effect of anthropomorphism, such that people overall preferred the non-anthropomorphized brand. This suggests that brand anthropomorphism may not always be beneficial, but rather that its effects may depend on situational or individual factors such as one’s moral identity.

In study 2 anthropomorphism was manipulated by having participants view either an anthropomorphized or non-anthropomorphized image of “Orange Vie” orange juice (manipulation taken from Puzakova, Kwak, and Rocero 2013). Moral identity was measured. Consistent with the results of study 1, higher moral identity was associated with higher purchase intentions and brand attitudes when the brand was anthropomorphized (vs. not). Supporting the proposed psychological mechanism, a moderated-mediation test (Hayes PROC-ESS Model 7) showed that this result was due to higher moral identifiers ascribing greater humanness to the anthropomorphized brand.

In study 3, participants viewed either an anthropomorphized picture of the “M&M’s characters” or a non-anthropomorphized picture of M&M’s candies. In the anthropomorphism condition, participants were asked to think about the M&M’s as if they had come to life as a person, while in the non-anthropomorphized condition they were asked to think about the attributes of M&M’s candy (manipulation adapted from Aggarwal and McGill 2012). Participants’ moral identity was measured. Results again showed an interaction effect, whereby higher moral identity led to higher purchase intentions and brand attitudes when the brand was anthropomorphized (vs. non-anthropomorphized). Moderated-mediation results (Hayes PROCESS Model 7) again showed that the underlying psychological mechanism was higher moral identifiers’ ascription of greater humanness to the anthropomorphized brand.

In conclusion, this research is the first to examine how moral identity affects preference for anthropomorphized brands. It is also the first research we know of to examine whether an individual difference variable affects the degree to which an anthropomorphized brand is seen as human. We found that consumers higher in moral identity preferred anthropomorphized (vs. non-anthropomorphized) brands due to greater perceived humanness of the anthropomorphized brand. These results support the proposition that mind perception is an essential aspect of morality, and also provide evidence that that higher moral identity is associated with expanding the circle of moral regard to include anthropomorphized brands.

The Influence of Anthropomorphism on Choosing Multiple Products from an Assortment

EXTENDED ABSTRACT

Anthropomorphism, defined as attributing physical features and mental capacities that are unique to human-beings to non-human agents (Epley, Waytz, and Cacioppo 2007), is commonly employed in marketing communication. Consumers often see talking cars (e.g., Ford) and chocolate candies with legs and arms (e.g., M&M’s) in commercials. Recent consumer research on anthropomorphism has primarily focused on consumers’ response to one specific product, such as consumer evaluation (Landwehr, McGill, and Herrmann 2011) and replacement intention (Chandler and Schwarz 2010) of an anthropomorphized product. But whether anthropomorphism can systematically influence consumers’ choice of multiple options from a product assortment remains an intriguing and uninvestigated question. The current research aims to fill this research gap by investigating the effect of anthropomorphism on consumers’ choice of multiple product options from the perspective of consumer thinking style. In the following sections, we first review the research background to derive our predictions and then present three studies that test our hypotheses.

Previous research suggests that the mental processes involved in thinking about human-beings govern cognition about objects when people anthropomorphize objects (Castelli, Happé, Frith, and Frith 2000; Epley et al. 2007). In order to uncover the thinking style that dominates people’s perception of anthropomorphized products, it is important to understand how people perceive other persons. Research in impression formation shows that people use both a person’s category membership and his/her particular attributes to form general impression (Brewer 1988). But the category-based process, which is more holistic and follows gestalt principles, has priority over the attribute-oriented process, which is piecemeal and elemental (Fiske and Neuberg 1990). Consistently, the person construal system theory (Freeman and Ambady 2011) suggests that people detect physical features of a target person (e.g., body cues), and integrate such cues to form a holistic impression of the target person. These findings suggest that person construal involves the attention to the whole person. Drawing on anthropomorphism and person perception literature, we predict that anthropomorphism would promote holistic thinking style, which distributes attention to the whole (Nisbett and Choi 2001), in contrast to analytic thinking style which focuses more on the parts (Nisbett et al. 2001).

The theory of thought system (Nisbett et al. 2001) suggests that holistic thinkers have a greater tendency to draw relationships between objects. For example, holistic thinkers tend to indicate higher degrees of association between pairs of arbitrary objects, and they are good at connecting objects together (Ji, Peng, and Nisbett 2000). Marketing researchers have documented that holistic thinkers (vs. analytic thinkers) tend to perceive closer relationships between the parent brand and an extension, and also perceive higher brand extension fit (Monga and John 2007). That is, holistic thinkers are more likely to see the parent brand and the extension as an entity. We therefore predicted that holistic thinkers would be more likely to see all the product options as an entity, which in turn promotes the choice of all the product options. To test our predictions, we examined the effect of anthropomorphism on thinking style in experiment 1 and the downstream effect on consumers’ choice in experiments 2 and 3.

Experiment 1 tested the effect of anthropomorphism on thinking style. We first manipulated anthropomorphism by asking participants to write down their thoughts of a laptop computer either as a person or an object (Aggarwal and McGill 2012). After that, we measured participants’ thinking style by asking participants to complete the locus of attention scale (Choi, Koo, and Choi 2007) which is commonly used to assess holistic (vs. analytic) thinking style. We found that participants in the anthropomorphized (vs. non-anthropomorphism) condition tend to think more holistically.

Experiment 2 tested the effect of anthropomorphism on consumer choice. In particular, we examined consumer choice of products from an assortment. Participants first read a hypothetical scenario in which they shop around and find yogurts with four different apple flavors (i.e., red delicious, golden delicious, yellow transparent, and cripps pink). We followed the same method in experiment 1 to manipulate anthropomorphism. To measure consumer choice, we first asked participants to assume that they tried the sample of each flavor and form different preference scores for the four flavors (i.e., 4 for red delicious and yellow transparent; 6 for grimes golden and cripps pink; 1 = do not like the flavor; 7 = like the flavor very much). Then the participants were informed that retailer offers a promotion package (with special discount) containing four packs of yogurts, and that they can choose any combinations of flavor for the four
packs. For example, they can form the promotion package by choosing one pack of each flavor, or four packs of the same flavor, or two packs of one flavor plus two packs of another flavor. Results of this experiment revealed that participants in the anthropomorphism (vs. non-anthropomorphism) condition were more likely to choose the whole set of yogurts (i.e., putting one pack of each flavor in the promotion package).

Experiment 3 aimed to replicate the results of experiment 2 and to reveal the mechanism by measuring the mediator (i.e., holistic thinking). The procedure was the same as experiment 2 except the following two changes. First, we changed the four yogurt flavors to vanilla, coffee, strawberry, and mango. We asked participants to base their choice on their intrinsic preference for the four familiar flavors, rather than assume preference for the unfamiliar flavors used in experiment 1. Second, we measured participants’ holistic thinking of the yogurts to reveal the underlying process. Results of experiment 3 suggested that participants in the anthropomorphism (vs. non-anthropomorphism) condition were more likely to choose the whole set of yogurts by including their less preferred flavors. A mediation analysis confirmed that the effect was mediated by holistic thinking. The findings contribute to the literature by documenting a novel effect of anthropomorphism and by revealing the psychological process underlying this effect. And it advances the understanding of consumers’ choice of multiple options from an assortment.

REFERENCES


