The Variation of Consumer Anthropomorphism across Cultures

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Abstract

Over the last 8 years, marketing research has begun to empirically probe consumer anthropomorphism or instances when consumers treat a product as human in one or more ways. Though theories of anthropomorphism commonly recognize that the phenomenon varies across cultures, no empirical effort in marketing or any other discipline has demonstrated this. The present research conducted a survey in India and the United States regarding four products commonly owned by students. The results demonstrated that for Indian consumers, product anthropomorphism is more commonplace, but less influential on their product evaluations as compared to American consumers.

Keywords: **anthropomorphism, cross-cultural, India, USA**

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In the past 8 years, anthropomorphism (i.e., the imbuing of non - human agents with humanlike characteristics; Epley, Waytz, & Cacioppo, 2007) has received a surge in empirical investigations in psychology and marketing. Psychology research has found support for an antecedent model of why individuals engage in anthropomorphism (Epley et al., 2007 ; Epley, Akalis, Waytz, & Cacioppo, 2008 ; Epley, Waytz, Akalis, & Cacioppo, 2008 ; Waytz, Morewedge, Epley, Monteleone, Gao, & Cacioppo, 2010), while marketing research has shown that anthropomorphism has an influence on evaluations of a product (e.g., Aggarwal & McGill, 2007 ; Delbaere, McQuarrie, & Phillips, 2011; Hart, Jones, & Royne, 2013) and behavioral intentions toward it (e.g., Chandler & Schwarz, 2010). Consumers seem especially prone to anthropomorphizing more complex products (Hart et al., 2013). However, despite the increase in empirical research and an often-theorized role of culture (e.g., Epley et al., 2007; Guthrie, 1993), there remains no empirical investigation into the cultural differences surrounding anthropomorphism. In marketing research, mention of the role of cultural context in anthropomorphism is altogether absent.

Anthropomorphism is prevalent in product designs and in advertising. For example, automotive companies utilize anthropomorphic designs to encourage consumers to see humans in their products (e.g., Aggarwal & McGill, 2007; Keaveney, Herrmann, Befurt, & Landwehr, 2012). Similarly, the world's largest advertising spenders, such as Geico and Verizon, commonly utilize anthropomorphic appeals to tap into the perceptual transformation anthropomorphism offers. Characters like Geico's gecko and Verizon's "Are we there yet?" guy invite consumers to think of these marketing entities in human terms. In many cases, these same product designs and promotional campaigns are carried across cultural boundaries, such as the case with the Michelin Man who has seen numerous recreations in European and Asian ad campaigns. Nonetheless, there are important,

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unanswered, questions that arise when anthropomorphic marketing practices are transplanted into another culture.

Principally, are these campaigns equally, more, or less effective across cultures? Is there a difference in the propensity to anthropomorphize an entity? Is there a difference in the influence of anthropomorphism? If evidenced, what is the nature of this (these) difference(s)? These questions are valuable in exploring the psychological mechanism that underlies anthropomorphism and are critical in understanding how marketing practitioners can apply anthropomorphism in a global market.

To explore these questions, a study involving four products was conducted in America and India. The present study evidences substantial cultural differences in consumer anthropomorphism, lending empirical support to many anthropomorphism theories that have anticipated a cultural role. However, the nature of these differences is surprising and could mean trouble for the unprepared global marketer planning to utilize anthropomorphism either in product design or in advertising. It is shown that as compared to an American sample, anthropomorphism is more commonplace, but less influential on product evaluations for an Indian sample. The theoretical explanation for these contrasts and implications for marketers are discussed.

Anthropomorphism and Marketing

Though centuries old (Lesher, 2001), the subject of anthropomorphism has remained mostly a topic of philosophical debate (e.g., Guthrie, 1993; Kennedy, 1992) rather than empirical investigation. Since that time, anthropomorphism has come to be researched in dozens of scientific fields such as primatology, robotics, psychology, and marketing. The present study will briefly review the different perspectives on anthropomorphism, the neurological studies surrounding it, and marketing research's effort to understand it.

In many instances, anthropomorphism is seen as a categorical mistake (Piaget, 1929) that is often problematic (e.g., Fisher, 1990, 1991). However, the predominant perspective is that anthropomorphism is a useful inferential tool that as humans, we cannot help but inevitably use. In particular, it has been found that individuals are driven to anthropomorphism because they are primed with human schema, lonely, or motivated to be effective (Epley et al., 2007). In some cases, anthropomorphism has been linked to improved recall for a stimulus (e.g., word stimulus; Blanchard & McNincth, 1984). Though, at one time, anthropomorphism was thought to go extinct as we grow older, current research recognizes that it continues throughout life (Epley et al., 2007). In this regard, anthropomorphism can been seen as relevant to all consumer groups, across all product categories.

Though it may appear that anthropomorphism is merely the use of a human metaphor, there is a reason to believe that the human metaphor is of special influence. In particular, it has been shown that when anthropomorphizing an entity, there are changes in neurological activity in such a way that areas of the brain normally associated with mentalizing other humans are activated (Gazzola et al., 2007; Harris & Fiske, 2008). Anthropomorphism does not merely influence consumer thought, but rather, influences how consumers think. When thinking of a non - human entity as human, pragmatic, and objective, cognitions are shifted to social cognitions (Chandler & Schwarz, 2010). Considering these neurological studies, anthropomorphism is shown to offer marketers a transformative opportunity to influence consumer perception of goods, services, or brands.

Marketing research's empirical investigation of anthropomorphism began with Aggarwal and McGill (2007), who found that product designers could utilize anthropomorphism to potentially impact consumer evaluations of a product. Since that time, other studies have shown that anthropomorphism can increase the personal value of a product (Hart et al., 2013), reduce risk perceptions toward it (Kim & McGill, 2011), and increase intentions to retain it (Chandler & Schwarz, 2010). In the context of advertising, Delbaere et al. (2011) found that anthropomorphic appeals can potentially improve consumer evaluations of the advertisement and product. In total, these efforts have demonstrated that anthropomorphism is a valuable tool for marketers.

The origins of anthropomorphism come from the travels of a philosopher throughout the ancient Greek kingdom (Lesher, 2001). Across each of these cultures, there was a common tendency to think of higher powers in human terms similar to themselves. In other words, the God concepts of ancient Greece differed across cultures because these concepts were themselves based on cultural ideas and values from whence they sprang. Recent influential work from psychology similarly suggests that, "some cultures seem particularly fond of anthropomorphic descriptions compared to others" (p. 55, Epley et. al, 2007). It is anticipated that anthropomorphism varies across cultures in much the same way as self-concepts vary across cultures (Epley et al., 2007; Moore & Berger, 2015), where they are inextricably linked to the environment in which they are formed.

Cultural norms of how people relate to one another and the objective world can ,therefore, be expected to weigh heavily on individual anthropomorphic tendencies. It is reasoned that with fewer distinct cognitive representations of non - human entities (i.e., cars, computers, etc.), there is a greater likelihood of thinking of the entity in human terms (Epley et al., 2007). For instance, children in industrialized countries were found to anthropomorphize animals (Carey, 1985) ; while, children from less developed, rural areas anthropomorphized animals comparatively less (Atran, Medin, Lynch, Vapnarsky, Ek, & Sousa, 2001; Ross, Medin, Coley, & Atran, 2003). These studies demonstrate that children who are exposed to animals frequently have distinct mental representations for these animals and ,therefore, are less likely to apply a human metaphor to understand the animal. In a similar vein, anthropomorphism theorists have suggested that compared to the citizens of industrialized countries, who frequently come into contact with complex objects such as cars or computers, citizens of non-industrialized countries will be more likely to utilize anthropomorphic thinking when reasoning about these same entities (Epley et al., 2007). In combination, there is an anticipation that compared to American students who are frequently exposed to complex product information, Indian students will utilize anthropomorphic representations to a greater extent. Therefore, we advance :

★ **H1:** Indian students will anthropomorphize commonly owned products to a greater extent than American students.

Anthropomorphism has been repeatedly shown to influence evaluations of a product. However, this influence is likely to be stronger when the consumer is more apt at utilizing anthropomorphic thinking. Support for this notion comes from recognizing the perceptual fluency advantages that anthropomorphism offers consumers who are unfamiliar with a product. Thinking of a product in familiar human terms can relax perceptual challenges that come with thinking of a product in its own distinct representation. This preference for easy stimulus processing, or processing fluency (Lippincott-Schwartz, Yuan, Tipper, Amherdt, Orci, & Klausner, 1991 ; Singh & Sapre, 2015) has been shown to affect individual preferences (Bornstein & D'Agostino, 1992; Zajonc, 1968), and evaluations (Alter & Oppenheimer, 2008) independent of context (Lippincott-Schwartz et al., 1991). Just as anthropomorphism offers perceptual fluency to all consumers wanting to place a stimulus into a more familiar representation, it should be of greater advantage to those most familiar with the application of human representations to non - human entities.

In the context of the present study, anthropomorphism would offer more perceptual fluency to Indian consumers, as these consumers utilize anthropomorphic thinking more often than American consumers and ,therefore, experience a greater advantage in the perceptual fluency of such metaphoric reasoning. Offering greater perceptual fluency, anthropomorphism will be associated with a greater influence on product evaluations for Indian students compared to American students. Therefore, we hypothesize:

★ **H2:** Anthropomorphism of a product will be of greater influence on personal value for Indian students as compared to American students.

Methodology

(1) Procedure : A questionnaire was distributed on a volunteer basis in both American and Indian universities in the Fall of 2012. The questionnaire regarded four products commonly owned by students: a laptop, cell phone, USB drive, and toothbrush. For each product that a respondent owned, the respondent was given a series of questions measuring anthropomorphism of the product, the personal value of the product, how it was acquired, the cost, and the usage.

(2) Pre- Tests : To ensure product complexity, a separate sample of 44 respondents evaluated each of the four products on a single-item measure (1-7) of perceived product complexity. Results of this test supported the choice of the four products on their levels of complexity, showing a mean perceived complexity score of 1.39 for a toothbrush, 3.25 for a USB drive, 3.86 for a cell phone, and 4.25 for a laptop computer. Additionally, a question was added to the main study to determine if the participants' toothbrush was electric, in which case it was excluded from analysis.

(3) Samples : Samples were gathered at a Southern university in the United States and at a Southern university in India. Students were recruited to volunteer for a marketing research survey regarding products they owned. Students choosing to participate were given a small extra credit award while those not choosing to participate were given the option to attend class 15 minutes later than usual during the time the survey occurred. The resultant samples included 237 American students and 108 Indian students. Of the American students, whose average age was 22 years old, 57% were male. Of the Indian students, whose average age was 23 years, 61% were male.

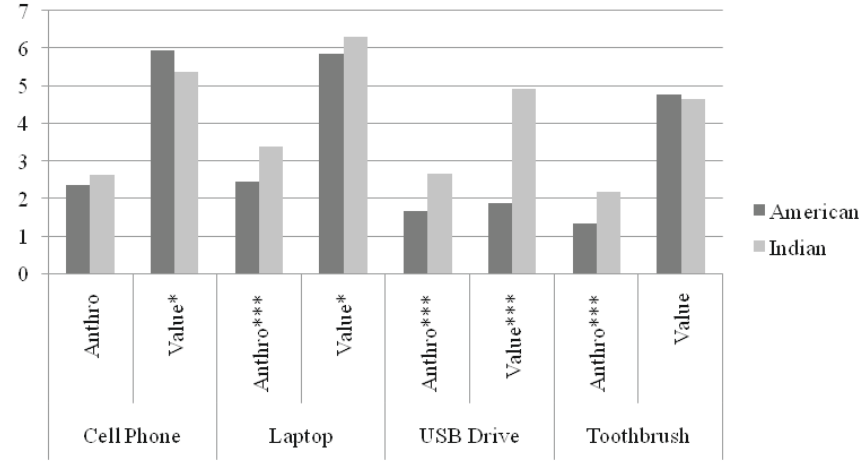
Analysis and Results

(1) Measurement : The present study measures anthropomorphism, personal value, cost, method of acquisition, and usage for four products (see Appendix A for specific items). The measure of anthropomorphism is a unidimensional measurement given by Epley, Akalis, Waytz, and Cacioppo (2008), which reflects the degree to which a non - human entity is treated as human. Personal value is measured by a single Likert-style item asking, "How much personal value do you place in your [product]?" Cost was estimated in either dollars (in USA) or rupees (in India), and later, responses in rupees were converted to dollars using current exchange rates. Method of acquisition captured whether or not the product was self-acquired. Finally, Usage was measured in the number of days each week the product was used on an average.

(2) Analysis : Initial steps were taken to calculate Mahalanobis distance to remove multivariate outliers at the $p = .1$ cut-off. This removed 12 cases from our American sample and 13 cases from our Indian sample. Reliability analysis of the study's only latent construct, anthropomorphism, shows it to have high internal consistency (α ranged from .92 to .98 depending on the product category). The subsequent analysis steps test the study's hypotheses. We conducted a series of *t*- tests comparing gender responses and found no significant results.

To evaluate the first hypothesis (H1) pertaining to Indian students anthropomorphizing each product to a greater extent, a series of paired *t* - tests were conducted. These *t* - tests support H1, showing that Indian students anthropomorphized their cell phone ($p = .123$), laptop ($p = .000$), USB drive ($p = .000$), and toothbrush ($p = .000$) more than American students (see Figure 1). Using an unprimed methodology, these results show that Indian students anthropomorphized the products they commonly owned more than their American counterparts. In the

Figure 1 . Comparing Mean Values of Anthropomorphism and Personal Values of Four Products



Note. *p< .10.**p < .05. ***p < .01

Table 1. Contrasting HLM Models Predicting Personal Value for Four Products

		Cell Phone		Laptop		USB Drive		Toothbrush	
		US β	Ind. β	US β	Ind. β	US β	Ind. β	US β	Ind. β
Step 1	Price	**.189**	.086	**.189**	**.246**	.018	.062	**.070**	.160
	Usage	**.384**	.080	**.380**	**.357**	.003	.208	**.050**	.041
	Acquisition	**.151**	**.266**	.084	.157	.046	.067	**.077**	.046
Step 2	Anthro	**.190**	.204	**.224**	.174	**.844**	.240	**.195**	.141

Note. Figures in bold are significant at p < .1 level or greater.

case of anthropomorphism of a cell phone, the difference is marginally significant at p =.123. However, given the substantial differences seen across other products and their extremely low p - values, we view these results as an overall confirmation of H1.

To evaluate the second hypothesis (H2) related to the increased influence of anthropomorphism on Indian students' product evaluations, two hierarchical linear analyses (one for each sample of students) were conducted in which the dependent variable is a personal value (see Table 1). The first level of the model entered price, usage, and acquisition. The second level entered only anthropomorphism. The results reveal that for the American students, product anthropomorphism is a significant and substantial predictor of value for each product. Surprisingly, for Indian students, anthropomorphism is not a significant predictor of value for any of the four products. In tandem, these regression analyses fail to reject the null hypothesis of H2. Contrary to our expectations, the results demonstrate that anthropomorphism is of far less influence (if any) on the product value perceptions of Indian students than for American ones.

Discussion

The findings of the present research support previously theorized differences in anthropomorphism across cultures (e.g., Epley et al., 2007; Guthrie, 1993). In particular, the present study demonstrates that the propensity to utilize anthropomorphic thinking in the marketplace is stronger in Indian students than in American students. The increased propensity in Indian consumers is reasoned to stem from the increased inferential power that

anthropomorphism may offer Indian consumers compared to American consumers, who are exposed to more product information. This implies that marketing practitioner use of anthropomorphism could be better managed with respect to culture. Anthropomorphic marketing practices may be more widely accepted in cultures with less product knowledge.

The present study did not find support for the second hypothesis (H2) regarding the influence of anthropomorphism on product evaluation. As Indian consumers were found to anthropomorphize products to a greater extent, it is all the more surprising to find that anthropomorphism is of less influence on product evaluation. It may be that the influence of anthropomorphism on evaluations is diminished in a culture where it is commonplace compared to a culture where such reasoning is rare. American students may see more value in humanlike products as such perceptions are rare when compared to the perceptions of Indian students. In the way that a friendship maybe more valuable when one has fewer relationships; so, anthropomorphism too may influence product evaluations when such metaphoric thinking is less common. To the extent that consumers may be socially motivated to engage in anthropomorphism, this possibility of less-is-more (i.e., less frequent anthropomorphism has more influence on evaluation) seems more likely, as in such a situation, there should be a diminishing return of social satisfaction from anthropomorphizing more often.

Though the present study fails to reject the second hypothesis, there remains the fact that Indian consumers are shown to be substantially more prone to engaging in anthropomorphic thinking about products. This suggests that there is value in marketing researchers uncovering how to increase the impact of anthropomorphic product designs and promotions on consumers in emerging markets like India.

The inability to reject the second null hypothesis may have been due to unexplored, moderating, or mediating factors. While anthropomorphism is a process rooted in culture, its influence on consumers' overall evaluation of a product is inevitably mediated by cognitive and affective variables yet unidentified in the scope of the present work. It should also be expected that culture may have inadvertently tapped into a moderating variable of the anthropomorphic reasoning process. For example, product knowledge, involvement, and risk aversion may all influence the magnitude of anthropomorphism's impact on product evaluations, and these variables themselves may not be equal between the American and Indian samples. Future studies could consider these and other variables in order to explain the conditions in which product anthropomorphism is of more or less influence on product evaluations.

Managerial Implications

Currently, anthropomorphic product designs, advertisements, spokespersons, and logos abound in marketing. These practices have been unanimously supported by marketing research, which thus far has suggested that anthropomorphism increases value perceptions. However, the present research suggests that managers use care when exporting anthropomorphic marketing practices across cultural borders. This warning comes from the substantial variation in anthropomorphism tendency and influence that was evidenced between American and Indian students. While these cultural variations in consumer anthropomorphism will inevitably create a global landscape that includes opportunities, there are also potential pitfalls. Until a company has a history of success with anthropomorphic marketing practices within a particular culture, managers are urged to test or pilot anthropomorphic marketing materials prior to implementing them.

Conclusion

Though marketing research has yet to consider the potential role of culture in consumer anthropomorphism, the present study finds consistent evidence for it across four products. Critically, the present results usher caution to

researchers when applying findings from anthropomorphism studies (marketing or otherwise) across cultural boundaries. Equally, this warning extends to marketers seeking to export successful anthropomorphic marketing practices from one culture to another. In particular, propensity to engage in anthropomorphic thought and the influence that results from it are both shown to differ substantially according to an individual's culture. While consumers in non-industrialized countries, such as India, may be more prone to anthropomorphism, anthropomorphic product designs and promotions may be of less influence on their product evaluations as compared to their industrialized counterparts.

Limitations of the Study and the Way Forward

While the present study takes a valuable step towards unraveling the relationships between anthropomorphism, products, and culture, there are some limitations to consider. These limitations pertain to student samples, non-validated measurements, and choosing an unprimed methodology.

The present study utilized student samples. This choice limits the generalizability of the study's results to a greater population. It is likely that students, a population subset that could be assumed to have a relatively strong desire for gaining and utilizing knowledge, may use anthropomorphic reasoning in a different frequency than other population subsets. Equally, the influence of anthropomorphic reasoning upon valuation of a product may be different between students and other population subsets. Future efforts to study cultural differences in consumer anthropomorphism could consider these possibilities.

The present study's results are potentially limited due to the measurement of anthropomorphism. Currently, there is no published, validated, and self-reported measurement of anthropomorphism. Rather, a scale was chosen that has been previously used in the context of gadgets (i.e., a context similar to the stimulus of the present study) and has been repeatedly shown in other studies to be highly reliable (e.g., $\alpha = .81$; Waytz et al., 2010). Nonetheless, it is a naïve measurement, lacking validation. This lack of systematic scale development procedures may have rendered the measurement ineffective, given our context and sample. Furthermore, it may be the case that semantic differences in the wording of the scale items may have made certain responses easier or harder for one nationality of students to endorse as compared to the other. Future research could consider this possibility as well as seek to develop a validated measure of consumer anthropomorphism.

A final limitation to consider is that of primed versus unprimed methodology. In reality, marketers seeking to actively leverage consumer anthropomorphism would most likely do so through priming anthropomorphism. For example, a promotional manager may choose to show a product engaging in human activities or speaking. However, to avoid potential confounds with specific primes, the present research chose to use an unprimed methodology wherein consumer anthropomorphism was measured absent exposure to stimuli that would encourage anthropomorphic reasoning. Therefore, these results may not be generalizable to instances where anthropomorphic presentations are involved. It may be the case that an anthropomorphic prime mitigates the presently observed cultural differences in consumer anthropomorphism. Future studies could consider this by comparing the effectiveness of a standard promotion versus an anthropomorphic one across two or more cultures. Ideally, such an exploration would again concern Indian and American consumers in order to build upon the present study's understanding of unprimed differences.

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Appendix A - Measurements

PRICE

1. What is the cost, in dollars (rupees), of your [product]?

ACQUISITION

1. How did you acquire your [product]?

- Purchased for self
- Gift
- Other

USAGE

1. How many days (0-7) of each week do you use your [product]?

ANTHROPOMORPHISM

1. To what extent does the [product] seem to have a mind of its own?
2. To what extent does the [product] seem to have intentions?
3. To what extent does the [product] seem to have free will?
4. To what extent does the [product] seem to have consciousness?
5. To what extent does the [product] seem to experience emotions?

Responses range 1-7, where 1 = *not at all*, 4 = *neutral*, and 7 = *to a great extent*