Investigating Human Infant Anthropomorphism in Products

In this paper we set out to investigate the nature and effects of infant anthropomorphism in products, i.e. products that share features of human infants. Across four studies, evidence suggests that infant anthropomorphism comprise four dimensions: sweetness, simplicity, sympathy, and smallness. We found that consumers react positively to infant anthropomorphic products but that men perceived infant anthropomorphic products as more sympathetic than do women. These findings suggest that human infant anthropomorphism is important for marketers but that their appeal is based on different factors for men and women.

**Key-words:** anthropomorphism, human infant, product design
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Humans have a predisposition to detect humanlike features, such as faces, motivations, and emotions in non-human agents, i.e. anthropomorphize (Epley, Waytz, and Cacioppo 2007). Anthropomorphism has been positively associated with product liking (cf. Aaker 1997; Fournier 1998). Previous literature on anthropomorphism has addressed it as an aggregate concept but it is likely that consumers also view anthropomorphic products in a more refined way. In this paper we set out to investigate the nature and effects of infant anthropomorphism in products, i.e. products that share features of human infants. Human infants are likely to be anthropomorphized and trigger positive reactions as various research disciplines, such as biology and psychology, suggest that both men and women react strongly and positively to so-called neotenic physical features (Morreall 1991). Furthermore, scholars recognize that this affection is not only directed towards human babies but also to adults, animals and objects in which people recognize infant-like features (Morreall 1991). In four studies, we develop a measurement scale to capture the nature of human infant anthropomorphism and study the concept’s effects on consumers.

**Study 1.** We conducted exploratory in-depth interviews (N = 10), 5 females and 5 males, to initially determine which dimensions and adjectives consumers associate with infant anthropomorphic products. The following initial dimensions emerged from the interviews: 1) smallness, 2) round features, 3) warm or pastel colors, 4) animal-like, 5) child-like, 6) femininity, 7) simplicity, 8) innocence, 9) needs to be taken care of, and 10) evokes positive feelings.

**Study 2.** The objective of Study 2 was to generate specific dimensions and items measuring infant anthropomorphism in products. To generate the dimensions and items, we used our qualitative study (Study 1) and previous literature and identified 60 items. We asked a sample of students (N = 202, 36.8 % females, M_age= 21) to indicate the extent to which the 60 items described their perceptions of the product (1 = “not at all”, and 7 = “very much so”) (example items: “gentle“, “lovable”, “sweet“, “friendly”). We followed Aaker’s (1997) recommendation for increasing the reliability of the scale and included products classified in three product categories: utilitarian (e.g. functional in nature), symbolic (e.g. self-expressive in nature) and a category of products that were both symbolic and utilitarian. The symbolic-utilitarian framework was used here and in subsequent studies as a systematic way to select products that span a variety of categories and serve multiple functions, so as to enhance the generalizability of the resulting scale. Factor analysis revealed a four-factor solution with item loadings exceeding .60 (50% of the items had loadings greater than .6 on at least one factor) and cross-loadings below .40. The four factors were named: sweetness, simplicity, sympathy, and smallness and the total number of items were 23. The results show that men rated infant anthropomorphism as more sympathetic than women (M = 3.07 vs. 2.57, t = 4.18, p <.01). All other differences across gender were non-significant (p >.10).

**Study 3.** In Study 3, we reduced the number of scale items further (from 23 to 21) and conducted both exploratory and confirmatory analyses. To test the stability of the scale, we employed a new sample of respondents (N = 224, 51.3 % females, mean age = 23). The procedure of study 2 was repeated with one exception; this time, each respondent evaluated only one product. 71 participants evaluated the symbolic product (the pink purse), 77 participants a utilitarian product (e.g., a razor) and 76 a symbolic and utilitarian product (e.g., a camera). In refining the scale using CFA, two items from the previous 23-item scale fell out due to low loadings, resulting in a 21-item scale. The confirmatory factor analyses revealed that the best model was the four-factor model with correlated factors. The fit measures for that model suggested a reasonable fit: The goodness-of-fit index (GFI)
=.896, the comparative fit index (CFI) = .960, and the root mean square error of approximation (RMSEA) = .054, all indicated acceptable fit, χ2(165) = 272.20, p < .001. Bagozzi and Heatherton (1994) question the usefulness of the chi-square statistic in similar models; thus, we considered other fit statistics more valuable in this context. In addition, the ratio between the chi-square statistic and the number of degrees of freedom was 1.65, indicating an adequate fit (Thomson, MacInnis, and Park 2005). The fit measures for this model were better than those for all other tested models, and the chi-square statistic of this model represented a significant improvement over any of the competing models.

**Study 4.** In Study 4, we focus on nomological validity of the infant anthropomorphic product scale by linking it to product evaluation (Oliver 1993) and willingness to attach (Thomson et al. 2005). Each respondent (N = 214, 54.7 % females, mean age = 24) got to evaluate one product each. 75 participants evaluated the symbolic product, 73 participants a utilitarian product and 66 a symbolic and utilitarian product. Simple regressions showed that infant anthropomorphism had a positive impact on product evaluation (β = .437, t = 6.03, p < .01). We also found a positive relationship between infant anthropomorphism and willingness to attach (β = .221, t = 3.96, p < .01). There were clear differences between the genders: women considered the products to be sweeter (Mmen = 3.38 vs. Mwomen = 3.91, t = 2.63, p < .05) whereas men considered the product to more simple (Mmen = 3.47 vs. Mwomen = 3.12, t = 2.11, p < .05), as well as more sympathetic than women (Mmen = 2.87 vs. Mwomen = 2.51, t = 2.26, p < .05). No differences were found across genders regarding smallness (p > .10).

Across four studies (1 qualitative, 3 quantitative), evidence systematically suggests that infant anthropomorphic products comprise four dimensions: sweetness, simplicity, sympathy, and smallness. We found that consumers react positively to infant anthropomorphic products but that men consistently perceived infant anthropomorphic products as more sympathetic than do women. These findings suggest that human infant anthropomorphism is important for marketers but that their appeal is based on different factors for men and women.
References


