Striving For Superiority: Face Ratio, Anthropomorphism and Product Preference

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This research demonstrates that much like human faces, high width-to-height ratio (fWHR) of product faces leads to it being seen as high on dominance. Unlike high dominant human faces which are liked less, dominant products are preferred: this effect on preference is mediated by perceived dominance and moderated by power.

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EXTENDED ABSTRACT

Anthropomorphism, or attributing human traits to non-human entities, is increasingly being studied in marketing. Research suggests that people often think of products in human-like terms, ascribing to them human traits, and interacting with them as they would interact with other people (Aggarwal and McGill, 2007; 2012). In this research we examine the interesting possibility that people react to product faces, in particular faces of high status products, in much the same way as they react to human faces; and base their evaluation of these products based on their impression of the specific product-face. In particular, this research proposes that consumers’ preferences for anthropomorphic products may be influenced by the respective face width-to-height ratios (WHR: bizonymatic width divided by upper-face height).

Extant literature demonstrates that perceivers use social stimuli as indicators of status in others (Zebrowitz and Montepare, 1989; Keating and Doyle, 2002) and faces with high WHR are perceived as being more dominant, given higher-status in the social hierarchy (Mazar et al., 2004), but are also liked less (Stirrat and Perrett, 2010). Based on these findings, we propose and demonstrate that high WHR of products resembling human faces will lead to the product being perceived as being high on dominance. However, unlike the inter-personal domain, higher level of dominance (or toughness) of the product will lead to greater (and not less) consumer preferences and willingness to pay (WTP) for it. Thus, individuals will show greater preference for wider product faces but not for human faces and the perceived dominance from each set of faces will mediate these effects. We explain this seemingly opposite effect to the product’s ability to be used as a signaling device: consumers use the high dominant product as a means to enhance their own status. Thus, we find that the effect is moderated by the type of product – the products that are seen as status products show this effect while products that are incapable of being used as a signaling device show the opposite effect.

For the first study, we look at the relationship between price and automobile WHR of 297 models from 25 automobile manufacturers. Our data include pictures, price information, and product specifications. Consistent with our predictions, the results show that WHR significantly predicts automobile price ($p<.001). In particular, we found that the WHR is a significant predictor of prices for Sedan ($β=71.95$ $p<.001$), for Coupe ($β=321.32$, $p<.001$), and for Convertible ($β=248.94$, $p<.001$).

Since Study 1 gives only correlational evidence, Study 2 is designed to replicate this effect in a laboratory setting. For Study 2, we created a set of experimental stimuli with four human faces and four automobile face stimuli, each with three levels of WHR (ratio). In order to control any covariation between ratio and spaciousness (e.g., automobiles with high ratio being more spacious), width was held constant across all ratios. We found that participants (N=485) perceive both human and automobile faces with high WHR as being more dominant (human faces: $p<.001$; automobile faces: $p<.04$). Further, as predicted, participants dislike human faces with a high ratio ($p<.001$), while they like automobile faces with a high ratio ($p<.01$). Consistent with our theorization, these effects are mediated by perceptions of dominance (Human face Sobel’s $z=-3.1$, $p<.001$; Automobile face Sobel’s $z=-2.45$, $p<.02$).

Next, Study 3 is designed to test if this effect will be amplified when participants are motivated to impress others (i.e., impression goal). Three automobiles were manipulated into two levels of ratio by proportionally increasing and decreasing the original ratio. The impression goal was manipulated by presenting a scenario where participants were instructed to imagine renting a car for an important business trip. As in Study 2, perceived dominance and WTP for renting the car ($$/day$$) were measured. As predicted, the goal manipulation increases sensitivity towards the dominance looks of the car front, meaning, participants with impression goal perceived the wider faced car being more dominant ($p<.05$) and were willing to pay more for the wider faced car ($p<.04$). Furthermore, the goal predicts the amount paid for the car rental and perceived dominance of the car face mediates the effect ($p<.001$).

As the final study, Study 4 tested generalizability of this effect. In particular, we wanted to see if product’s ability to signal status to others moderates the effect of ratio on WTP. Using products with and without the ability to signal status (house vs. mop), we tested if the found effects are dependent on the products’ ability to signal status. As in the previous studies images of house and mop were manipulated by proportionally increasing and decreasing the original ratio. After seeing each image, participants provided their immediate impressions of the stimuli in terms of perceived dominance, degree of liking, and WTP. Results show a significant interaction between product types and ratio ($p<.01$). Specifically, compared to a narrow faced house, participants rated a wider faced house being more dominant ($p<.02$) and were willing to pay more for it ($p<.003$). However, there was no effect of ratio on perceived dominance, liking or WTP for mop. A mediation analysis using 5,000 bootstrap samples confirmed that perceived dominance mediates the effect of ratio on WTP for the house (95% CI: .08 and 1.39).

In sum, our research provides the first demonstration of influence of WHR on product preferences and actual market prices, while simultaneously providing the underlying conceptual basis for why we observe this effect. This research suggests that product faces may be perceived the same way as human faces such that the WHR influences their perceived dominance traits. Further, because products that are used as signaling tools for status, they are also liked more if they have a high WHR unlike human faces that are liked less if they have high WHR. We find consistent results across four studies using secondary data as well as experiments in the lab, using factors that strengthen the effect (impression goal) and factors that weaken the effect (non-status products). There are significant future theoretical and managerial implications of this research.

REFERENCES


