Digit length ratio predicts attitudes towards product categories in women
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Research Question
• Can a testosterone indicator predict product preferences?

Theoretical Foundation
• Coates and Herbert (2008) have shown that higher levels of testosterone are correlated to male traders' profitability.
• Saad and Vongas (2009) showed that men's testosterone levels increased while driving a luxurious sports car, suggesting a relationship between hormones and conspicuous consumption.
• Finger length ratio, a sexually dimorphic trait, is a purported marker of prenatal testosterone (Manning, Wilson & Lewis-Jones, 1998).
• The second-to-fourth finger length ratio (2D:4D) has been consistently correlated with a wide range of sexually differentiated phenomena, such as:
  • Athletic ability (Manning & Taylor, 2001)
  • Spatial ability (Loehlin, Medland & Martin, 2009)
  • Risk-taking behavior (Apicella et al., 2008)
  • Sexual orientation (Brown et al., 2002)
  • Aggression (McIntyre et al., 2007).

Propositions
• Finger length ratio will be negatively correlated with attitudes towards product categories that have a strong male penchant and positively correlated with attitudes towards categories that have a strong female penchant.
• In addition, given that 2rel, the length of the index finger relative to the sum of the lengths of all four fingers, has recently been shown to be more accurate than 2D:4D (Loehlin, Medland & Martin, 2009), we propose that 2rel will be more strongly correlated to individual's product attitudes than will 2D:4D.

Variables Studied
• Finger length ratio
• Attitude towards several product categories, namely:
  • Cosmetics
  • Electronics
  • Pornography
  • Clothing
  • Movies genres (drama, action, science fiction, romance, animation, and war)
  • Sports (hockey, boxing, synchronized swimming, and gymnastics)
  • Video-games genres (First-person Shooter, Real-time Strategy, Party-game, Platformer, and Life Simulator).
• Each product category possessed a valenced sex-specificity, namely male or female.

Method
• Trained experimenters measured the lengths of right-hand fingers using digital callipers.
• Participants responded to items that assessed their attitudes towards the product categories listed above.
• Movie and Game titles were selected based on user evaluations on popular websites.
• Scales were randomly assigned to control for order effect.
• 555 undergraduate students participated in the study.
• They received candies for their participation.
• The sample was very heterogeneous in terms of ethnicity:
  • 57.4% Caucasian
  • 22% Asian
  • 8.9% Middle-Eastern
  • 11.7% Black, Latin, Mixed and others
  • 52.7% of the participants were men.
• The average age was 21.52 years old (sd=3.69).

Reliability
• Between experimenters: .98
• Within experimenters: .99

Preliminary Analyses
• One-way ANOVAs revealed that nine product categories were significantly preferred by males, whereas ten categories were preferred by females.

Results
• Three major findings were obtained.
• First, 2rel was generally a better predictor of product attitudes than 2D:4D.
  • Supports Loehlin, Medland and Martin (2009).
• Second, we found no significant correlations between 2rel and attitudes in male Caucasians for any of the product categories.
• Third, in the Caucasian female sample, 2rel was negatively correlated with attitude towards five of the ten products preferred by females. Hence, women with low 2rel (i.e., higher exposure to testosterone in utero) had significantly more positive attitudes towards the following categories:
  • Synchronized Swimming (r = .125)
  • Cosmetics (r = .051)
  • Clothing (r = .10)
  • Life Simulator Games (r = .02)

Discussion and Conclusions
• Our results suggest that finger length ratio is predictive of attitudes towards certain product categories in women.
• The products correlated to finger length ratio are related to competition that are preferred by women.
  • Sports Competition (Gymnastics and Sync. Swimming)
  • Mating Market (Cosmetics, Clothing, and Life Simulator)
• This suggest that women exposed to higher levels of testosterone in utero have a greater inclination towards intrasexual competition.

Research Limitations
• Long survey
• Use of digital callipers rather than scanners

Implications
• Results are in accordance with previous finger length ratio studies on ethnically heterogeneous samples (Manning, Churchill & Peters, 2007), and reinforce the importance of controlling for ethnicity in future research.
• The use of 2rel as an alternative to 2D:4D seems very promising.
• This is the first study to relate finger length ratios to consumer behavior.