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Don'T Trust the Humans: the Impact of Avatars on Persuasion

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Don't Trust the Humans: The Impact of Avatars on Persuasion

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EXTENDED ABSTRACT

In a series of experimental studies, we show that less human-like (vs. ultra-realistic) avatars induce greater product liking and compliance with persuasive message. This effect occurs because less human-like avatars' stimulate cognitive elaboration, resulting in greater compliance. Our findings contribute to understanding human interactions with artificial human-like objects.

Growing literature points that avatars - human-like digital portrayals - lead to greater consumer satisfaction and purchase intentions (e.g., Holzwarth, Janiszewski, and Neumann 2006). Marketers echo this scholarly enthusiasm (Waters 2016). For example, IKEA launched the avatar-assistant Anna, and airports introduced avatars - hologram human-like projections - to assist passengers (Easen 2012). Behind these trends may be the belief that exact human-like avatars would be more persuasive than less human-like ones.

In contrast to the above, we propose and show that less (vs. exact) human-like avatars can be more persuasive than ultra-realistic, exact human-like avatars (e.g., high-resolution photographs). Because less human-like avatars are more schematic, they may stimulate a feeling of "being deprived of information" and thus observers' curiosity (Loewenstein 1994). This would provoke thorough processing of information presented with the avatar, leading to greater compliance with the persuasive message (Petty and Cacioppo 1986).

This theorizing leads to a counterintuitive phenomenon: Less human-like avatars may be more persuasive than ultra-realistic human-like ones. Three experimental studies demonstrated this effect by presenting participants with less human-like or exact human-like avatars (i.e., high-resolution photographs). Studies 1 and 2 show that less human-like avatars (vs. photographs) enhance product liking. Study 3 demonstrates that less human-like avatars (vs. photographs) provoke greater compliance with a persuasive message, and provides evidence for the underlying mechanism.

Study 1 randomly assigned 132 participants from an online panel to one of two experimental conditions (avatar vs. photograph). They saw a picture of tea packaging, featuring either a less human-like avatar or a photograph of tea's producer. The photograph was taken from the Chicago face database (Ma, Correll, and Wittenbrink 2015), and was modified by a professional graphic designer for the avatar condition. Participants completed product liking and packaging appeal measures.

Packaging visual appeal significantly impacted liking, thus it was used as a covariate. ANCOVA on product attitude with experimental condition as between-subjects factor and visual appeal as a covariate revealed significant effect of the covariate ($F(1, 129) = 207.430, p < .001$) and, importantly, experimental condition ($F(1, 129) = 6.144, p = .014$). Product liking was significantly higher for the less human-like avatar ($M = 4.20$), compared to the photograph condition ($M = 3.54$).

Study 2 included a control condition to rule out the possibility that photograph dampens (rather than avatar improves) product liking. 248 participants were assigned to an avatar vs. photograph vs. control between-participants experiment. They saw a picture of shampoo packaging, featuring an avatar, or a photograph, or no picture of the shampoo's producer. A professional graphic designer produced all stimuli. We measured product liking as a dependent variable.

An ANOVA on product liking with experimental condition as between-participants factor revealed a significant effect of experimental condition ($F(2, 246) = 3.258, p = .040$). Product liking was higher in the avatar condition ($M = 5.32$), compared to photograph ($M = 4.84; F(1, 246) = 5.530, p = .019$) and control conditions ($M = 4.90; F(1, 246) = 4.111, p = .044$). There were no differences between the last two conditions ($p = .742$).

Study 3 explored whether less human-like avatar (vs. photograph) can be more effective in health-promoting interventions, and probed increased cognitive elaboration as the underlying mechanism. Additionally, it addressed two alternative explanations. More schematic, less human-like avatars could, first, increase perceived similarity between avatars and observers, and second, be processed more fluently, thus enhancing message persuasiveness.

88 participants took part in a two-cells (avatar vs. photograph) between-participants experiment. They saw a screenshot of the "About" section, presumably taken from the webpage of a health-coach, with his less human-like avatar (vs. photograph) embedded in it. Stimuli were created as in Study 1.

Next, participants read some advice by the health-coach, and made a choice between two videos to watch; an advice-related, and an advice-unrelated. Choice of video, capturing the persuasiveness of the health-coach advice, was our dependent variable. To probe the underlying mechanism, we asked participants to rate the video-relatedness to the advice. If avatar enhanced cognitive elaboration, we expected that it would also increase (decrease) perceived video-relatedness of the related (unrelated) video. To probe alternative accounts, we measured perceived similarity and webpage typicality.

A binary logistic regression with choice of video as the dependent variable and experimental condition as independent variable was statistically significant ($\chi^2(1) = 5.014, p = .025$). The odds ratio indicated that participants in the avatar condition were 4.24 times more likely to choose advice-related video (76.7%) than participants in the photograph (93.3%) condition ($\beta = 1.445, p = .038$).

We computed an index of video-relatedness as the absolute difference between ratings of each videos' relatedness. We did a mediation analysis with video-relatedness as a mediator, experimental condition as independent variable, and video choice as dependent variable. As predicted, avatar increased accurate perceptions of video-relatedness ($\beta = .97, p = .013$), which in turn increased probability of choosing the advice-related video ($\beta = .63, p = .004$). The confidence interval indicated significant mediation (95%CI = [.128, 1.447]). Similar models with perceived similarity and webpage's typicality as mediators were not significant (both 95%CI included 0).

Summarizing, we found that less human-like avatars increase product liking (Studies 1-2) and lead to greater persuasive power (Study 3) compared to exact human-like ones. This effect is driven by increased cognitive elaboration that less human-like avatars provoke (Study 3). Our results contribute to computer-mediated communication (Hoffman and Novak 1996) and consumer well-being (Sirgy, Lee, and Rahtz 2007) literatures. First, we proposed and demonstrated an important boundary condition to the use of exact human-like avatars, which can decrease persuasiveness compared to less human-like avatars. Thus, creating avatars as human-like as possible may be unnecessary, or even detrimental. Second, we showed how aesthetics dimensions (i.e., human portrayals used) can impact consumer well-being. Consumers adhered more to health-related ad-

vice by simply changing an avatar from ultra-realistic to less human-like. These contributions extend to managerial advice concerning humanizing firm-consumer interactions.

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