# The Filtered Appeal: Evaluating the Impact of Appearance Enhancement on Effectiveness of Donation Requests

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**Abstract.** This study investigates how appearance enhancement using AR video filters affects the perceptions and outcomes of an online video donation request, including the authenticity and trustworthiness of the requester. Results of a survey experiment in which the attractiveness of a male and a female actor was manipulated using filters show that perceived attractiveness and trustworthiness positively influenced donation willingness, as did previous donation experience and the demographics of the study participants. Filter use also enhanced perceptions of the quality of the request. Surprisingly, the filtered video versions were not rated as less authentic than unfiltered video. Participant gender interacted with actor gender, producing mixed findings as regards the halo effect of filtered appearance enhancement.

Keywords: AR Filters, Crowdfunding, Halo Effect, Social Media, Trust.

# 1 Introduction

Video-mediated communication (VMC), which has become increasingly popular since the Covid-19 pandemic forced the world online, affords new possibilities for visual self-presentation. One such affordance is video face filters, augmented reality (AR) three-dimensional animations overlaid on the image of a face. Using computer vision and facial mapping technology, these filters track movements of the face and head in real time, modifying the user's appearance in various ways, ranging from beautifying to silly to radically transformative (Javornik et al., 2022). The animations are easy to apply and are very popular on mobile apps such as Snapchat, Instagram, and TikTok. Deloitte Digital (2021) estimates that more than 4.5 billion AR photos and/or videos are taken daily by Snapchat users alone.

In this study, we investigate the effects of beauty filter use on the perception and effectiveness of a common online act: donation requests such as those seen on crowd-funding platforms like Kickstarter and GoFundMe (Waters & Auger, 2022). The success or failure of these requests has real-world consequences for the requester as regards their ability to support their cause. Therefore, requesters will typically use persuasive means to achieve their ends. Physical attractiveness is known to produce "halo effects" such as perceived trustworthiness (e.g., Wilson & Eckel, 2006) and may contribute to the persuasiveness of requests. We investigated this proposition by conducting an

online survey experiment in which we applied filters to a female and a male actor to manipulate their attractiveness in a video request for donations. We examined the influence of degree of perceived attractiveness, along with other qualities of the requester and of the request, on how the video donation request was received and the study participants' willingness to donate money, drawing on halo effects from psychology (e.g., Dion et al., 1972) and the literature on charitable donation behavior (e.g., Bekkers & Wiepking, 2011).

The findings show that perceived attractiveness positively influenced donation willingness, albeit less strongly than the requester's perceived trustworthiness, and only for the male actor. The strongest predictors were the demographics and previous donation experience of the study participants. Surprisingly, the filtered video versions were not rated as less authentic than unfiltered video; some filtered versions were even rated as more natural. Participant gender interacted with actor gender: Women were more willing than men to donate to the extremely beauty enhanced female actor, and participants tended to rate extremely (as opposed to moderately) beauty-enhanced same-sex actors as more trustworthy than extremely beauty-enhanced opposite-sex actors. This contrasts with previous halo effect studies, which found that men evaluated attractive women more positively than women did (Bak, 2010; Kaplan, 1978). Taken together, the findings suggest that beauty filter use may provide some advantage when making online video requests, particularly if it also makes the requester appear more trustworthy, and that beauty filter use does not necessarily make users appear inauthentic. However, extreme beauty enhancement could be counter-productive when appealing for donations to mixed-gender audiences.

# 2 Background

#### 2.1 Attractiveness

Halo effects for facial beauty and for gender are often reported in the psychological literature. Numerous experimental studies have found that "beautiful is good," in that attractive people are assumed to possess more socially desirable personality traits and to be more trustworthy (Dion et al., 1972; Wilson & Eckel, 2006). Halo effects have also been found for female gender, especially when the evaluator is male (Bak, 2010; Kaplan, 1978). In some contexts, however, such as among physicians, attractiveness is disadvantageous (Wang & Perlmutter Bowen, 2014), and males sometimes enjoy a greater halo effect than females (Reis et al., 1982). Thus, although varying in their particulars, these findings demonstrate that possessing a certain appearance and a contextually-appropriate gender can bestow individual advantages. The "beautiful is good" stereotype has been found to operate even when participants' attention is not explicitly directed to a person's appearance (van Leeuwen & Macrae, 2005). One study (Bak, 2010) found an attractiveness bias even when the evaluator was told that the visual representation (a photo) did not actually portray the person - that is, even when they believed the representation to be inauthentic. The present study investigates whether video filter use can also produce halo effects.

The halo effect literature raises the question of what facial features are considered attractive. Based on a review of the facial literature, Little (2021) reports that younger, thinner faces; healthy skin; redness or yellowness of the skin; averageness; and symmetry are generally associated with attractiveness regardless of sex. Men and women typically have similar intuitions about what makes someone attractive, but they differ in what criteria they prioritize (e.g., men tend to value youth and attractiveness more highly than women do). Mature male faces tend to have larger jawbones, more prominent cheekbones, and thinner cheeks, features which are associated with high dominance and lower attractiveness (Little, 2021). Additionally, multiple studies have found that perceptions of attractiveness and trustworthiness are correlated (e.g., Oosterhof & Todorov, 2008). Traits of trustworthy faces include a higher brow ridge, a slightly upturned mouth, shorter distance between the nose and upper lip, and a wide chin, whereas untrustworthy faces have the opposite features (e.g., Todorov et al., 2008). However, Stirrat and Perett (2010) found that people were less likely to trust males with wide rather than narrow faces, independent of their attractiveness.

#### 2.2 Donation Requests

Increasingly, requests for donations are made in videos posted to social media such as Instagram and TikTok, and they are often made by and for the benefit of individuals. Popular crowdfunding platforms like GoFundMe enable individuals, as well as organizations and businesses, to raise funds for various causes, including medical expenses, education costs, disaster relief. On these platforms, individuals set their goals and explain their reasons for seeking funding through narrative, images, and video (Manning & Bejarano, 2016), then promote their campaign to their social networks in order to find potential donors. In a study of a large multimodal crowdfunding platform, Zhao et al. (2022) found that the verbal modality (text descriptions) was superior to the visual modality (images of the beneficiary's face) in explaining campaign success, or the amount of money raised in a campaign.

From a social science perspective, McGuire's (1985) attractiveness model proposes that the effectiveness of a message depends on the source's likability, similarity, and attractiveness to the respondent. Source traits influence the outcome of donation requests. For example, in a study of celebrity product endorsements, Wymer and Drollinger (2015) found that the endorser's admirability and expertise influenced the audience's intention to donate directly, while the endorser's perceived attractiveness, perceived likeability, and perceived trustworthiness had indirect effects. Moreover, physically attractive people tend to be more effective negotiators (Rosenblat, 2008), and females tend to be more successful than males at collecting funds through crowd-funding sites (Ullah & Zhou, 2020).

As for who donates, many factors have been found to correlate with the decision to donate money to charitable causes, including the donor's wealth, age, education, race/ethnicity, and previous donation experience (e.g., Bekkers & Wiepking, 2011; Mesch et al., 2006; Wiepking & Bekkers, 2012). For example, a number of studies found increased age to be correlated with increased philanthropy, although some found that the relationship diminishes after the ages of 65-75 (Bekkers & Wiepking, 2011).

Studies have also found that women are more likely to give, while men are more likely to give larger donations (Wiepking & Bekkers, 2012). Properties of the donation request, such as credibility and rationality, can also affect whether people choose to donate (Goering et al., 2011).

#### 2.3 Video Face Filters

Research on AR filter use thus far has focused mostly on direct effects of filter use. Marketing research has analyzed customer satisfaction with AR technology dedicated to improving consumers' experiences by allowing them to virtually try on products (e.g., Yim & Park, 2019). Research from psychology has focused on the effects of beauty filter use on mood and self-concept (e.g., Chen et al., 2021). In videoconference systems, image-filtering techniques can improve user comfort, with users preferring subtle changes to their appearance over distortion filters or using an avatar (Filho et al., 2009). However, while several studies have noted that there can be social rewards associated with filter use, such as increased interactivity and acceptance by one's peers (e.g., Chua & Chang, 2016; Javornik et al., 2022), few have investigated how filter use affects outcomes in social interaction, particularly when participants are unaware that someone is using filters. An exception is Leong et al. (2023), who found that people who feel anxious about public speaking can benefit from the use of private filters or filters that are only visible to the speaker in online environments.

Herring et al. (2022) examined video face filter use in the context of trust and deception and found that filter users generally do not consider the use of AR beauty filters by strangers to be a mark of untrustworthiness. However, female participants across cultures were more sympathetic towards the "deceptive" use of filters compared with male participants, who were more skeptical. In the present study, we focus on the perception of faces experimentally modified through AR beauty filters, including their trustworthiness, in the context of online donation requests.

# **3** Research Goals

The goal of this research was to analyze the effects of video beauty filters on the reception and success of online donation requests. Specifically, we asked:

- RQ1: How does beauty enhancement via filters affect viewer perceptions and evaluation of donation *requesters* in VMC? What traits are associated with positive evaluations (i.e., attractiveness, trustworthiness, likability, naturalness) of the requester? Does this vary by gender of the viewer?
- RQ2: How does beauty enhancement via filters affect viewer perceptions of, and responses to, *requests* for donation in VMC? What factors are associated with positive responses to requests (i.e., the credibility of the request, how well it is justified, how persuasive it is)? Does this vary by gender of the viewer?

Based on previous literature, we expected to find halo effects of perceived attractiveness, perceived trustworthiness, and perceived likeability on request effectiveness (cf. Rosenblat, 2008; Wymer & Drollinger, 2015), operationalized as participants' willingness to donate some amount of money. We also expected to find increased willingness to donate to requests that are perceived as more credible, justified, and persuasive (cf. Goering et al., 2011).

We included naturalness as a construct, because negative evaluations and negative request outcomes could be more likely if the participants suspect that the speaker's appearance is unnatural or artificially enhanced – they might then perceive the speaker to be less credible overall (but cf. Bak, 2010). We also expected that extreme attractive-ness enhancement would be less effective than subtle enhancement, consistent with findings that users prefer subtle filters (Filho et al., 2009). Finally, we expected that female participants more than male participants would agree to donate regardless of filter condition overall (cf. Wiepking & Bekkers, 2012), but that male participants would be more likely than female participants to donate to attractive female requesters (cf. Bak, 2010; Kaplan, 1978).

### 4 Methods

### 4.1 Data Collection

In the experiment, participants responded to a short (about one minute) video featuring either a male actor (Marco) or a female actor (Kendra) delivering the same script (see Appendix) asking for a donation.<sup>1</sup> The actors presented themselves as art students in need of donations to replace a broken laptop that would allow them to continue creating digital art commissions to support themselves through art school.

To generate a realistic script, we collected and examined a sample of existing donation requests from multiple platforms (e.g., TikTok, Instagram). A list of common scenarios was generated and pilot tested (n=59) to determine a relatively neutral cause that participants would be equally likely to donate or not donate to. According to the pilot study, asking money for a laptop was likely to generate a moderate degree of sympathy, compared to very sympathetic causes such as disaster relief, on the one hand, and causes that generated less sympathy, such as cosmetic surgery, on the other. Three versions of a laptop script were drafted by the researchers and pilot tested (n=61). For all three versions, participants were less likely to donate than expected. The best-received version was edited to be more persuasive based on the feedback received, for example, by specifying that the request had been shared by a close friend. In addition, to add legitimacy to the request, we added a graphical background to the video illustrating the "student's" digital art, as well as a link to a (fake) gofundme page.

The actors were chosen to be average in appearance, ethnically ambiguous, and around the same age (mid-20's). After rehearsing the script, the actors individually recorded the video on their phones using Instagram, after which they were paid. To modify the appearance of the actors, we used the Chinese mobile app Meitu, which allows finegrained customization of the appearance of a person in a photograph or video. Based on the literature on attractiveness and trustworthiness (e.g., Little, 2021; Todorov et al.,

<sup>&</sup>lt;sup>1</sup> The actors' names are pseudonyms assigned by the authors.

2008), modifications were made to the actors' faces, including their eyes, eyebrows, mouth (smile), forehead, face shape, and skin tone.<sup>2</sup> Fifteen-second clips of the original and modified videos of each actor were created and shown to different online pilot testers (n=63). Each pilot participant rated nine of 18 versions that appeared in a random order on aspects such as attractiveness, trustworthiness, likeability, and naturalness. All three pilot surveys were created using Qualtrics, and the survey links were shared with the researchers' friends, students, colleagues, and families, as well as through snowball sampling. The pilot respondents in all three surveys tended to skew older, well educated, middle class, and White or Asian.



**Fig. 1.** The six video conditions. Top row, from left to right: f\_LOW, f\_MID, f\_HIGH. Bottom row, from left to right: m\_LOW, m\_MID, m\_HIGH.

<sup>&</sup>lt;sup>2</sup> The skin tone modifications were made to the female actor to make her skin color more similar to that of the male actor. This was done to avoid potential confounds in the results due to perceived racial/ethnic differences between the actors.

Based on the attractiveness ratings from the third pilot, three versions of each actor were selected such that there was a low, intermediate, and high attractive version of each, for a total of six conditions. For the male actor, the least attractive version according to the pilot respondents was the unmodified baseline (m\_LOW). The intermediate attractive version involved subtle attractiveness modifications (m\_MID), and the high attractive version involved more extreme attractiveness modifications (m\_HIGH). For the female actor, the pilot respondents found the least attractive version to be one that was originally modified to appear extremely untrustworthy (f\_LOW).<sup>3</sup> The intermediate attractive version involved subtle attractiveness modifications (f\_MID), and the most attractive version involved more extreme attractiveness modifications (f\_MID), and the most attractive version involved more extreme attractiveness modifications (f\_HIGH).<sup>4</sup> Each condition is illustrated with a screenshot from the video in Figure 1.

In the final survey, participants were presented twice with one of the six possible versions of the request video and were asked to rate the request (how credible, justified, persuasive it was) and the requester (how attractive, trustworthy, likable, natural they were) on Likert scales from 1 (not at all) to 7 (extremely). Participants were also asked how much money they would donate and how certain they were of their donation amount (Champ & Bishop, 2001). Information was collected about the participants' demographics, prior donation history, and social media use.

The experiment was conducted through the Qualtrics online survey platform. Participants were recruited through the company Centiment. Quotas were set to balance the participant population on several factors: 1. Gender (only individuals identifying as male or female were included in the study, with the goal of achieving an even gender balance), 2. Age (based on US census data), and 3. Race/Ethnicity (based on US census data). Out of 873 completed surveys, 860 surveys were usable after removing outliers (e.g., individuals who said they would donate more than \$500) and otherwise suspicious respondents (e.g., an 18 year old claiming to have a Ph.D.). The remaining participants skewed female (409 male, 451 female) and ranged in age from 18 to 90 (mean 48.05; sd 16.81). The majority were white (67.9%) and non-Hispanic (80.8%), and the most common education level was a high school diploma or equivalent (48.4%), with the most common annual income level being \$25k or less (32.8%).

#### 4.2 Analytical Methods

All data were coded, entered, and transformed in SPSS 28. Binary logistic regression analysis was conducted to explore the association between willingness to donate and multiple predictors Adjusted odds ratios, along with their corresponding 95% confidence intervals, were employed to assess the strength of the relationship between the variables. Analysis of variance was used to investigate the influence of filter conditions on perceived attitude towards the actor characteristics and the message characteristics. Chi-squared statistics were used to test the association between categorical variables and donating behavior. All analyses were performed separately for the female and the

<sup>&</sup>lt;sup>3</sup> These modifications included lowering the eyebrows, making the eyes smaller and closer together, making the edges of the mouth turn down slightly, and narrowing the face.

<sup>&</sup>lt;sup>4</sup> The subtle attractiveness versions were created by reducing by half the degree of the modifications used to create the extreme attractiveness versions.

male actor. A *p* value of less than 0.05, two-tailed, was considered statistically significant. *P* values between 0.05 and 0.10 were considered marginally significant.

# 5 Results

Each of the six video conditions elicited enough total donations for the "art student" to be able to purchase their \$1200 laptop. Section 5.1 describes factors that influenced study participants' willingness to donate some amount of money. Section 5.2 describes the effects of the filtered manipulations on participant perceptions of the actor and the actor's message. Section 5.3 describes the relationship between the attractiveness manipulations and the participants' ratings of the actors' attractiveness.

#### 5.1 Factors Associated with Donation Willingness

A preliminary analysis suggested that the assumption of multicollinearity was met for all variables (tolerance above .1). The model was statistically significant for both actors (Marco:  $\chi^2$  (12, N=429) = 171.572, p <.001; Kendra:  $\chi^2$ (6, N=426) = 143.271, p<.001), suggesting that it could distinguish between those who donate and those who do not. For Kendra, the model explained between 28.6% (Cox & Snell R square) and 38.1% (Nagelkerke R square) of the variance in the dependent variable and correctly classified 73.2% of cases. For Marco, the model explained between 33% (Cox & Snell R square) and 44% (Nagelkerke R square) of the variance in the dependent variable and correctly classified 74% of cases. The variables included in the model are demographic information such as gender, white or non-white, education level, political party, frequency of filter use, similar experience to scenario, and perception of the prevalence of online scams. Other variables are related to the actors' qualities (i.e., trustworthiness, attractiveness, likability, and naturalness) and those of the donation request (i.e., how credible, justified, and persuasive it is). Tables 1 and 2 show the remaining variables that significantly contribute to the models and their odds ratios for each actor. Values in the exponential beta (Exp(B)) column that are less than 1.0 indicate decreased odds.

Variables	Exp(B) -	95%CI		
		Lower	Upper	р
Non-white	1.959	1.205	3.185	.007
Male	.596	.376	.942	.027
Justified	1.400	1.167	1.680	<.001
Persuasive	1.439	1.203	1.721	<.001
Past donation behavior	3.082	1.797	2.286	<.001

Table 1. Variables associated with willingness to donate to Kendra.

Variables	Exp(B) -	95%CI		
		Lower	Upper	p
Non-white	1.770	1.030	3.044	.039
Trustworthy	1.305	1.048	1.624	.017
Attractive	1.195	.993	1.438	.059
Credible	1.349	1.117	1.628	.002
Past donation	3.268	1.814	5.888	<.001
Income: \$100k or more	.306	.127	.738	.008
Age	.969	.955	.983	<.001

Table 2. Variables associated with willingness to donate to Marco.

Note: Baseline for income level: \$25k or less

**Respondent demographics.** Overall, demographic factors predicted donation willingness more strongly than use of filters. Past donation experience was the strongest predictor for both the male actor (p<.001) and the female actor (p<.001). Non-white race was also significant for both actors (Marco: p=.039; Kendra: p=.007). Additionally, younger age was a significant predictor of willingness to donate to Marco (p<.001), as was lower income level. The \$25k or less group was significantly more likely to donate than the \$100k or more group (p=.008).

Male respondents were less likely than female respondents to donate to Kendra overall (p=.027). Chi-square statistics were used to examine the association between gender of participants and donation. For Kendra, there is a significant association at the 5% significance level ( $\chi 2=5.639$ , df=1, p=.018). The major difference was for the f\_HIGH condition ( $\chi 2=4.259$ , p=.039). However, the association between gender and donation was not significant for Marco ( $\chi 2=.321$ , df=1, p=.630). See Figures 2a and 2b.



Figs. 2a & 2b. Percent of respondents who donated to Kendra (left) and Marco (right).

**Requester (actor) characteristics.** Perceived attractiveness had a marginally positive association with donation willingness for Marco (p=.059). Perceived trustworthiness was also positively associated with donation willingness for the male actor (p=.017), and the exponential beta coefficients for Marco in Table 2 show that higher trustworthiness increases the odds of donation more strongly than attractiveness. None of the requester characteristics remained significant in the final model for Kendra.

**Request characteristics.** Request credibility (p=.002) was significant for Marco. For Kendra, ratings of the request as justified (p<.001) and persuasive (p<.001) were both significant predictors of willingness to donate.

**Other factors.** Surprisingly, participant judgments of the prevalence of online donation scams did not correlate with willingness to donate. Other factors that did not significantly predict donation willingness are the actor's perceived likeability and naturalness, and the participant's political party, experience with being similarly in need as the actor, and experience with and judgments about filters.

#### 5.2 Other Effects of Filtered Manipulations

**Trustworthiness.** Holding all other variables in the model constant, trustworthiness was a strong overall predictor of willingness to donate, especially for Marco. The effect of trustworthiness for Kendra is significant up to a certain point, but loses its effectiveness after including several models (backward listwise regression).

When ratings are broken down by video condition,  $f\_LOW$  (m=4.58, sd=1.84) was rated as more trustworthy than  $f\_MID$  (m=4.01, sd=1.84, p=.008), despite  $f\_LOW$  having been created with features that previous literature identified as untrustworthy (e.g., Todorov et al., 2008). However,  $f\_HIGH$  (m=4.39, sd=1.80, p=.078) was rated as marginally more trustworthy than  $f\_MID$ , suggesting a halo effect. For Marco there were no significant differences in trustworthiness ratings per video condition (m\_LOW: m=3.94, sd=1.86; m\_MID: m=4.14, sd=1.87; m\_HIGH: m=4.08, sd=1.86).

Video condition had a marginally significant effect on perceived trustworthiness when stratifying the data into male and female participants (F=2.417, p=.092). Male participants rated f\_HIGH as significantly less trustworthy (m=4.18, sd=1.79) than f\_LOW (m=4.63, sd=1.69, p=.032). For female participants, video condition did not statistically influence perceived trustworthiness; nonetheless, female participants rated m\_HIGH as less trustworthy (m=3.93, sd=2.01) than m\_MID (m=4.17, sd=1.79) and m\_LOW (m=4.04, 1.80). Although not statistically significant, perhaps due to the reduced power with smaller sample sizes for each condition, males more than females rated m\_HIGH as trustworthy, and females more than males rated f\_HIGH as trustworthy. See Figures 3a and 3b.



Fig. 3a & 3b. Mean trustworthiness ratings for Kendra (left) and Marco (right) by participant gender.

**Likeableness.** Likeableness did not significantly improve donation willingness for either actor in the final models. However, video condition had a significant effect on perceived likeableness (F=4.03, p=.018) overall. f\_LOW (m=4.78, sd=1.64) was rated as more likable than f\_MID (m=4.23, sd=1.81, p=.007) or f\_HIGH (m=4.65, sd=1.70, p=.498). Video condition did not significantly affect Marco's perceived likeableness (F=.466, p=.498. m\_LOW: m=4.10, sd=1.95; m\_MID: m=4.26, sd=1.97; m\_HIGH: m=4.30, sd=1.83).

**Naturalness.** Increased naturalness did not improve the odds of donation willingness for either actor in the final models. For Marco, perceived naturalness was not affected by filter use (F=.515, p=.598. m\_LOW: m=4.13, sd=1.86; m\_MID: m=4.35, sd=1.90; m\_HIGH: m=4.2, sd=1.86). Filter use had a significant effect on perceived naturalness for Kendra (F=30.70, p=.006): f\_LOW was rated as more natural than both f\_MID and f\_HIGH (p=.002 and .025, respectively; f\_LOW: m=4.86, sd=1.61; f\_MID: m=4.22, sd=1.76; f\_HIGH: m=4.41, sd=1.77). However, although f\_LOW serves as the analog to m\_LOW in this study because it was rated as least attractive by our pilot study participants, f\_LOW was created using filters (originally, to appear untrustworthy). Therefore, this finding does not support our expectation that filtered videos would be perceived as less natural.

**Message characteristics.** Video condition did not statistically affect Marco's message credibility (F=1.708, p=.182), justifiability (F=1.363, p=.257), or persuasiveness (F=.625, p=.536). For Kendra, however, video condition significantly affected message credibility (F=3.134, p=.045). f\_LOW (m= 4.58, sd=1.70) was perceived as significantly more credible than f\_MID (m=4.06, sd=1.80, p=.014). The mean difference in

justifiability was marginally significant (F=2.787, p=.063), where f\_LOW (m=4.47, sd=1.722) was significantly more justified than f\_MID (m=3.99, 1.834, p=.027) and marginally more justified than f\_HIGH (m=4.08, sd=1.82, p=.074). Persuasiveness approached marginal significance (F=2.215, p=.110), where the largest difference was between f\_LOW (m=4.22, sd=1.77) and f\_MID (m=3.78, sd=1.93). There were no significant differences in ratings of message characteristics according to the gender of the study participants.

#### 5.3 Attractiveness manipulations and participants' ratings of attractiveness

Our filtered manipulations approached marginal significance (F=2.209, p=.111) in the predicted direction for participants' attractiveness ratings for Marco. However, they were not associated with participants' attractiveness ratings for Kendra (F=.212, p=.809), because ratings for f\_LOW were different than we expected.

Specifically, f\_LOW (m=4.01, sd=1.62) was not rated as significantly more or less attractive than f\_MID by either male (m=4.00, sd=1.54) or female (m=4.03, sd=1.69) respondents. We expected f\_LOW to be rated as less attractive, based on the ratings of the pilot study participants. However, as expected, f\_MID (m=3.97, sd=1.72; males m=3.98, sd=1.61, females m=3.96, sd=1.82) was rated as less attractive than f\_HIGH (m=4.10, sd=1.72; males m=4.07, sd=1.81, females m=4.13, sd=1.77). See Figures 4a & 4b.



Figs. 4a & 4b. Mean attractiveness ratings for Kendra (left) and Marco (right) by participant gender.

# 6 Discussion

Our first research question asked: How does beauty enhancement via filters affect viewer perceptions and evaluation of donation *requesters* in VMC? What factors are associated with positive evaluations (i.e., attractiveness, trustworthiness, likability, naturalness) of the requester? Does this vary by gender of the viewer?

Attractiveness enhancement was marginally significantly associated with increased donation willingness for the male actor, and trustworthiness was significantly associated, consistent with previous research that found that attractiveness and trustworthiness are often correlated (Oosterhof & Todorov, 2008; Wilson & Eckel, 2006). Interestingly, our study participants did not appear to notice the use of filters, even in the extreme attractiveness enhanced versions, as the filtered videos were not rated as less natural than any other versions. This suggests that filters could be used to obtain halo effects when making video donation requests without risking appearing inauthentic.

Willingness to donate was also strongly predicted by previous donation experience and respondent demographics - in particular, being non-white, and for Marco, being younger and having a lower income. Previous research into charitable donations found that donors were more likely to be white, older, and wealthier (e.g., Bekkers & Wiepking, 2011; Mesch et al., 2006). The differences in our results can be partially explained by the situation of our request – an individual requesting donations for himself or herself, rather than for a charitable organization, on social media. Younger people use social media more than older people, and thus they are more likely to have encountered social media requests of this sort and to be comfortable with them; young people also tend to have lower incomes. Although Marco and Kendra are similar in age, younger survey respondents appeared to relate more to Marco, for reasons that are unclear. Conversely, nonwhites donated more to both actors. This could be because the actors are ethnically and racially ambiguous: A survey by Osili et al. (2021) found that donors of color give to their ethnic communities. They are also more likely than white donors to engage in informal giving or giving through crowdfunding sites to strangers (Osili et al., 2021).

Survey respondent gender significantly affected the results. Women were more willing to donate to Kendra, partially consistent with our expectation that women would be more likely to donate overall (cf. Wiepking & Bekker, 2012). This finding could also be a reflection of gender-based homophily (Laniado et al., 2016). Relatedly, we found a nonsignificant tendency (Figs. 3a & 3b) for participants to rate the extreme beauty filtered version of the opposite sex actor as less trustworthy than the extreme beauty filtered same-sex actor. These findings are consistent with findings that men view very attractive women with suspicion (e.g., McGloin & Denes, 2018), although it is the opposite of what the halo effect literature predicts (e.g., Bak, 2010). Relatedly, more respondents chose to donate to Marco than Kendra overall (cf. Ullah & Zhou, 2020), mainly because males were significantly less likely to donate to f\_HIGH.

In addition to the above, we encountered unexpected findings as regards the f\_LOW version of the female actor. In the pilot study, f\_LOW was rated as the least attractive version, less attractive than the original unedited version of Kendra. However, in the final study, f\_LOW was not rated as less attractive than f\_MID. One reason for this

difference may be differences between the pilot population and the study population. The survey participants' levels of education and income were lower than those of the pilot test participants, and the survey participants were more ethnically diverse. The two populations may have different beauty standards.

The results for f\_LOW present other paradoxes. Despite being created originally to exhibit less trustworthy traits, f\_LOW was rated as the most trustworthy version and more likeable than f\_MID. Moreover, although filtered, f\_LOW was rated as significantly more natural than any other version. It is possible that untrustworthy-looking faces are believed to be commonplace and hence perceived as natural. Relatedly, f\_LOW's plain looks may have inspired trust because she looks like a real person. An average-looking woman may also have been perceived more positively and even as being more attractive when requesting help.

Our second research question asked: How does beauty enhancement via filters affect viewer perceptions of, and responses to, *requests* for donation in VMC? What factors are associated with positive responses to requests (i.e., the credibility, justifiability, and persuasiveness of the request)? Does this vary by gender of the viewer?

Different request qualities influenced willingness to donate to each actor. Request credibility was significant for Marco, whereas for Kendra, justified and persuasive were significant factors. This shows that the halo effect can extend beyond the individual to the contents of their communication (see also Kaplan, 1978). Indeed, it is difficult to separate request qualities from requester qualities. It seems that for Marco, whether he seemed believable was most important to the participants, whereas Kendra was judged based on whether her need was valid or convincing. This suggests that the same request conveyed by different genders may be judged by different criteria, regardless of the individuals' attractiveness. It is also possible that factors such as perceived ethnicity<sup>5</sup> or social class played a role in which message characteristics were oriented to by potential donors. However, male and female viewers did not evaluate message characteristics differently, regardless of filtered condition.

# 7 Conclusions

#### 7.1 Contributions

This study extended research on halo effects by applying AR facial filters to actors requesting donations in a modality that has recently seen an upsurge in popularity, video-mediated communication. The investigation also breaks new ground regarding the interaction of filter effects and participant demographics.

Main take-aways of the study are as follows:

1) Filter users were not perceived as fake or artificial. Appearance-enhancing filter use mainly went undetected (as such) in the study context, which involved communicating with strangers.

<sup>&</sup>lt;sup>5</sup> Marco is Hispanic and, as such, his appearance could have triggered stereotypes about Hispanic males.

- Using appearance enhancing filters can make one appear more trustworthy, likable, and (paradoxically) more natural. It can also enhance the perception of the quality of the request itself.
- Using appearance enhancing filters can increase the likelihood of getting donations in requests on social media, especially if it makes one appear more trustworthy.
- 4) However, this may depend on the perceiver's gender. Men distrusted the very attractive version of the female actor and were less likely to donate to her. An implication of this finding is that extreme beauty filter use can be counterproductive when communicating with mixed-gender audiences.
- 5) The case of f\_LOW illustrates that making oneself look less conventionally attractive with filters may also increase the likelihood of getting a positive response to social media donation requests.

### 7.2 Broader Implications

Empirically demonstrating to what extent and in what ways digital modification of faces affects the outcomes of common social actions has the potential to facilitate strategic filter use by individuals and organizations in order to optimize outcomes, including raising money for charitable causes, garnering favors, influencing voters, and striking up online relationships. However, it could also facilitate deception and fraud, as in the use of filters to appear more trustworthy in charity scams (Zenone & Snyder, 2019). Thus the ethical implications of video face filter use also need to be considered.

#### 7.3 Limitations and Future Directions

A limitation of this study is that Kendra's (filtered) baseline turned out not to be equivalent to Marco's (unedited) baseline in terms of attractiveness ratings, despite being rated as the least attractive version in our pilot study, and this affected the overall findings for Kendra. Future work on video filters should ensure that stimuli are comparable. It should also endeavor to match the demographics of the pilot population with the intended study population.

Due to the number of conditions in our study, we only used one male and one female actor, which limits the generalizability of our findings as regards requester gender effects. Future research could try to replicate our findings using multiple actors and actors of different ethnicities. Additionally, we used a single scenario designed to be moderately effective in eliciting donations; however, scenarios that elicit greater or lesser sympathy could be explored in future research.

Another limitation is that currently available video beauty filter apps are designed primarily to amplify and improve feminine facial features (e.g., making lips fuller, softening the jawline) as opposed to enhancing masculine features (e.g., squaring the jaw, adding facial hair). Thus, our ability to make Marco appear more traditionally hand-some was limited; the enhancements tended to make him look younger and more feminine. Although Little (2021) reports that male feminized faces may be considered more

attractive because they can mitigate the perception of negative personality traits associated with male features, a traditionally handsome man may be perceived differently from an attractive man with feminine features in the context of charitable giving.

Finally, requests for donations are increasingly made in videos posted to social media, and they are often made by and for the benefit of individuals, rather than charitable organizations. There is a need for more research along the lines of the present study to understand this trend, as well as how people strategically exploit self-presentational resources such as filters to optimize request outcomes.

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# **Appendix: Donation Request Script**

"Hi, guys, those of you who know me, know I don't like to ask anyone for help. But I'm in a tough situation and I don't know what else to do.

I'm a digital artist, and I've been supporting myself with commissions to get through art school. My old MacBook Pro has been on its last legs for about a year, and yesterday it completely died.

Luckily I had most of my work backed up, but I need to finish a big commission that's due in a couple of weeks.

I really need a laptop with a hi-rez screen and a powerful graphics card to make my art. I found a refurbished MacBook Pro that would be perfect for my needs, but it's still \$1200, and I don't have that kind of money right now.

I've got a part-time job, but it's barely enough to pay my rent. My commissions are what's been paying for my groceries and gas. My parents can't help, they had to close their restaurant because of covid. I'm not sure what else to do except reach out to all of you.

So if you guys have ever enjoyed or shared any digital art, please consider donating to help me support myself through my art. [Looks down] Uh, there's a link below you can click on that'll take you to my GoFundMe page with examples of my work.

I would really appreciate any amount you can give. Thanks so much, guys!"