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Familiarity Hijack: How Morphing Faces With Celebrity Images Can Enhance Trust

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In this research we investigate the effect of combining unfamiliar faces with those of celebrities. Using facial morphing software we create composite faces consisting of 65% of an unfamiliar face and 35% of a celebrity face. In two studies participants rated the resulting composite images as being significantly more trustworthy than the unfamiliar faces despite being entirely unaware of the presence of the celebrity faces in the morphed image. Building on previous literature, we argue that this effect is consistent with a familiarity explanation but is inconsistent with explanations relying on either similarity or transfer of specific individual meaning.

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Social psychologists have long observed that individuals have a preference for people similar to themselves, judging them as being more attractive (Shanteau and Nagy, 1979), more persuasive (Byrne, 1971), and even being more helpful toward them (Park and Schaller, 2005). More recently, advances in technology have enabled new paradigms for researchers interested in the effects of similarity. For example, researchers specifically interested in the domain of facial similarity have used new graphical technology to morph individual's own faces into the faces of others.

In a series of studies Bailenson et al. (2009) created composite images by morphing the faces of politicians with the faces of experimental participants in a ratio of 65% politician, 35% participant. This ratio is significant as the authors demonstrate that it produces composite faces within which individuals could not perceive their own image. Put differently, participants universally believed they were viewing unaltered pictures of the politicians in question. However, while the composite images may have been identified as being those of the politicians, attitudes toward the composites reflected a different story. In fact, in a series of studies Bailenson et al. showed that individuals consistently demonstrated stronger liking for political candidates when the image of the candidate had been morphed to include 35% of the individual's own face. This effect was especially acute for individuals without a strong prior (i.e., weak partisans and independents) and occurred without any conscious awareness of the facial morphing manipulation.

This fascinating finding raises interesting theoretical questions while also opening the door to possible new methods of persuasion. From a theoretical perspective several key questions remain unanswered. In particular, it is not clear if liking for the composite faces was driven by similarity or familiarity since the two are essentially confounded when morphing an individual's own face into a composite image. From a marketing perspective the possibility that the innate persuasiveness of an agent, for example a decorative model in a print advertisement, could be enhanced by facial morphing is very intriguing. The current work was motivated by both of these issues and explores the effects of morphing the faces of public figures and celebrities into unfamiliar faces. Unlike an individual's own face, which is simultaneously both similar and familiar, the faces of public figures are familiar but not similar to the average individual. As such they provide us with a potential method of teasing apart the previously confounded effects of similarity and familiarity.

In Study 1 (N=81) participants rated the trustworthiness of two faces on a 1-10 scale. We chose to focus on trust both because from a persuasion standpoint it is a key component of source credibility, and because simple liking is a key driver of trust (Nicholson et al. 2001). Face one was a neutral male face while face two (henceforth "Bush morph") consisted of the same neutral male face morphed with 35% of the face of George Bush who we reasoned (especially since the study was carried out around the time of the election) should be highly familiar to participants. While participants rated the neutral face on the midpoint of the scale (M=5.3) they rated the Bush morph as being significantly more trustworthy (M=6.9, $t(80)=7.8$, $p<.001$). This result pertained despite 100% of subsequently debriefed participants expressing no recognition of Bush in the composite image. As such, these data support a familiarity explanation as underlying the effect of facial morphing on preference but are inconsistent with a pure similarity explanation as it is hard to imagine how a composite image featuring George Bush would make the resulting face any more similar to our subject population (undergraduate students).

While supporting a familiarity mechanism other explanations could also explain the study 1 data. In particular, a valid alternative explanation would be that individual specific meanings from the minority face in a composite image might be perceived in a morphed face even in the absence of conscious awareness of that face. While one might expect George Bush to represent lack of trust, we can certainly not rule out the possibility that subliminal perception of his identity as a president could increase perceptions of trust. Certainly, assuming that the average individual holds a positive self view, then transfer of individual meaning could potentially explain the Bailenson et al. data, all of which involved participants viewing composite images in which the minority image was their own face. Thus study 2 was designed to disentangle a pure familiarity explanation from an explanation relying on transfer of individual specific meaning.

In study 2 (N=35) participants rated the trustworthiness and athletic ability of one of two faces on a 1-10 scale. Face one was the same neutral male face from study 1 while face two (henceforth "Tiger morph") consisted of the neutral male face morphed with 35% of the face of Tiger Woods. Tiger was chosen both for his high levels of familiarity and popularity, and because he is strongly associated with athletic ability. Thus if individual specific meanings from the minority face are transferred from the morphed face we should expect to see an increase in ratings for athletic ability and trust (via liking). However, if the effects to date are driven purely by familiarity we should expect to see an effect on trust but not one on athletic ability. In fact that is exactly what we found. Consistent with study 1 participants rated the Tiger morph (M=5.33) as being more trustworthy than the neutral face (M=4.0, $t(31)=-1.9$, $p<.07$). However, they perceived no difference between the athletic ability of the Tiger morph (M=2.1) and the neutral face (M=2.4, $p>0.3$). As such these data further support a familiarity explanation as driving the effect on liking and trust and rule out an explanation based on the transfer of individual specific meaning.

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