What's in a Face?

Testing the Familiarity-Likeability Connection

By Shanto Iyengar and Richard Morin
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As the inaugural study in the Washington Post-Political Communication Lab collaboration, we studied attraction to familiar faces. A considerable body of research in social psychology derived from the classic studies of Stanford psychologist Robert Zajonc demonstrates that people evaluate objects they have encountered previously more favorably than novel objects, even when they do not consciously recognize the previously-encountered objects. In other words, "mere exposure" is sufficient to increase an object's likeability.

We are interested in the question because in the political arena, there is ample evidence of a familiarity bias in voting behavior. The fact that incumbents habitually win re-election by convincing margins may be attributable, in part, to the higher level of recognition of the incumbent's name and face.

We used digital face morphing technology to create relatively familiar and unfamiliar faces. More than 2,200 individuals participated in the study, a part of an ongoing collaborative effort by Stanford researchers Jeremy Bailenson, Nathan Collins, Shanto Iyengar, and Nick Yee.

We started with two relatively unknown faces (in fact, they were Rep. Mary Bono, R-Calif. and Rep. Ed Case, D-Hawaii) and made them more familiar by combining them with better-known faces so that the ratio of the unfamiliar to the familiar face was either 80:20 or 60:40. Previous research has demonstrated that the 40 percent level of morphing is sufficiently subtle to preclude study participants' recognizing the identity of the familiar face in the morph. Participants were told that the morph was a photo of a candidate for the Senate named "Paul Vaughn" (or "Paula Vaughn" if the morph was a female). They also were given a few details about Vaughn and asked questions designed to measure their impressions of the fictitious candidate.

We selected five political figures -- Sen. Hillary Clinton (D-NY), Sen. John McCain (R-Ariz.), former New York Republican mayor Rudy Giuliani, Sen. Evan Bayh (D-Ind.) , and Sen. Kay Hutchison (R-Texas) -- as our "sources" for testing the familiarity-liking hypothesis. Of these five candidates, three are relatively familiar (Clinton, McCain and Giuliani) while Bayh and Hutchison are less so. Increasing the resemblance of an unknown candidate's face to any of the three relatively familiar "source" faces (Clinton, McCain, Giuliani) should increase individuals' support for the unknown candidate. On the other hand, increasing the resemblance of the unknown face to lesser-known officials such as Bayh or Hutchison should have no such effect. The claim that Bayh and Hutchison are less familiar to study participants than Clinton, Giuliani and McCain is based on more than intuition. We provided a photograph (unmorphed) of the five candidates to a sub-sample of participants and asked them to identify the person in question. 96 percent identified Senator Clinton, nearly 90% identified Giuliani and McCain, and the recognition level dropped to less than 35 percent for Bayh and Hutchison.

For each of the five "source" candidates, we used two levels of morphing -- 20 and 40 percent. Thus, among participants randomly assigned to the Clinton condition, the face they encountered was either 80 percent unknown and 20 percent Senator Clinton, or 60 percent unknown and 40 percent Senator Clinton. Morphs of Clinton were created from the original photos of Bono and Chase, creating male and female versions of Candidate Vaughan. This "implicit similarity" factor is the key experimental manipulation; since all other factors are held constant, any observed differences in evaluations of the candidate in the 20 percent Clinton and 40 percent Clinton conditions can only be attributed to the increased level of visual similarity between the candidate and Senator Clinton. Original photographs of Bono and Case and the four different morphs featuring Senator Clinton and McCain are shown to the right.

We varied the ratio of the unknown to known face in the morphed photograph across the gender and party affiliation of the candidate. Cross-gender morphs can produce unusual-looking faces and we expected that the familiarity-liking effect would be most apparent when the "target" and "source" faces were of the same gender, e.g. Senator Clinton's likeness would have more impact when her face was morphed with Bono's face.

We also varied the amount of information concerning Candidate Vaughan. Half the participants were given only a brief biographical sketch, the remaining half was provided the biographical information plus the candidate's positions on international trade and Iraq. In the "bio only" condition, for instance, this was the description accompanying the photograph of Candidate Paul Vaughn:

"After serving two terms in the state legislature, Paul Vaughan (Republican) is considering running for the U.S. Senate in 2006. He is 46 years old, married and the father of two children. Prior to his election to the state legislature, Vaughan was a practicing attorney."

In the "bio plus issues" condition, study participants were provided information about the candidate's stance on trade and the timetable for withdrawing US troops from Iraq: "Mr. Vaughan is known as a political centrist. He supported the invasion of Iraq, but has since criticized the Administration for not speeding up the timetable for the withdrawal of US troops. On domestic issues, Vaughan has taken a strong position on the US trade deficit, advocating increased tariffs on imported goods."

The rationale underlying the information manipulation was that as voters gained substantive information about the candidate, they would become less reliant on facial cues as a basis for evaluating the candidate. Presumably, the candidate's positions on issues of importance take precedence over properties of the candidate's face.

The study ran for a period of approximately three weeks. Approximately 2200 Post readers completed the survey which included a variety of questions concerning Candidate Vaughan.

Respondents were asked whether they would consider voting for Vaughan, and to rate the candidate on a "feeling thermometer." In addition, they were asked to rate the candidate's sincerity, intelligence, attractiveness, and the extent to which the candidate's views agreed with their own. Of course, given the limited amount of information they encountered about the candidate, most people stated that they were unable to evaluate the candidate. However, approximately one-third of the sample did offer opinions on these questions and we placed the large group that said "can't say" in between those who responded either favorably or unfavorably. We then transformed the various survey items tapping evaluations of the candidate into a 0-1 scale and computed an average score. A score of .9 on this scale would indicate unbridled enthusiasm for Candidate Vaughn while .1 would indicate intense aversion. As might be expected, most participants rated the candidate close to the "lukewarm" midpoint of this scale.

Effects of the Face Morphing Manipulation

Figure 1 shows the average candidate evaluation score under each of the five candidate morphs featured in the study. The candidate was rated most positively when morphed with Senator Clinton (.57) followed by Mayor Giuliani, Senators Hutchison, Bayh, and McCain. The difference between the Clinton condition and every other condition exceeded a difference attributable to chance.

Does increased familiarity breed affection? Our expectation was that the unknown candidate would benefit when his or her face more approximated a well-known face. Thus, in the case of the three relatively well-known figures (Clinton, Giuliani, McCain), we expected that the unknown candidate would benefit when the level of morphing was doubled from 20% to 40%. A Clinton, Giuliani or McCain look-alike should score more points with voters than one who resembled Bayh or Hutchison. However, as shown in Figure 2, familiarity per se was not implicated in voters' evaluation of Candidate Vaughn. Changing the morph level from 20 percent to 40 percent boosted the candidate's stock by a significant margin only in the case of Senator Clinton. Doubling Senator Clinton's contributions to Candidate Vaughan's face increased Vaughan's approval level by 3 percent (from .55 to .58), but made no difference at all in the case of any of the remaining morphs. At the 20 percent level, Candidate Vaughan is rated equally (at about .55) no matter whose face he/she embodies, but when the mix is ratcheted up to 40:60, the Clinton-Vaughan morph is by far the most appealing. Increasing Clinton's resemblance to Vaughn is a plus, but for the rest of the candidates (especially John McCain) the effect is in fact negative. Candidate Vaughn, when morphed with anyone other than Clinton, is rated more favorably in the 20% rather than 40% level. Thus, for study participants, Senator Clinton is the only candidate for whom greater visual resemblance is a positive cue.

What is remarkable about this pattern of results is that it appears set in concrete. Increasing the similarity to Senator Clinton's face enhances Vaughan's support in every single experimental condition; increasing the similarity to any of the other candidates reduces Vaughan's support. The pattern holds no matter what the gender or party affiliation of the

candidate. Moreover, the effect of the Clinton morph level occurs across different types of voters --- men and women, Democrats, Independents and even Republicans (the number of Republican participants is relatively small so we cannot be confident of the reliability of the differences among Republicans). Political interest was the only factor that conditioned the effects of morph level --- among those who stated they were not especially interested in politics, increasing the Clinton morph from 20 to 40 percent raised Vaughan's overall evaluation score by .11.

What is even more striking than the uniformity of the Clinton effect across different groups, is that the effect occurred both among voters who were given only biographical information (the bottom panel of Figure 3) and those given additional information about the candidate's position on the trade and Iraq issues (the top panel of Figure 3). It is also noteworthy that voters who actually disagreed with Candidate Vaughn on the issues of trade and Iraq nonetheless offered more favorable views when the resemblance to Senator Clinton was enhanced. In short the favorable spillover from the Clinton morph appears perfectly robust.

The observed effects of implicit similarity to Senator Clinton suggest that Senator Clinton evokes a wide range of positive sentiments among study participants. The mere suggestion of Senator Clinton's "presence' is sufficient to boost support for an unknown candidate. No other candidate is capable of eliciting this transfer of affection. Does the observed "Clinton effect" extend beyond those who volunteered to participate in this study? The experiment demonstrates that increasing the facial similarity of an unknown candidate to Senator Clinton increases support for the unknown candidate. But some unknown factor, perhaps distinctive to this group of study participants, may have contributed to this effect, which may be larger or smaller in the population as a whole. Most of the participants are readers of the Washington Post; perhaps the Post covered Senator Clinton more extensively than the other source candidates in recent months, and perhaps this coverage has been more sympathetic. In short, we cannot extrapolate from the results of this experiment to the magnitude of the effect among the population at large even though the experiment provides clear evidence that the effect is real.

Given these caveats, why do we observe the effect for Senator Clinton, but not for Mayor Giuliani or Senator McCain who are just as recognizable as the senator? One obvious possibility is the partisan composition of the sample; Democrats outnumber Republicans by more than 4:1. If we had a larger sampling of Republicans perhaps we would find similar effects for McCain or Giuliani. But even when we limit the analysis to the Republicans, the degree of similarity to Giuliani or McCain does nothing for Vaughan's support, suggesting there's something special about Hillary Clinton.

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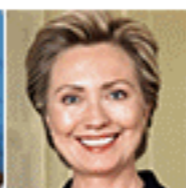
Candidate "Vaughn"

A Stanford study of Post readers tested the effect of familiar faces on voter preference. The study created fictitious political candidates that resembled five actual politicians. The only real politician whose facial features significantly helped a fictitious candidate was Sen. Hillary Clinton.

Clinton Morphs

Rep. Mary Bono	Sen. Hillary Clinton	60% / 40% morph

Rep. Ed Case	Sen. Hillary Clinton	60% / 40% morph

McCain Morphs

Rep. Mary Bono	Sen. John McCain	60% / 40% morph

Rep. Ed Case	Sen. John McCain	60% / 40% morph

Overall Evaluation of "Vaughn" Across Candidate Conditions

Bar chart of Mean Overall by Candidate Condition:
- Sen. Hillary Clinton (D-N.Y.): 0.5685
- Rudolph Giuliani: 0.5440
- Sen. John McCain (R-Ariz.): 0.5165
- Sen. Evan Bayh (D-Ind.): 0.5379
- Sen. Kay Hutchison (R-Texas): 0.5409
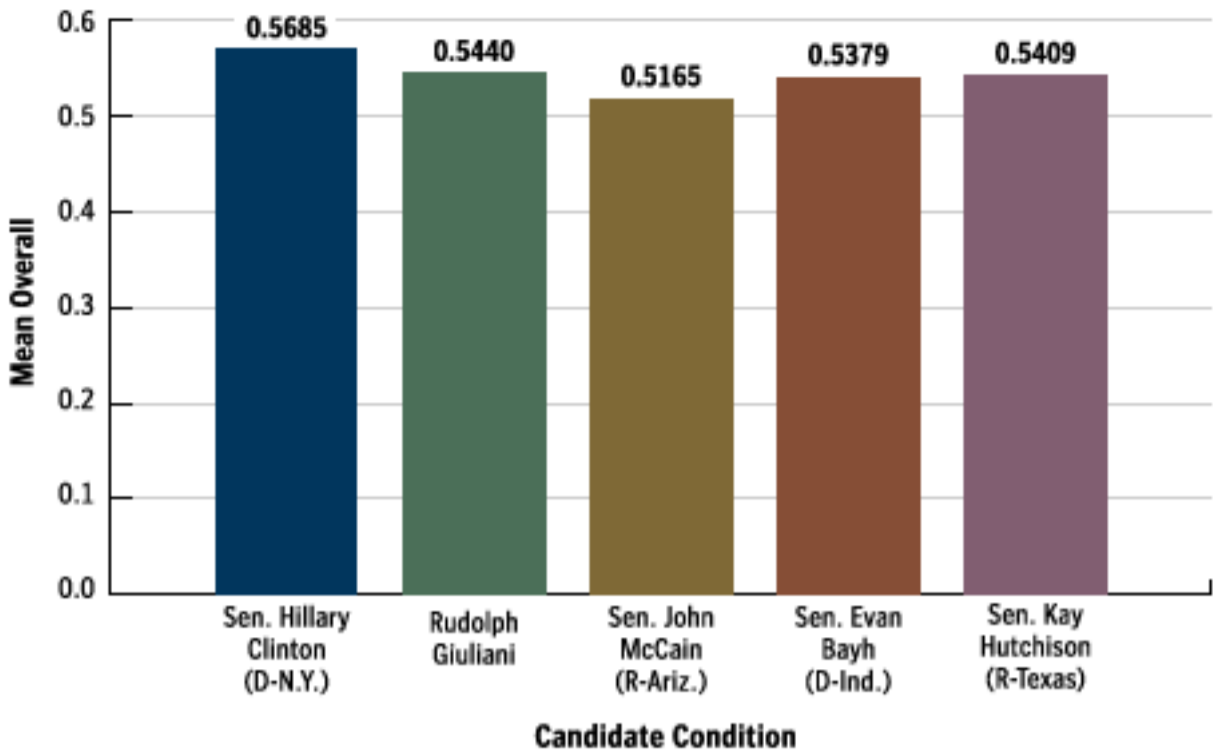
Effects of Morph Level on Overall Evaluation of "Vaughn"

Bar chart of Mean Overall by Candidate Condition (20% and 40% morph):
- Sen. Hillary Clinton (D-N.Y.): 20% = 0.5548, 40% = 0.5827
- Rudolph Giuliani: 20% = 0.5498, 40% = 0.5396
- Sen. John McCain (R-Ariz.): 20% = 0.5433, 40% = 0.4861
- Sen. Evan Bayh (D-Ind.): 20% = 0.5537, 40% = 0.5243
- Sen. Kay Hutchison (R-Texas): 20% = 0.5564, 40% = 0.5247
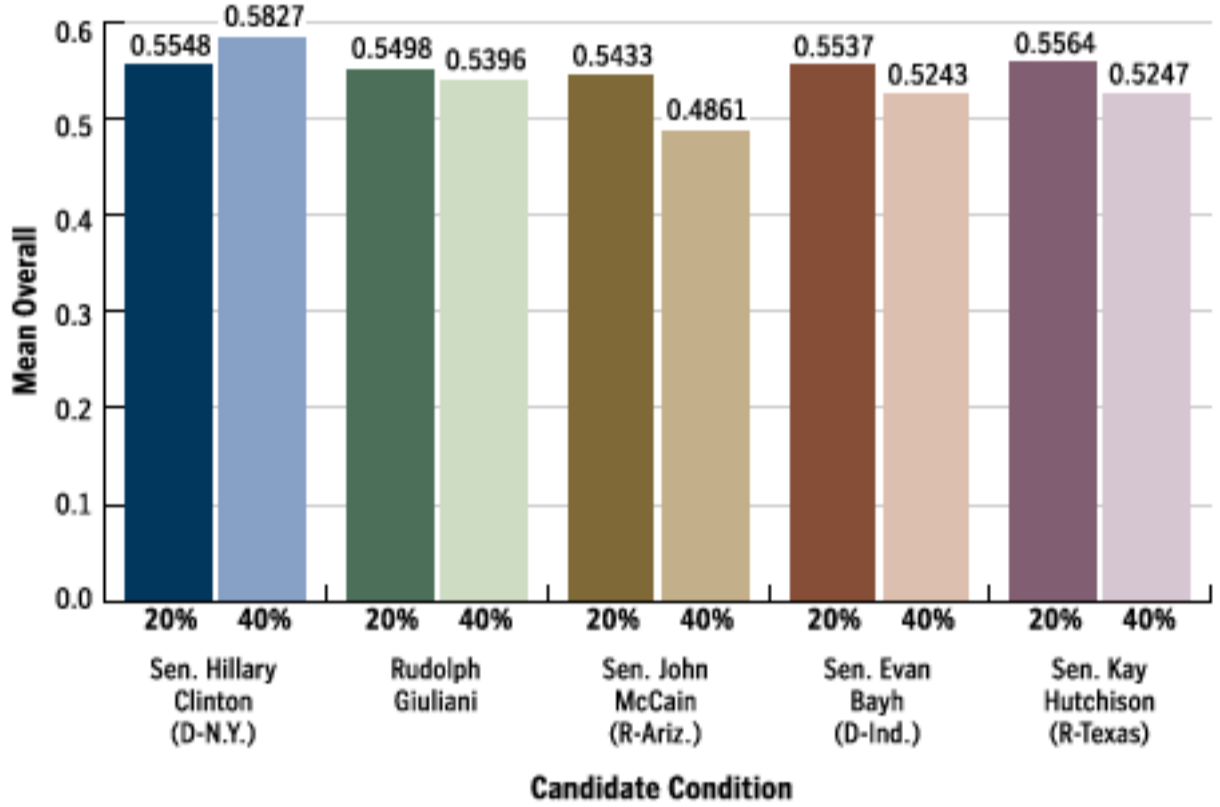
Morph Level vs. Information

Key:
- Bio only: 20% morph
- Bio only: 40% morph
- Bio and issues: 20% morph
- Bio and issues: 40% morph