COMMENTARY

The Attractiveness Halo: Why Some Candidates are Perceived More Favorably than Others

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Abstract Olivola and Todorov (Elected in 100 milliseconds: appearance-based trait inferences and voting. J Nonverbal Behav, 2010) provide a convincing demonstration that competence ratings based on 1-second exposures to paired photos of US congressional candidates predict election outcomes at better than chance levels. However, they do not account for variation in competence judgments. In their analysis, Olivola and Todorov show that attractiveness, familiarity, babyfacedness and age are proximal predictors of vote choice, but find that after controlling for competence these factors no longer reliably influence the margin of electoral victory. Drawing on well-documented halo effects of attractiveness on character-based inferences and the extensive literature on mere exposure effects, we re-organize Olivola and Todorov's analysis into a simple path model to explore the causal ordering of these factors. We find that spontaneous assessments of attractiveness and familiarity occur prior to attributions of competence, and thus exert a downstream effect on judgments of competence.

Voting is a complex process determined by a range of factors, including partisanship (Campbell et al. 1960; Green et al. 2002), ideological proximity (Downs 1957), and judgments of economic performance (Fiorina 1981). Recent research by Todorov and colleagues has shown that in the absence of these traditional explanatory variables, snap-judgments of competence based on short exposures to paired photos of US congressional candidates predicted actual election outcomes at substantially better than chance levels (Todorov et al. 2005; Benjamin and Shapiro 2009). In their target article featured in this volume, Olivola and Todorov (2010) argue that it is *competence* judgments in particular that predict electoral preferences, and they find that competence is more strongly associated with actual election outcomes than are other facial cues such as attractiveness, familiarity, age, or babyfacedness. While we find no fault with their results, we consider whether judgments of competence function as rationalizations that occur earlier in the

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stream of information processing. Our commentary thus focuses on how people arrive at competence judgments in the first place.

To examine this question, we reconstruct the analysis presented by Olivola and Todorov (2010) into a mediational path model, following the procedures outlined by Baron and Kenny (1986). For clarity, we did not conduct any of the data analysis ourselves; rather, we simply reorganized the analyses presented by Olivola and Todorov (2010) in their target article. To demonstrate mediation, three conditions must be satisfied. First, the exogenous variables must have a direct effect on the dependent variable when the mediator is excluded: there must be something to mediate. Second, the independent variables must have an effect on the mediator. And third, after controlling for the mediator, the exogenous variables should no longer have an impact on the dependent variable.

As depicted in Fig. 1 (extracted from data presented in Olivola and Todorov's Tables 2, 3, and 5), attractiveness, familiarity and age are strongly correlated with the vote differential for political candidates. Thus, the first condition is satisfied for these variables: there is a relationship to be mediated. Babyfacedness, however, is not related to election outcomes and therefore competence cannot mediate this relationship.[1]

Second, attractiveness, babyfacedness, and familiarity exert a strong influence on competence judgments, and analyses presented by Olivola and Todorov (in their Table 3) indicate that these relationships remain significant when the variables are entered into the model simultaneously. Thus, the paths from these variables to competence capture unique variance, and are not inflated by variable omission. Hence it appears that these characteristics lead participants to perceive some candidates as more competent than others.[2]

Finally, when competence is included in the regression model, it is the best predictor of the vote differential; moreover, the impact of the alternative variables drops to non-significance.[3] This latter finding is the focus of Olivola and Todorov's explanation, and leads them to rule out attractiveness, familiarity, and babyfacedness as causes of election outcomes. Consistent with Olivola and Todorov, these analyses demonstrate that "thin-sliced" exposures to candidate photos trigger judgments of competence which are clearly predictive of the margin of victory, but our analyses show that the fast appraisal of the candidates' relative attractiveness and familiarity may drive perceptions of competence.

Looking more closely at Fig. 1, it is possible to extract the indirect effects of attractiveness and familiarity on the differential of votes received by each candidate. Specifically, the indirect effect of attractiveness is 0.203, which corresponds to 70% of the total effect of attractiveness on the vote differential. Similarly, the indirect of effect of familiarity is 0.364, which amounts to a whopping 89% of the total effect of familiarity on election outcomes. Thus, the bulk of the effects of both attractiveness and familiarity on vote outcomes appear to operate through perceptions of candidate competence.

Our interpretation of these results differs from that offered by Olivola and Todorov. Specifically, rather than ruling out the effects of attractiveness and familiarity on electoral success, we suspect that these factors are causally prior to, and fully mediated by judgments of competence. Specifically, the more attractive and more familiar the candidate, the more competent the candidate is perceived, which in turn increases the probability that the candidate will win the election.

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[1] These correlations with vote share are equivalent to standardized regression coefficients in models with only one independent variable.

[2] By contrast, perceived age does not influence perceptions of competence.

[3] Perceived age of the candidate continues to affect the differential vote share but because perceived age was not related to competence, this effect is independent of competence.
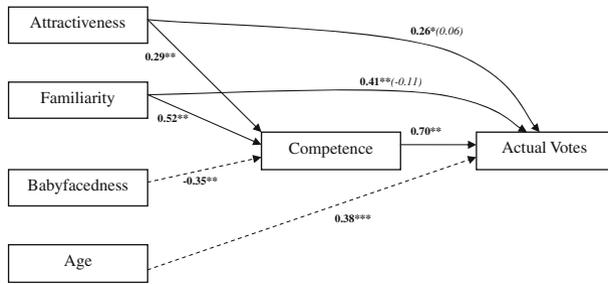
Fig. 1 Path analysis showing competence mediates the effects of attractiveness and familiarity on actual votes. *Note*: Path coefficients are taken from Oliviola and Todorov's Tables 2, 3 and 5. *Solid lines* show mediated paths while *dashed lines* show significant unmediated paths. *Italicized* coefficients show the remaining direct effects

This leaves two variables that are not mediated by competence. First, by virtue of the fact that babyfacedness does not have a direct link with election outcomes there is simply no effect to be mediated. Interestingly, babyfacedness does decrease perceptions of competence, but since babyfacedness is not related to the margin of victory, we cannot conclude that there is an indirect effect that runs through competence. In contrast, perceived age does have a direct effect on the margin of victory, with older candidates being more likely to enjoy electoral success. However, perceptions of age are unrelated to competence, ruling out competence as a mediator on vote choice.

It is important to point out that these effects are purely based on correlations, which requires the necessary caveat that, strictly speaking, this is not a test of a causal process, but rather an illustration of one possible—and we think plausible—causal chain. A demonstration of causality would require the independent manipulation of the presumed exogenous variables (which in this case would be those listed on the left hand side of Fig. 1). In the case of familiarity, babyfacedness and age, that may be difficult, yet possible. Moreover, the facial features that lead people to perceive candidates as attractive are highly similar to those that heighten perceptions of competence (Baudouin and Tiberghien 2004; Perrett et al. 1999). Our argument is thus based on the logical and *theoretical* priority of attractiveness and familiarity vis-à-vis perceptions of competence. As the results of the path analysis map of the meditational relationships among familiarity, attractiveness, and competence, in the next two sections we will focus on these variables. Importantly, prior research indicates that attractiveness has impressive effects at the pre-cognitive stage of information processing, suggesting the possibility of a logical primacy relative to intuitive judgments of competence.

Familiarity Breeds Positivity

In preparation for our own project, Alexander Todorov graciously shared the stimuli from one of his prior studies (Todorov et al. 2005). Upon examination of these stimuli, we noticed that several prominent political personalities were among them, including Tom Ridge (former Secretary of Homeland Security), Howard Dean (former presidential candidate and chairman of the Democratic National Committee), and Jeb Bush (former governor of Florida and brother of President G.W. Bush). If, as research on the mere exposure effect demonstrates (see Zajonc, 2001), judgments of competence may have been influenced by prior exposure

to—and thus familiarity with—the candidates. As is evident from the path analysis presented in Fig. 1, familiarity strongly heightens perceptions of candidate competence. This causal sequence is consistent with experimental work in which familiarity is manipulated by repeated stimulus exposure. For example, Zajonc (1968) demonstrated that repeated exposure to nonsense words, Chinese ideographs, or photographs was enough to induce positive evaluations of the object. These familiarity effects have been extended to sounds, shapes, people, and names (Bornstein 1989; Harmon-Jones and Allen 2001).

The extant literature on exposure effects forcefully demonstrates that frequency of exposure leads to positive evaluations of a stimulus. Essentially, familiarity breeds positivity. Thus, *ceteris paribus*, candidates perceived as familiar should be judged more favorably than their less easily recognized counterparts. We believe it is likely that this positivity would be rationalized into a *context-relevant* trait, which in the case of political candidates is competence. Quite possibly, then, familiarity may drive incumbency effects, as incumbents are typically far more familiar to voters than challengers. A variation on this effect was obtained in studies on candidate name recognition in the political science literature on congressional elections (Popkin 1991; Kahn and Kenney 1999; Mayhew 1974). Following from this, we would expect incumbents to be perceived as more competent than challengers.

This familiarity effect, however, is not necessarily contingent on prior exposure. In research in a related vein, familiarity with a political candidate was manipulated by blending a political candidate's facial features with a participant's facial features (Bailenson et al. 2008). This blending process leads participants to accurately perceive their own facial features in the candidate, and heightens familiarity (after all, who is more familiar to us than ourselves?) and ultimately overall candidate evaluation. Thus, independent of acquiring any information about the candidate, perceptions of familiarity can exert strong effects on candidate judgments.

What appears clear from the exposure literature is that these familiarity judgments occur very quickly and are not mediated by conscious thought (Zajonc 1968; Bornstein 1989; Harmon-Jones and Allen 2001). Thus, in line with our argument, preconscious familiarity judgments logically precede judgments of competence. It is likely, then, that the competence judgments are, in part, a rationalization of preconscious perceptions of familiarity.

Attractiveness Breeds Positivity

In examining the results presented in the path analysis, one may also discern a halo effect from attractiveness to competence judgments along with such other traits as trustworthiness or ambition, depicted in Fig. 2. As with familiarity, implicit judgments of competence
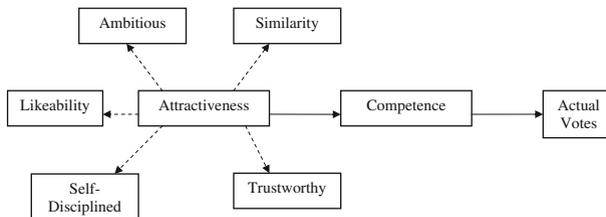

Fig. 2 The halo effect around attractiveness and the causal path from attractiveness, through competence judgments to the actual vote shares for Senate elections

(or other trait judgments) may be rationalizations or secondary appraisals of more immediate perceptions of attractiveness. In this section, we draw on research in developmental psychology and neuropsychology to argue that these spontaneous assessments of attractiveness are biologically driven, and likely occur prior to appraisals of competence.

Research finds that we tend to ascribe a broad range of positive traits to people that we find physically attractive. This attractiveness halo appears to occur cross-culturally, and to operate at the implicit level, bypassing conscious awareness (Dion et al. 1972; Langlois et al. 2000). These automatic judgments, while powerful, thus remain unregistered by the conscious mind. Given that facial appearance comes very early in the perceptual stream, the primacy of attractiveness as a perceptual anchor should not be entirely surprising. There is a robust beautiful-is-good stereotyping effect in the electoral decision-making literature as well, as attractive candidates are seen as possessing more integrity, competence, likeableness, open-mindedness, extraversion, and fitness for public office—factors all related to positive evaluations (Rosenberg and McCafferty 1987; Todorov et al. 2005; Kinder et al. 1980). The attractiveness halo in politics is thus likely to be mediated by trait dimensions beyond competence.

Germane to the present discussion, Antonakis and Dalgas (2009) recently conducted a modified version of the Todorov et al. (2005) experiment using Swiss children ranging in age from 5 to 13 years old (as well as a separate adult sample) to predict French parliamentary election outcomes. Importantly, Antonakis and Dalgas found that their results did not depend on age, suggesting (parsimoniously) that the same judgmental process occurred across age groups. Their results would seem to support Todorov's conclusion regarding the primacy of competence. At the very least, since Swiss children are unlikely to have had any exposure to French politicians, the results rule out any influence of familiarity.

However, their findings leave room for the possibility, a strong one we think, for the causal precedence of attractiveness. To assess competence in Antonakis and Dalgas's study, the children were asked which of two people (the candidates) they would prefer to be the captain of their boat. It is difficult to imagine that young children have the same understanding of competence as adults, yet the two questions—the standard competence question for the adult subjects and the boat captain question for the children—produced the same result. We believe it is likely that in each case, judgments of attractiveness occurred spontaneously on exposure to the pairs of faces, and that among the adult subjects these automatic judgments were subsequently rationalized into judgments of competence (a normatively more relevant dimension of candidate character).

To bolster our argument regarding the logical priority of attractiveness judgments, we point to evidence of their biological origins. This evidence comes in two forms. First, babies as young as 3 months gaze longer at attractive than unattractive faces, regardless of a stimulus person's gender, age, or race (Langlois et al. 1991). Thus, babies who could not possibly have been socialized into culturally accepted stereotypes of beauty come to remarkably similar "conclusions" as adults with regard to aesthetic judgments. We suspect that the judgment task used by Antonakis and Dalgas (2009) corresponds more closely with the infant attractiveness judgments identified by Langlois et al. than the adult competence judgments suggested by Olivola and Todorov. Furthermore, the fact that Antonakis and Dalgas's findings were not moderated by subject age is an argument for process homogeneity across the adult and child samples. Second, neuropsychologists have identified localized regions of the brain that process facial attractiveness, including the medial orbitofrontal cortex, the fusiform face area, the lateral occipital cortex, and the amygdala (O'Doherty et al. 2003; Ishai 2006; Winston et al. 2006). These brain substrates may

account for the pervasive effects of facial attractiveness in social and political judgment (Langlois et al. 2000).

The research proposed by Olivola and Todorov explores the specific structural facial features that make political candidates appear more or less competent. Specifically, they find that faces are perceived as more competent as they become more angular, as the distance between the eyes and eyebrows decreases, and when the cheekbones are higher. These are precisely the characteristics that heighten perceptions of facial attractiveness (Baudouin and Tiberghien 2004; Perrett et al. 1999). At present, then, the question of what accounts for Todorov and colleagues' electoral findings—competence or attractiveness (or some blend of each)—is indeterminate. To confidently rule out the claim that the findings are mediated by assessments of competence rather than attractiveness, it would be necessary to hold the latter constant while experimentally manipulating the former. For the reasons described above, we believe that doing so will prove extremely difficult.

Conclusion

There is persuasive evidence that thin-sliced judgments of competence—based purely on paired photos of US congressional candidates—predict election outcomes at considerably better than chance levels. This effect is all the more remarkable given that election campaigns take several months (or in the case of presidential elections, years) to unfold, and that during this time citizens have been exposed to a great deal of information. We take no issue with Todorov and colleagues' findings; rather, we seek to understand the factors that give rise of judgments of competence. We suggest that such ratings are, at least in part, rationalizations of other *preconscious* judgments: namely familiarity and attractiveness.

Based entirely on the results presented by Olivola and Todorov, we explored these two nonexclusive explanations. With respect to familiarity, the analysis shows that competence judgments completely mediate its effect on actual vote outcomes. Based on the enormous literature demonstrating exposure effects, preconscious familiarity likely activates positive feelings that are used to construct subsequent evaluative judgments, including those related to competence. This line of reasoning is bolstered by studies that experimentally blend aspects the participant's own face (i.e., the exemplar of familiarity) with the facial features of a political candidate, yielding increased favorability judgments.

Independently, preconscious attractiveness judgments are also fully mediated by assessments of competence. Based on the longstanding finding that people implicitly believe that what is beautiful is good, these attractiveness judgments create an inferential halo around political candidates, prompting subsequent trait judgments about them. Our interpretation of the analysis leads to similar conclusions. Thin-slice judgments of various traits all load on the same latent factor; they all correlate with the election outcomes at approximately the same level, and they all induce comparable judgment biases. It is thus not possible, at present, anyway, to disentangle their unique effects.

In any case, these indeterminacies do not detract from the value of Todorov and colleagues' work. Their findings are truly remarkable. Without any information about party identification, ideological proximity, or details about a specific election, participants can predict—with an astounding degree of success—which candidate will emerge as the victor. In fact, other research has demonstrated that these thin-sliced judgments do almost as well as the best election forecasting models available (Benjamin and Shapiro 2009). Accepting the main thrust of these findings, we turned our attention to the basic building blocks of

these judgments, with an eye toward gaining insight into exactly how these rapid competence judgments are formed.

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