

Candidates' Facial Attractiveness and Electoral Success Evidence from Japan's Upper House Elections¹

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Introduction

Do better looking candidates gain more votes in elections? When voters evaluate candidates running for office, they use information cues and heuristics, which may or may not be directly related to politics. Existing research shows that a candidate's physical appearance—facial attractiveness, in particular—affects not only how voters evaluate the candidate but also the fate of his or her election outcome. Yet, some studies argue that a candidate's facial expressions, such as smiling, increase his or her votes, while others claim that voters' impressions of the candidate's face, such as competent looking, influence their vote choice. Thus, these factors might play more important roles in voting behavior than does candidates' facial attractiveness.

Our study innovates this line of research by examining the effects of candidates' facial attractiveness on vote share while controlling for their facial expressions and impressions. Moreover, we use original data of a survey that asked more than 1,400 American voters to subjectively evaluate 494 faces of Japanese candidates running for the Upper House elections in 2013 and 2016. We combine the data of those ratings of candidate faces with those of their actual election outcomes as well as personal attributes. By so doing, we conservatively assess whether the relationship between candidates' facial attractiveness and their vote share persists even when the former is evaluated by people in totally different cultures and racial groups.

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The results of our study demonstrate that Japanese voters select a candidate running for national office partly based on his or her facial attractiveness: candidates increase their vote share as they have higher attractiveness scores, though their facial expressions and impressions have a null effect on their vote share. Importantly, a candidate's facial attractiveness is not negligible in the sense that it has almost the same effect size as seniority does. These results provide evidence that suggests not a few voters rely on easy and intuitive but some specific cues to evaluate candidates.

Influence of candidates' faces on elections

Voters often rely on heuristics to reduce their cognitive burdens in evaluating candidates running for office (Lupia and McCubbins 1998; Popkin 1991). When they rely on heuristics, they may be rational in the sense that they are able to minimize the cost to gather information to evaluate individual candidates. However, in this process, there is a possibility that they irrationally use candidates' faces as an information cue and judge candidates based on their faces spontaneously even though those faces do not necessarily reflect the actual political capability of the candidates.⁴ Recent studies show that voters are able to predict electoral outcomes from 10-second silent video clips of political debate between candidates (Benjamin and Shapiro 2009) or even from a 100-millisecond candidate face exposure (Ballew and Todorov 2007). These results imply that facial cues play some important roles when voters evaluate candidates.

A number of existing studies suggest that *facial attractiveness* in particular matters as a heuristic device in elections showing that better looking candidates gain more votes (Ahler, Citrin, Dougal, and Lenz 2017; Berggren, Jodhal, and Pautvaara 2010; King and Leigh 2009; Praino and Stockemer 2018).⁵ Facially attractive politicians can even minimize the damage caused by scandals (Stockemer and Praino 2018). Some studies argue that facial attractiveness works as an effective cue only for uninformed or less knowledgeable voters (Lenz and Lawson 2011; Stockemer and Praino 2015), but it appears that facial attractiveness has a sufficiently large effect to change the fate of candidates in elections.

⁴ Olivola and Todorov (2010a) point out the tendency that appearance-based inferences detriment the accuracy of judgment.

⁵ There is a debate whether facial attractiveness is determined by symmetry or averageness (Baudouin and Tiberghien 2004; Komori, Kawamura, and Ishikawa 2009), but the determinant of facial attractiveness is beyond the scope of this study.

While facial attractiveness may be one of important face cues delivered from candidates to voters, *facial expressions* and *facial impressions* may also exert significant influence on electoral outcomes. Candidates can change voters' preferences by manipulating their own images (Rosenberg and McCafferty 1987). For instance, candidates often use their face images in their campaign materials. By using those campaign materials in Australia and Japan, Horiuchi, Komatsu, and Nakaya (2012) demonstrate that facial expressions—smiling in campaign photos—have a significant effect on election outcomes. Similarly, Asano and Patterson (2018) show that smiling increases electoral support especially in electoral districts with low turnout rates.

The correlation between facial expressions and electoral outcomes found on those studies may be partly because candidate images influence voters' perceptions (Rosenberg, et al. 1986). Smiling, for instance, affects the judgements of one's trustworthiness (Ozono, et al. 2010). Multiple studies show that facial impressions influence vote choice. Yet, what constitute influential facial impressions in elections differs across studies. While some studies argue that competent looking candidates are more likely to win than others (Atkinson, Enos, and Hill 2009; Todorov, Mandisodza, Goren, and Hall 2005; Olivola and Todorov 2010b), other studies argue that facial dominance as well as facial competence are important, showing that, in the conservative camp, candidates with a dominant looking face are not only able to gain more votes in elections but also more likely to be nominated by a party (Laustsen and Petersen 2016; Laustsen and Petersen 2018).

Furthermore, while Olivola and Todorov (2010) argue that facial attractiveness loses its power to influence electoral outcomes once controlling for facial competence, Praino, Stockemer, and Ratis (2014) show that both facial attractiveness and facial competence are important for the electoral success of candidates. Thus, the literature is still inconclusive about which one of the three face cues—facial attractiveness, facial expression, and facial impression—is more important as the source of candidates' electoral advantage. Our study contributes to the literature by comparing the influence of these three types of facial cues on election outcomes to understand the role of seemingly unrelated information in elections.

Understanding the effects of face cues on voting behavior is an important issue. There is a debate among political science scholars on the effectiveness of democracy. Some

argue that voters do not have sufficient knowledge of politics and that democracies do not effectively function because voters are biased and easily misguided by rumors and false information (Achen and Bartels 2016). In contrast, others claim that such voters are still able to make informed choices and good enough judgements to make democracy work with the help of experts and people surrounding them (Lupia and McCubbins 1998; Lupia 2016). By examining how and when candidate face cues influence vote choice, we aim to contribute to the understanding of whether voters can make reasonable judgements for the functioning of democracy and how they can do better.

Research Design

To examine whether better looking candidates gain more votes in elections even after controlling for their facial expressions and impressions, we employ the images of all the candidates running for the 2013 and 2016 Upper House elections in Japan. Specifically, there is a total of 494 candidates run for the elections at the district level. At least three advantages exist in the use of these images. First, district magnitudes differ significantly across districts in the upper house election, which enables us to test whether the effects of facial cues on electoral success differ depending on the size of district magnitudes (electoral rules). Second, as a half of the upper house seats are contested every three years, we are able to control for the effects of election contexts by covering two election cycles (2013 and 2016) without much duplications of candidates. Third, and most importantly, major Japanese newspaper companies have a database of candidate face images, which were individually taken by their own correspondents in a uniform format. This allows us to analyze the images of all the candidate running for election without suffering from the missing data problem. At the same time, we are able to avoid relying on campaign materials, which may have been manipulated by candidates themselves. In this study, we use candidate face images offered by Asahi Shimbun, which is one of the major newspaper companies in Japan.

We ask American voters recruited via Amazon Mechanical Turk to evaluate those Japanese candidate faces on two dimensions: facial attractiveness and facial impression. This enables us to minimize the biases caused by evaluating familiar faces. At the same time, the existing literature suggests that voters' snap judgments of appearance travel across cultures (Lawson, Lenz, Baker, and Myers 2010; Rule, et al. 2010), and by using scores evaluated by Americans, we are able to test this and

examine whether American voters as outgroup members can still predict Japanese voter behavior solely from candidate face cues.

In the survey, we randomly select 20 candidates out of 494 for each American voter recruited as a respondent, and then display their face pictures one by one (informing that they are all Japanese candidates running for national office). For each candidate picture, we ask the respondent to evaluate the candidate's attractiveness, impressions, and chance of winning election.⁶ Note that, as a practice session, we also show 10 fixed candidate face pictures taken from among those running for the Lower House election before asking individual respondents to evaluate these 20 randomly selected pictures. The exact question wording for each question is shown below:

Candidate's attractiveness (Campbell, Converse, and Rodgers 1971; Hamermesh 2011)

Please rate this candidate's physical appearance on the five-point scale.

- 5: Strikingly beautiful or handsome
- 4: Good looking (above average for age and sex)
- 3: Average looks for age and sex
- 2: Quite plain (below average for age and sex)
- 1: Homely

Candidate's impressions (Dolan 2014)

How much do you think each of the terms below would describe this candidate?
There is no right or wrong answer. Please rely on your "gut instincts" when responding. (5-point scale: A great deal – None at all)

- Dominant
- Trustworthy
- Decisive
- Compassionate
- Competent
- Can build consensus
- Has political experience

⁶ In this study, we do not use the winning election chance score because it is beyond the scope of this paper.

Candidate's chance of winning election

How likely do you think this candidate is to win the upcoming national-level election in Japan?

- 5: Very likely
- 4: Somewhat likely
- 3: Neither likely nor unlikely
- 2: Somewhat unlikely
- 1: Very unlikely

We measure the two dimensions of face cues—facial attractiveness and impressions—by asking American voters to subjectively evaluate those. Different from these two dimensions, we objectively measure the third dimension of face cues, facial expression, by using an image sensing technology, called OKAO Vision, developed by a Japanese electronics company (Omron Corporation). It provides us multiple facial expression indices, but in this study, we employ a smiling index, which indicates to what extent a candidate's face is smiling in a continuous manner.

Data and variables

We recruited a total 1,415 American voters as a survey respondent via Amazon Mechanical Turk and implemented our face evaluation tasks in December 2017 to collect data necessary to calculate multiple face evaluation indices. Since each respondent evaluated 20 randomly selected candidate faces (out of 494), each candidate's face picture in our dataset has scores evaluated by on average 57.3 respondents for each item. We calculated an average score for each item to use it as an index in this study. Table 1 show summary statistics for each item. As we mentioned above, the smiling score has been measured by the image sensing technology (we computed an average value from three measurement trials).

Table 1 Summary statistics

	N	Mean	SD	Min	Max
Looks	494	2.926	0.488	1.608	4.271
Chance	494	3.274	0.403	1.804	4.333
Smile	494	20.491	28.58	0	100
Dominate	494	3.054	0.391	2.024	4.034

Trust	494	3.016	0.292	1.961	3.76
Decisive	494	3.315	0.268	2.585	4
Compassionate	494	2.969	0.344	1.961	3.86
Competent	494	3.394	0.249	2.275	4.14
Consensus	494	3.195	0.266	2.157	3.912
Experience	494	3.172	0.413	1.922	4.317

To examine the effect of candidate attractiveness on vote share, we further incorporated the data of candidate attributes (such as age, sex, seniority, party affiliation, electoral district, and etc.) as well as election outcomes. The candidate and election data was drawn from the website of Asahi Shimbun, one of major Japanese newspapers, and we supplemented it with the data supplied by Ko Maeda.

The dependent variable is a candidate's vote share in the electoral district (VOTESHARE). It varies significantly across candidates. The average value is 18.6%, and the minimum and maximum values are 0.1% and 84.5%, respectively.

The main explanatory variable is a candidate's attractiveness (Looks), evaluated subjectively by American voters. Since voters are assumed to compare candidates within their district rather than comparing nation-wide candidates in elections, we calculate the relative attractiveness at the district level for each candidate and use it as our main explanatory variable (relative.Looks). That is, we first compute the average attractiveness score among candidates in each electoral district and then take a difference between a candidate's attractiveness score and his/her district's average score. Note that the results are substantively the same even when we employ candidate facial attractiveness scores (Looks) instead of using relative attractiveness scores (relative_Looks).

We employ the same procedure to calculate the relative scores for facial expression (relative.SMILE) and impressions (relative.Dominate, relative.Trust, relative.Decisive, relative.Compassionate, relative.Competent, relative.Consesus, relative.Experience), and use them as additional explanatory variables in the models.

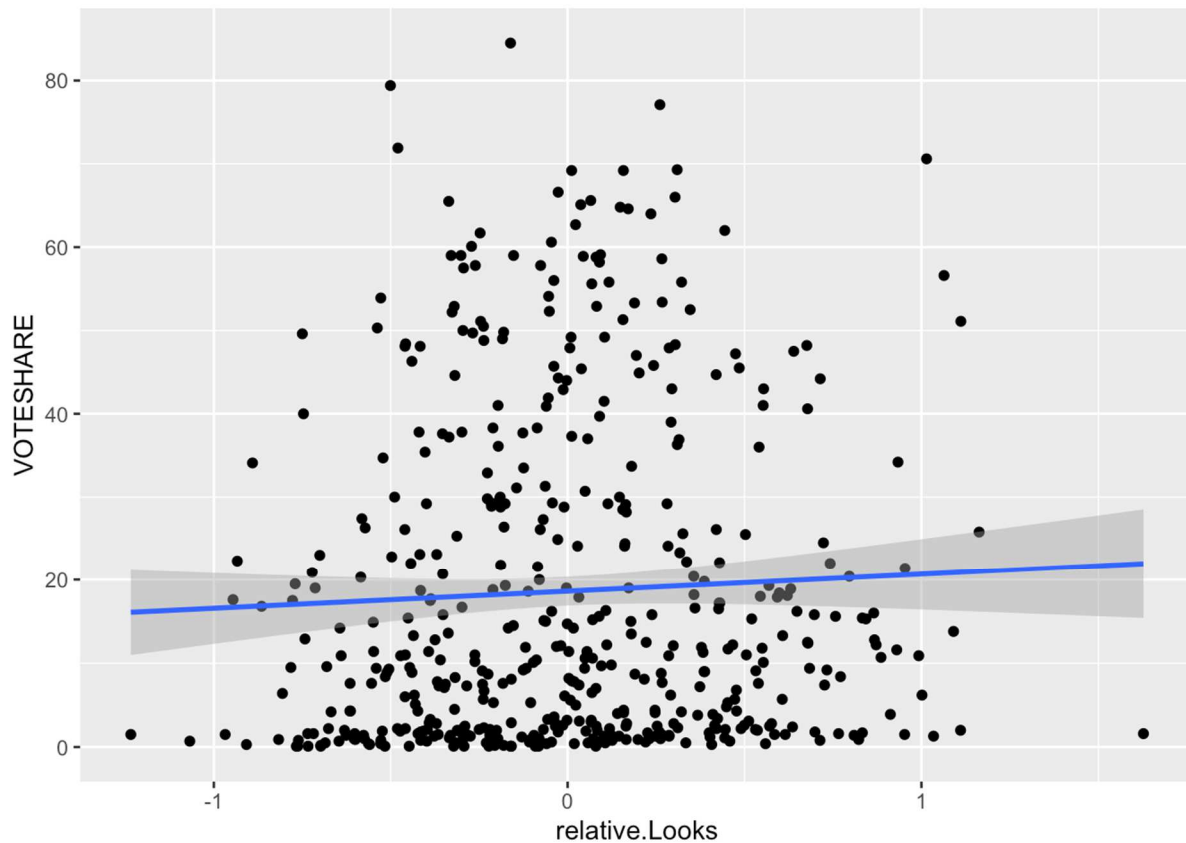
In addition to these, as control variables, we employ a candidate's personal attributes (such as sex (MALE), seniority (TERM), incumbency status (INC), age (AGE), and party

affiliation dummies), district-level characteristics (such as district magnitude (DM) and the number of candidates (NOCAND)), and the election year dummy (d2016).

Results of empirical analyses

We first show a scatter plot in Figure 1 that displays the simple correlation between candidates' vote shares and relative attractiveness scores. There seems a slight positive relationship between them, suggesting that better looking candidates tend to increase their vote shares. The average value of relative.Looks is 0, and its minimum and maximum values are -1.235 and 1.628, respectively.

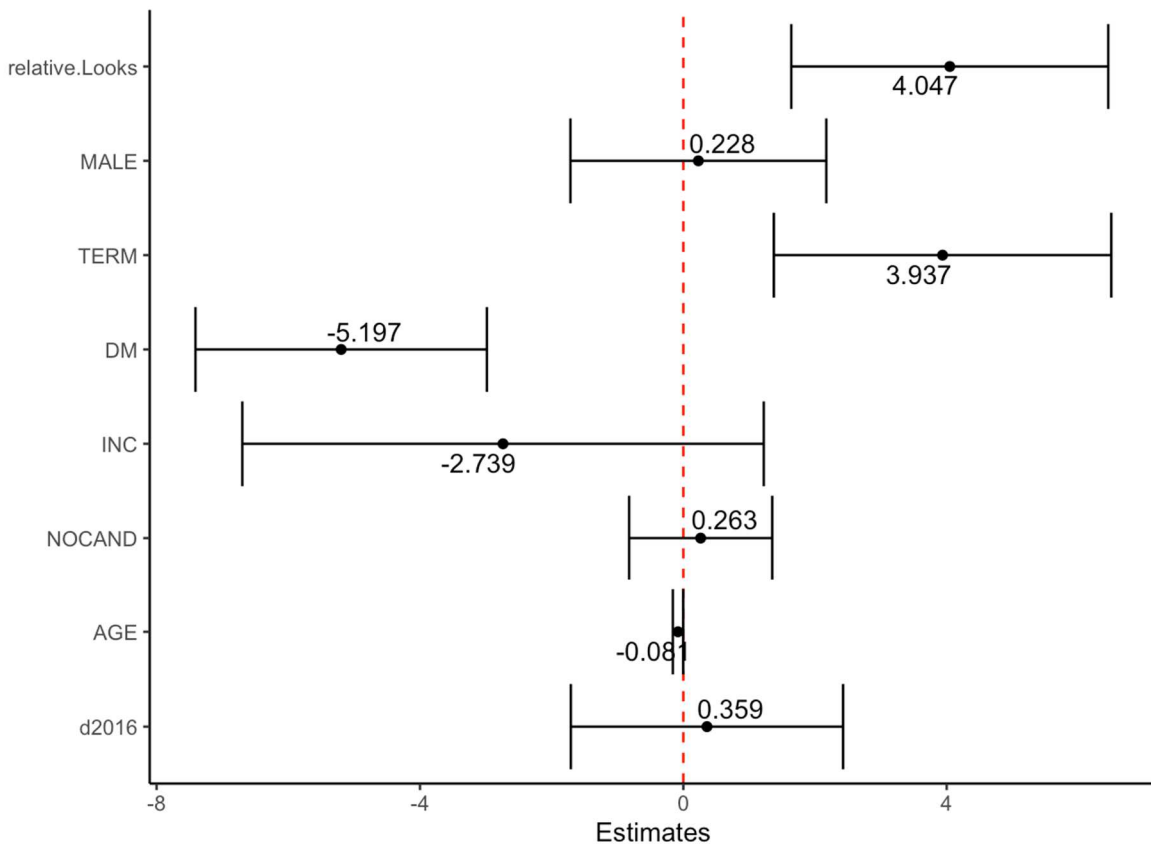
Figure 1 Scatter plot



In order to test whether a candidate's facial attractiveness has a positive effect on his/her vote share, we next run a series of linear regression models and show those outcomes. In addition to control variables, Model 1 includes only a candidate's facial attractiveness as a face cue. Standard errors are clustered by electoral districts. Figure 2 shows the plots of coefficient estimates in Model 1. The results indicate that a candidate's facial attractiveness has a significant effect on his/her vote share,

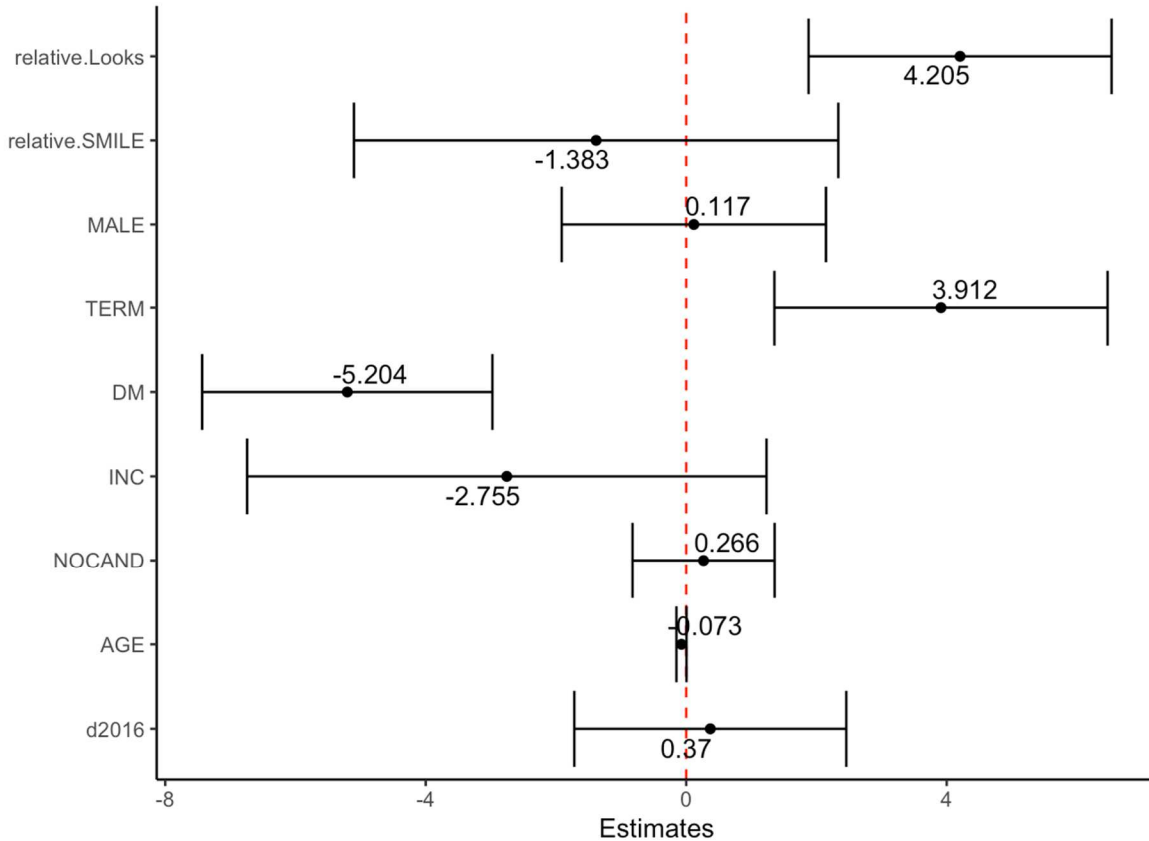
suggesting that one-point increase in the relative attractiveness score boosts a candidate's vote share by 4 percentage point. Given that one-term increase in legislative career boosts a candidate's vote share by 3.9 percentage point, this effect of facial attractiveness on vote share is not negligible.

Figure 2 Coefficient estimate plot (Model 1: Looks only)



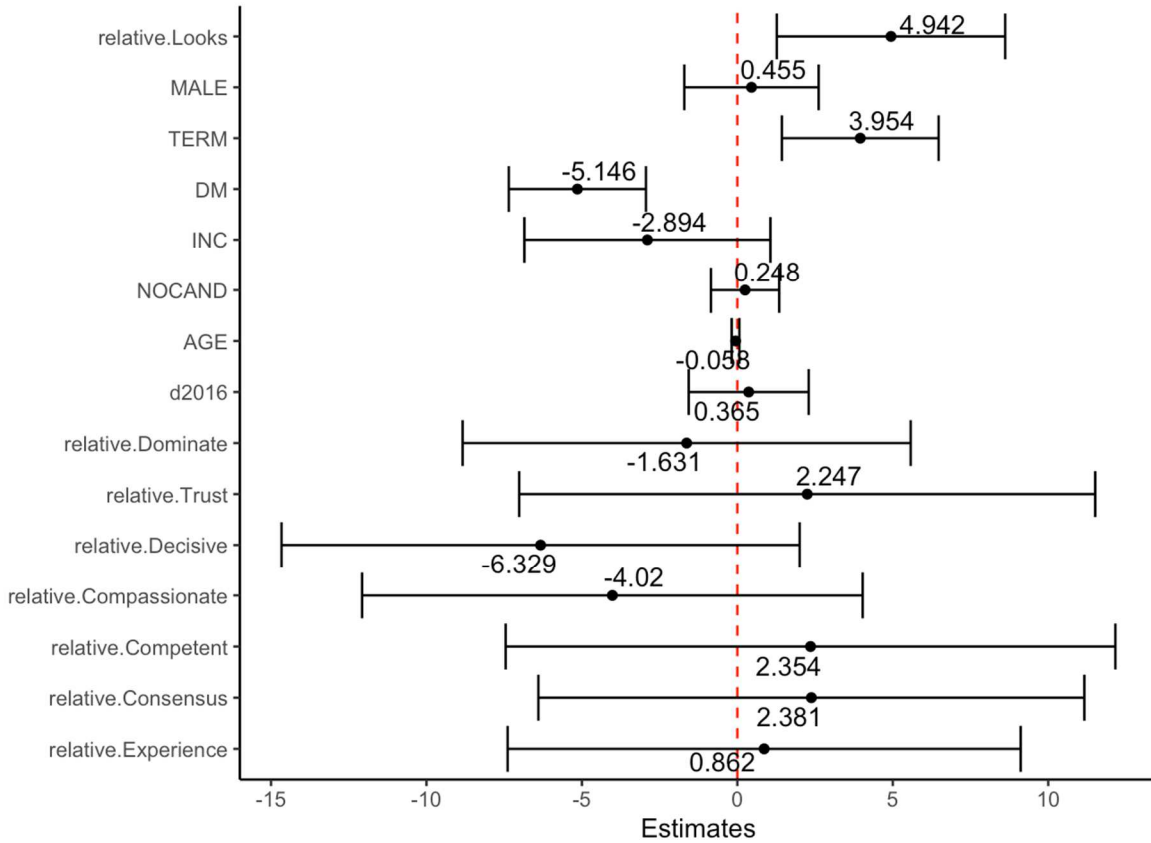
In Model 2, we add a candidate's smile index to Model 1. This allows us to see whether the effect of facial attractiveness still remains significant after controlling for candidate facial expression (relative.Smile). The results are shown in Figure 3, which demonstrates that the coefficient estimate of facial attractiveness (relative.Looks) is 4.2 percentage point and statistically significant at the 1% level, while the one of facial expression is not statistically significant.

Figure 3 Coefficient estimate plot (Model 2: Looks and Smile)



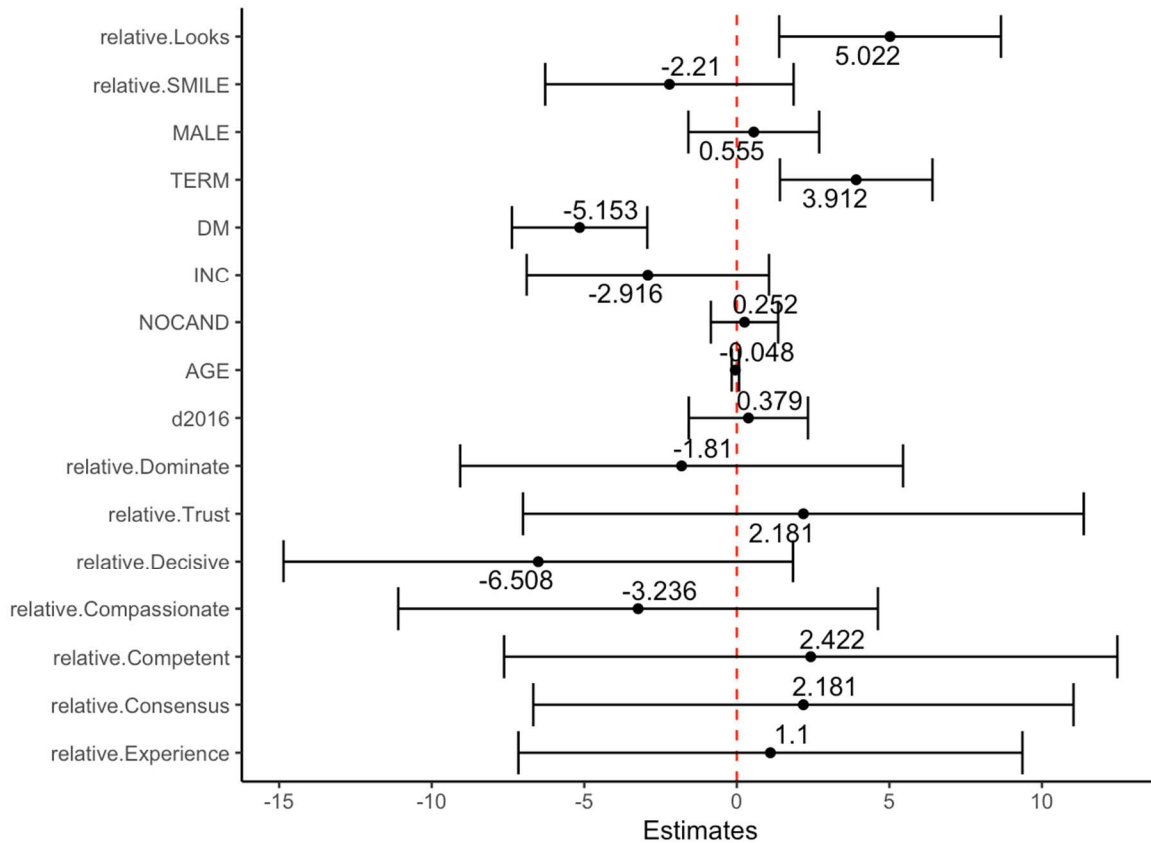
We next show the results of Model 3 that incorporate a series of variables measuring candidate facial impressions (relative.Dominate, relative.Trustworthy, relative.Compassionate, relative.Competent, relative.Consensus, resulative.Experience) into Model 1. Figure 4 below shows the coefficient estimates of variables in Model 3. The results indicate that the coefficient estimate of facial attractiveness (relative.Looks) is 4.9 percentage point and statistically significant at the 5% level ($p = 0.0102$), while none of the facial impression scores, including facial competence, are statistically significant. The reason why the confidence intervals of facial impression variables are wide might be because they are highly correlated with each other.

Figure 4 Coefficient estimate plot (Model 3: Looks and Impressions)



Finally, Model 4 incorporates all of the facial cue variables (Looks, Smile, and Impressions) at once. The results are shown in Figure 5. The coefficient estimate of facial attractiveness is still statistically significant at the 1% level and substantively large as well (one point increase in the relative attractiveness leads to 5.2 percentage point increase in vote share). In contrast, facial expression and impressions do not have any effects on vote share when facial attractiveness is taken into account.

Figure 5 Coefficient estimate plot (Model 4: Looks, Smile, and Impressions)



Conclusion

In this study, we examined the effects of candidate face cues on election outcomes by using the case of the Upper House elections in Japan. Our findings demonstrate that candidate facial attractiveness increases vote share even after controlling for other facial cues, such as facial competence and smiling. Moreover, candidates' facial expressions and impressions, which have been considered as important factors in the existing literature, are found no correlation with vote share when we take facial attractiveness into account. These results indicate that voters use face cues when they evaluate candidates even though candidates' faces may be nothing to do with their actual capability in politics. In particular, their political judgements have been obscured by candidate beautiful faces.

While it appears to be irrational for voters to rely on face cues in elections, such an action might be rational for them if better looking candidates are more likely to be promoted in the parliament after they get elected or if they are better able to deliver pork projects to the district. We need to explore how facial attractiveness influences

outcomes in the post-election period in order to figure out whether the use of facial cues by voters is truly irrational for them.

In our study, we employed the measurement of facial attractiveness constructed based on the evaluations made by American voters. Our results suggest that people have a potential to predict election outcomes solely from candidate faces regardless of candidate race and ethnicity, electoral contexts, and cultures.

There are several paths for future studies. First, our future study might be to understand whether there is any variation in the effect of facial attractiveness on vote share across candidates. Some differences may exist between male and female candidates in the electoral importance of their facial attractiveness. Similarly, whether a candidate is young or old, dynastic candidate (with strong support bases) or not, and running from a district with a large district magnitude or not might be important. Such analyses will allow us to understand of the mechanisms behind the correlation between facial cues and electoral outcomes. Second, there may be some endogeneity in the relationship between facial attractiveness and vote share. Since political parties are strategic actors, they may field better looking candidates in more competitive districts. We need to explore the types of electoral districts where better looking candidates are running to see if political parties take candidate facial attractiveness into account in electorally meaningful ways when they nominate their candidates. Third, some stereotypes and biases among evaluators (American voters) are likely to be reflected in our facial attractiveness and impression scores. Since candidate faces were randomly displayed to the evaluators, we are able to highlight those unconscious stereotypes and biases among people by analyzing the relationship between evaluated face scores and candidate attributes. Our data also enable us to more closely examine whether facial cues travel across race, ethnicity, and cultures by examining how evaluated face scores differ across evaluators.

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