Why Beauty Matters:
Candidates' Facial Appearance and Electoral Success

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Why Beauty Matters: Candidates' Facial Appearance and Electoral Success[1]

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Why do better-looking candidates gain more votes in elections? Existing research shows that candidates' facial appearance—perceived beauty, in particular—affects the fate of their election outcomes. Yet, little is known about the mechanisms by which the beauty of candidates creates a premium in elections. To solve this puzzle, we ran a survey that asked around 1,500 people to subjectively evaluate more than 400 real candidates' facial appearance, including beauty. We then conducted a survey experiment with about 3,000 people that explored the effects of candidate beauty on voter perceptions. Our findings demonstrate that neither candidates' facial expression nor the impressions they impart on the viewer, such as smiling, competence and trustworthiness, hinder the positive influence of perceived beauty of the candidates on election outcomes. We find that the beauty of the candidates attracts the attention of voters and alters voters' impressions of the candidates' prospects of winning the election, suggesting that voters' incentives to seek information and get on the bandwagon are driving them to support good-looking candidates.

Keywords: Elections, Voting Behavior, Public Opinion, Survey Experiment

JEL classification: D72, D91

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When voters evaluate candidates running for office, they often rely on information cues and heuristics, which may or may not be directly related to politics. Such voters might use candidates' appearance as a cue to make inferences about their political ability. Indeed, existing research shows that candidates' facial appearance—perceived beauty, in particular—affects the fate of their election outcomes. Yet, little is known about the mechanisms by which the beauty of candidates creates a premium in elections. Some studies argue that a candidate's facial expressions, such as smiling, increase his or her votes, whereas others claim that voters' impressions of the candidate's face, such as competent looks, influence their vote choice. Therefore, these factors might be playing more important roles in voting behavior than candidates' facial attractiveness.

Our study innovates this line of research by examining the effects of candidates' facial attractiveness—perceived beauty—on voter behavior in two ways. First, we ask approximately 1,500 American voters to subjectively evaluate 494 faces of real Japanese candidates running for national elections and then combine the data of those ratings of candidate faces with those of their actual election outcomes and personal attributes. By so doing, we assess whether the relationship between candidates' facial beauty and their vote share persists not only when we control for their personal attributes but also when we control for their facial expressions and impressions. Second, we further conduct a survey experiment with approximately 3,000 Japanese people by using some of these candidate faces as experimental stimuli that explore the mechanisms through which candidates' beauty creates a premium in elections.

The results of our study demonstrate that voters select a candidate running for national office partly based on his or her facial attractiveness. Electoral candidates increase their vote share if they have a face rated with a higher score in attractiveness, whereas their facial expressions and impressions, such as smiles, competent looks, and trustworthiness, do not change their vote share. The impact of this beauty premium is not negligible, because it has almost the same effect size as seniority does. Moreover, our survey experiment teases out the mechanisms behind the beauty premium, showing that the beauty of candidates attracts the attention of voters and alters voters' impressions of the candidates' prospects of winning the election. Quite a few voters appear to simply rely on easy and intuitive cues to evaluate candidates, but our results suggest that voters' incentives to seek information and get on the bandwagon are driving them to support good-looking candidates.

Influence of candidates' faces on elections

Voters often rely on heuristics to reduce their cognitive burdens when they evaluate candidates running for office (Lupia and McCubbins 1998; Popkin 1991). Doing so may be rational for many voters in the sense that they can minimize the cost to garner necessary information to evaluate individual candidates. Thus, there is a possibility that voters irrationally use candidates' faces in this process 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 better than a chance only 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 in voters' evaluation of individual candidates.

A number of existing studies suggest that facial attractiveness—perceived beauty, 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] It is even said that facially attractive politicians can minimize the damage they suffer when facing personal scandals (Stockemer and Praino 2018). Some studies argue that candidates' facial attractiveness works as an effective cue, especially for uninformed or less knowledgeable voters (Banducci et al. 2008; Lenz and Lawson 2011; Stockemer and Praino 2015). However, it appears that the facial attractiveness of candidates has a sufficiently large effect on the fate of their election.

The significant correlation found between candidates' facial attractiveness and election outcomes may be because candidates' facial expressions and the impressions they impart on the viewer exert significant influence on voter perceptions. By manipulating their own images, candidates can change voters' preferences (Rosenberg and McCafferty 1987). For example, many candidates use their face images in their campaign materials. By analyzing campaign materials used in Australia and Japan, Horiuchi, Komatsu, and Nakaya (2012) demonstrate that candidates' facial expressions—smiling in campaign photos—have a significant effect on election outcomes. Similarly, Asano and Patterson (2018) show that candidates' smiling in their campaign photos, especially in electoral districts with low turnout rates, boosts electoral support. These candidate images influence how voters perceive the candidates (Rosenberg et al. 1986). Smiling, for instance, affects the judgments of one's trustworthiness (Ozono et al. 2010).

Multiple studies show that the impressions formed by candidates' facial appearances affect vote choice. But what constitutes electorally influential facial impressions differs across studies. Although 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 claim that facial dominance is also important, showing that, in the conservative camp, candidates with a dominant-looking face are not only more likely to be nominated by a party but also more likely to win in elections (Laustsen and Petersen 2016; Laustsen and Petersen 2018). Moreover, Olivola and Todorov (2010) argue that

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

[5] There is a debate on 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.

candidates' facial attractiveness loses its power to influence electoral outcomes after controlling for their facial competence. However, in contrast, Praino, Stockemer, and Ratis (2014) show that both facial attractiveness and facial competence matter for the electoral success of candidates.

The remaining puzzles are two folds. First, to what extent does the beauty of candidates matter in elections compared with their facial expression and impression? About the source of candidates' electoral advantage, the literature is inconclusive about which one of the three face cues—facial attractiveness, facial expression, and facial impression—is more important. Our study aims to contribute 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. Second, and more importantly, if a beauty premium exists independently of facial expressions and impressions, what mechanism turns candidates' facial attractiveness into the premium in elections? The attractiveness of a candidate's face in itself does not give voters any information about his or her qualifications, which is different from the candidate's facial expression and impression. However, no existing research can explain any mechanism behind the beauty premium.

Understanding the effects of candidate-face cues on voting behavior is important. 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 function effectively, 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 good enough to make democracy work with the help of experts and people surrounding them (Lupia and McCubbins 1998; Lupia 2016). We hope to contribute to the understanding of whether voters truly make reasonable judgments for the functioning of democracy and how they can do better by examining how and why candidate-face cues influence vote choice.

Measuring candidate facial appearances

To tackle our research questions, we first measure the three dimensions of candidate facial appearances—attractiveness, expression, and impression. We employ the images of all the candidates who ran for the 2013 and 2016 Upper House elections in Japan in this study.[6] Specifically, a total of 494 candidates ran for the elections at the district level in those elections. We purchased licenses of these candidate-face photos (or mugshots) from Asahi Shimbun, which is among the major newspaper companies in Japan, to use in our online surveys. One primary advantage of using these images was that they were individually taken immediately prior to the election by Asahi Shimbun's news correspondents in a uniform format. This allowed us to avoid

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[6] 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.

relying on diverse campaign materials, which could have been manipulated by candidates themselves. Moreover, we were able to analyze the images of all the candidates running for election without suffering from the missing-data problem.

The two dimensions of those Japanese candidate faces—facial attractiveness and facial impression—were measured by asking American voters recruited via Amazon Mechanical Turk to subjectively evaluate them. The main purpose of using American voters here was to minimize the bias caused by evaluating familiar in-group faces. The existing literature suggests that voters' snap judgments of appearance indeed travel across cultures (Lawson, Lenz, Baker, and Myers 2010; Rule et al. 2010), although there may be a concern that the ratings of facial attractiveness and impressions are different between the Japanese and Americans. We can examine whether American voters, as outgroup members, can still predict Japanese voter behavior solely from candidate-face cues by using scores evaluated by Americans.

In the survey, we randomly selected 20 candidates out of 494 for each American voter recruited as a respondent and then displayed their pictures one by one (informing participants that they are all Japanese candidates running for national office). For each candidate mugshot, we asked the respondent to evaluate the candidate's attractiveness and impressions.[7] The exact wording for each question is shown in the following:

Facial attractiveness (Campbell, Converse, and Rodgers 1971; Hamermesh 2011)
Please rate this candidate's physical appearance on the 5-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

Facial impression (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–Not at all).
Dominant
Trustworthy
Decisive
Compassionate

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[7] As a practice session, note that we first showed 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. This enabled us to check if there was any order effect in evaluation outcomes.

Competent

Can build consensus

Has political experience

We recruited a total of 1,415 American voters via Amazon Mechanical Turk and implemented our face evaluation tasks with them in December 2017 as respondents for this survey. Each candidate's face image in our dataset has scores evaluated by, on average, 57.3 respondents, because each respondent evaluated 20 randomly-selected candidate faces (out of 494). We calculated the average score for each item and made it an index in this study.

The third dimension of candidate-face cues is facial expression. We objectively measured it by using an image-sensing technology called OKAO Vision, which was developed by a Japanese electronics company (Omron Corporation). It provided us with multiple facial expression indices, and our study employed a smiling index, which indicates to what extent a candidate's face is smiling in a continuous manner (we computed an average value from our own three measurement trials).

Table 1 shows the summary statistics for all the facial scores that were measured on the three dimensions: facial attractiveness, facial expression, and facial impression.

Table 1. Summary statistics of facial scores

	N	Mean	SD	Min	Max
Facial attractiveness					
Beauty	494	2.926	0.488	1.608	1.608
Facial expression					
Smile	494	20.491	28.58	0	100
Facial impressions					
Dominant	494	3.054	0.391	2.024	4.034
Trustworthy	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
Can build consensus	494	3.195	0.266	2.157	3.912
Has political experience	494	3.172	0.413	1.922	4.317

Candidate facial appearances and vote share

To examine whether a candidate's facial attractiveness increases his or her vote share, we incorporated the data of candidate attributes (such as age, sex, seniority, party affiliation, and

electoral district) as well as election outcomes. The candidate and election data were drawn from the website of Asahi Shimbun, and we supplemented it with the dataset compiled by Ko Maeda.[8]

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

The main explanatory variable is a candidate's facial attractiveness (*Beauty*), subjectively evaluated by American voters. We calculated the relative beauty score at the district level for each candidate and used it as our main explanatory variable (*relative.Beauty*), because voters were supposed to compare candidates within district rather than nation-wide candidates. That is, we first computed the average attractiveness score among candidates in each electoral district and then took the difference between a candidate's attractiveness score and his or her district's average score. Note that the results were substantively the same, even when we employed raw candidate facial attractiveness scores (*Beauty*) instead of using relative attractiveness scores (*relative.Beauty*).

We employed the same procedure to calculate the relative scores for each candidate's facial expression (relative.Smile) and facial impression (*relaive.Dominate*, *relative.Trust*, *relative.Decisive*, *relative.Compassionate*, *relative.Competent*, *relative.Consesus*, and *relative.Experience*) and used them as additional explanatory variables in the models.

The models also controlled for each candidate's personal attributes, such as sex (*MALE*), the number of times the candidate has been elected (*TERM*), incumbency status (*INC*), age (*AGE*), and party affiliation dummies. In addition, the election year dummy (*d2016*) and the district-level characteristics, such as district magnitude (*DM*) and the number of candidates in the district (*NOCAND*), were also included.

The simple correlation between candidates' vote shares and relative attractiveness scores is displayed in Figure 1. There seems to be a slight positive relationship between them, suggesting that better-looking candidates tend to have higher vote shares. The average value of *relative.Beauty* is 0, and its minimum and maximum values are −1.235 and 1.628, respectively.

Next, we show the results of a series of linear regression models to test whether a candidate's facial attractiveness has any positive effect on his or her vote share. Model 1 includes only a candidate's facial attractiveness as a face cue (control variables are included). 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 or her vote share; a one-point increase in the relative attractiveness score boosts the candidate's vote share by 4.07 percentage points. Given that a one-term increase in a candidate's legislative career boosts his or her vote share by 3.95 percentage points, we consider that the effect of facial attractiveness on vote share is relatively large.

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[8] The 2013 and 2016 Election for the Japanese House of Councilors Data are available at http://politicalscience.unt.edu/~maeda/.
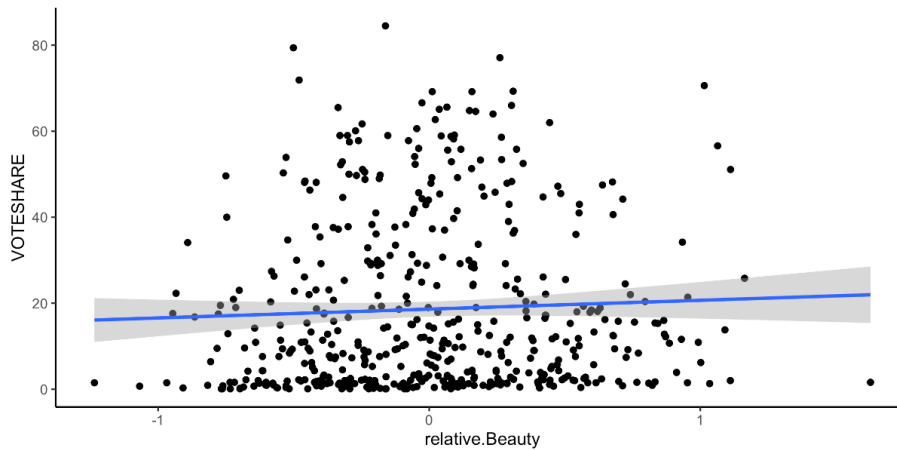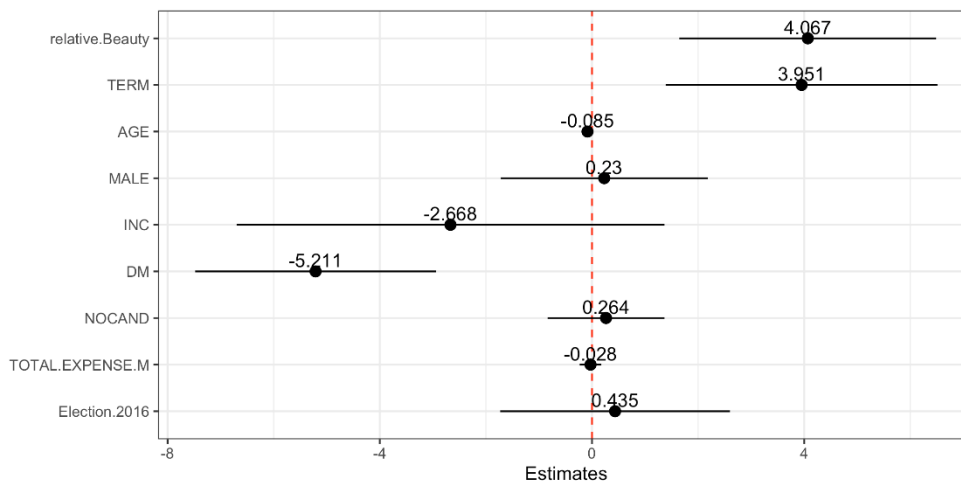
Figure 1. Scatter plot

Figure 2. Coefficient estimate plot (Model 1: Beauty only)

Model 2 adds 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*). Figure 3 shows results that indicate that the coefficient estimate of facial attractiveness (*relative.Beauty*) is 4.22 percentage points and statistically significant at the 1% level, whereas the coefficient estimate of facial expression (*relative.Smile*) is not statistically significant.

Next, we show the results of Model 3 that incorporate a series of variables measuring candidate facial impression (*relative.Dominate*, *relative.Trustworthy*, *relative.Compassionate*, *relative.Competent*, *relative.Consensus*, and *resulative.Experience*) into Model 1. Figure 4 shows the coefficient estimates of these variables in Model 3. The results indicate that the coefficient estimate of facial attractiveness (*relative.Beauty*) is 5.09 percentage points and statistically significant at the 5% level ($p = 0.0102$), whereas none of the facial impression scores, including facial competence, is statistically significant at the conventional level. The confidence intervals of facial impression variables are wide possibly because they are highly correlated with each other.

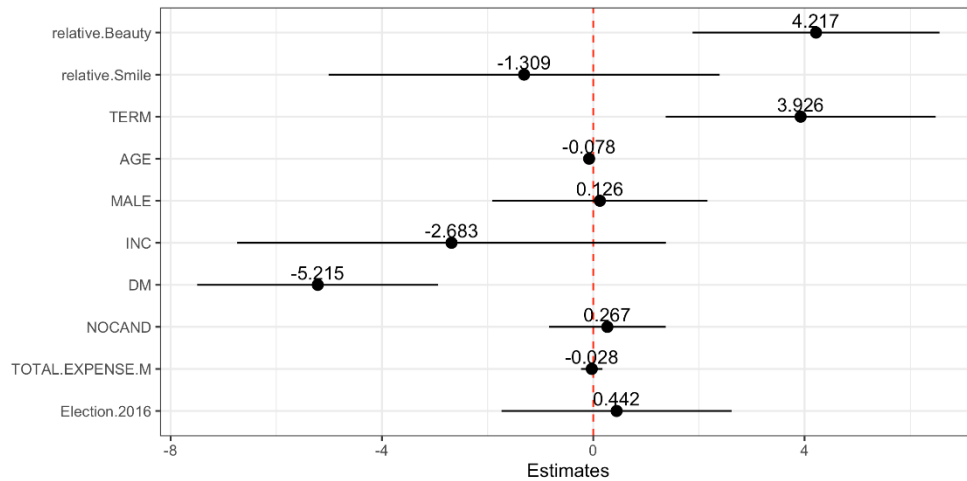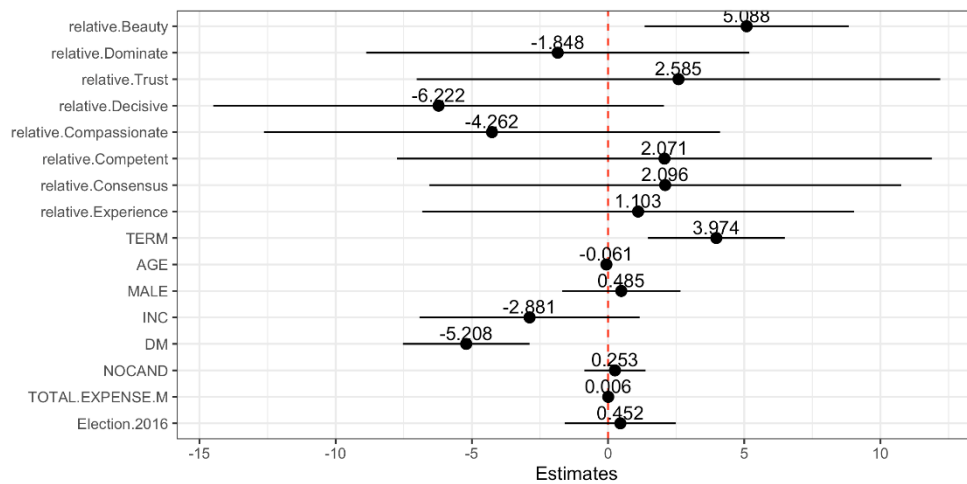**Figure 3. Coefficient estimate plot (Model 2: Beauty and Smile)**

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


Finally, Model 4 incorporates all of the face cue variables (facial attractiveness, expression, and impression) at once. Figure 5 shows the results. The coefficient estimate of facial attractiveness is still statistically significant at the 1% level and substantively large as well (a one-point increase in the relative attractiveness leads to a 5.16 percentage points increase in the vote share). In contrast, when we take facial attractiveness into account, facial expression and impressions do not have any effect on vote share.

Experimental study

A remaining puzzle is why candidate beauty matters to such an extent in elections. Although we acknowledge that multiple factors may explain the beauty premium, in this study, we focus on exploring two major possibilities about the impact of candidates' facial attractiveness on voter behavior: voters' incentives to seek information and to get on the bandwagon. First, voters seek information about the candidates when they decide whom they want to cast their ballot in elections to. However, they may not pay equal attention to all the candidates running for the

election. The brain-reward system works when people are exposed to attractive faces, according to a study in the field of cognitive neuropsychology (Chelnokova et. al 2014), which induce a feeling of pleasure and keep people fixated on those faces. This implies that better-looking candidates are likely to have some advantage in gaining voters' attention, which leads to an increase in electoral support. We, therefore, hypothesize that voters want to know more about candidates whose faces are more attractive (beauty and information-seeking hypothesis).

Figure 5. Coefficient estimate plot (Model 4: Beauty, Smile, and Impressions)
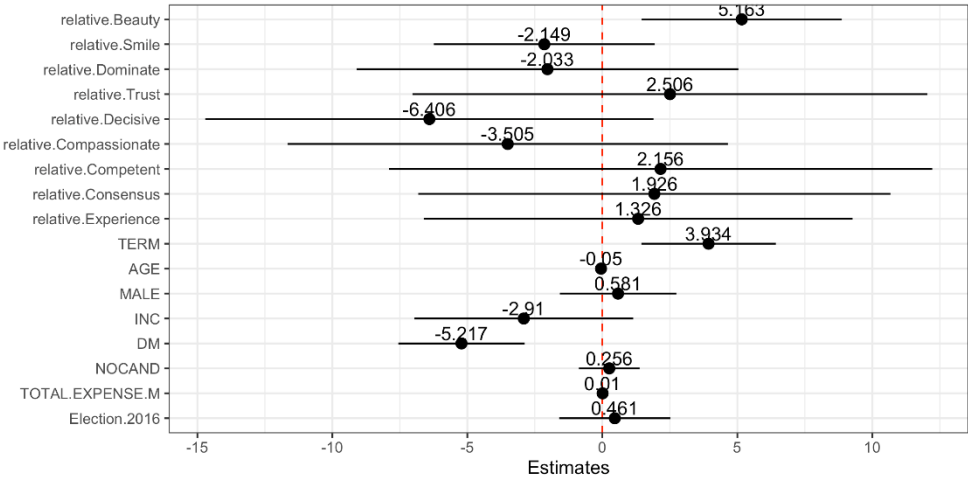
Second, some voters have incentives to vote for a likely winner in the hope of joining a winning group, so called the bandwagon effect. There may be multiple cues to determine which candidate has a higher probability of winning. One of the cues readily available to voters is a candidate's face. Voters might subconsciously perceive that better-looking candidates are electorally more competitive, because facial attractiveness tends to increase one's popularity and likeability among people. This leads to our second hypothesis that voters view better-looking candidates as more popular and more likely to win the election (beauty and bandwagon hypothesis).

To test our hypotheses, we conducted a survey experiment with approximately 3,000 Japanese voters by using 20 real candidate-face images as experimental stimuli. We selected the top 10 and bottom 10 candidates in terms of beauty scores exclusively from among the male candidates in their 40s who ran in the 2016 Upper House election and who have never been elected or have only been elected once. We randomly assigned these 20 candidates to 10 pairs. Displaying each pair's faces on a new screen on the left and right, we asked the following questions for each pair (i.e., each respondent rated 10 randomly-made pairs of candidates):

(Interest)
Let's assume the following two candidates are running a national election campaign in your constituency. Which of the two candidates are you more interested in? Please choose the candidate you want to know more about in terms of his career history and campaign promises.

(Popularity)

Which of these two candidates do you think will be more popular among voters like you? Please choose either one of them.

(Prospect for winning)

Which of these two candidates do you think is more likely to win the national election? Please choose either one of them.

We ran this experiment online in March 2020 with a sample ($N = 2,875$) of Japanese voting-age public drawn by Rakuten Insight Inc. The demographics of the sample were matched with the population census on age, sex, and the region of residence. Our analysis excluded responses made by those who said they knew or had seen the candidate in order to minimize obtaining biased outcomes given by respondents' prior knowledge of the actual candidate.

Figure 6 shows the results of our experiment about beauty and information-seeking that aimed to explore whether candidate beauty attracts respondents' interests. When respondents were asked to compare pairs of candidates selected from only the top 10 (or selected from only the bottom 10), they chose both candidates with the same probability. In other words, our respondents selected candidates completely at random under such conditions, suggesting that these candidates are equally likely to attract respondents' interests. In contrast, however, when comparing mixed pairs of candidates, one selected from the top 10 and the other from the bottom 10, respondents strongly preferred to choose the candidates from the top 10. This indicates that good-looking candidates have a clear and significant advantage in attracting voters' attention. This outcome is consistent with our first hypothesis that voters want to know more about candidates whose faces are more attractive.

Figures 7 and 8 illustrate the results about beauty and bandwagon: whether candidate beauty alters respondents' impressions of his or her popularity in the public and whether candidate beauty changes respondents' impressions of his or her prospects of electoral success, respectively. We found a very similar pattern between them. Respondents select both candidates with approximately the same probability when they are exposed to pairs of candidates selected from only the top 10 (or from only the bottom 10). However, they are significantly more likely to choose those who are drawn from the top 10 when they are exposed to mixed pairs of candidates selected both from the top 10 and the bottom 10. This indicates that, consistent with our second hypothesis, respondents view candidates with better-looking faces as not only more popular in the public but also more likely to win the election.

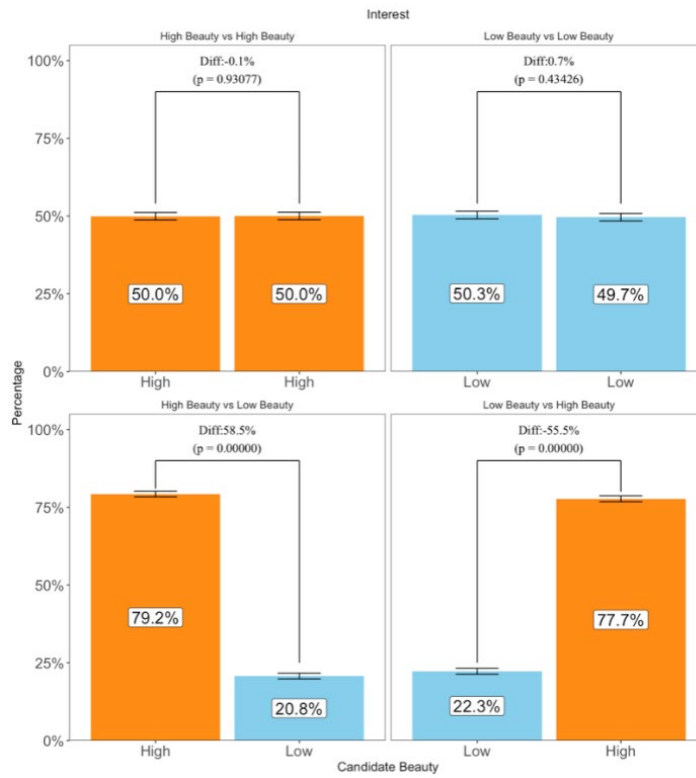**Figure 6. Share of responses by conditions (interest)**

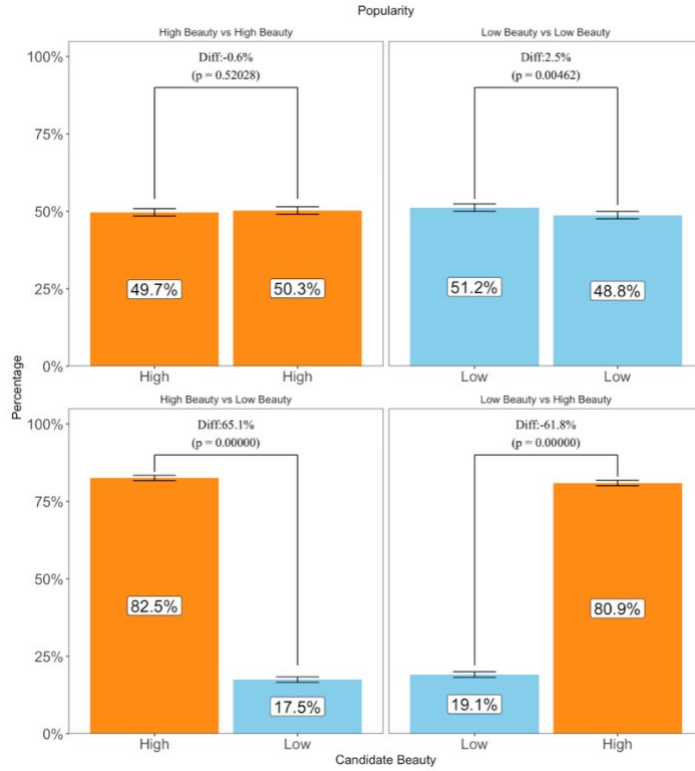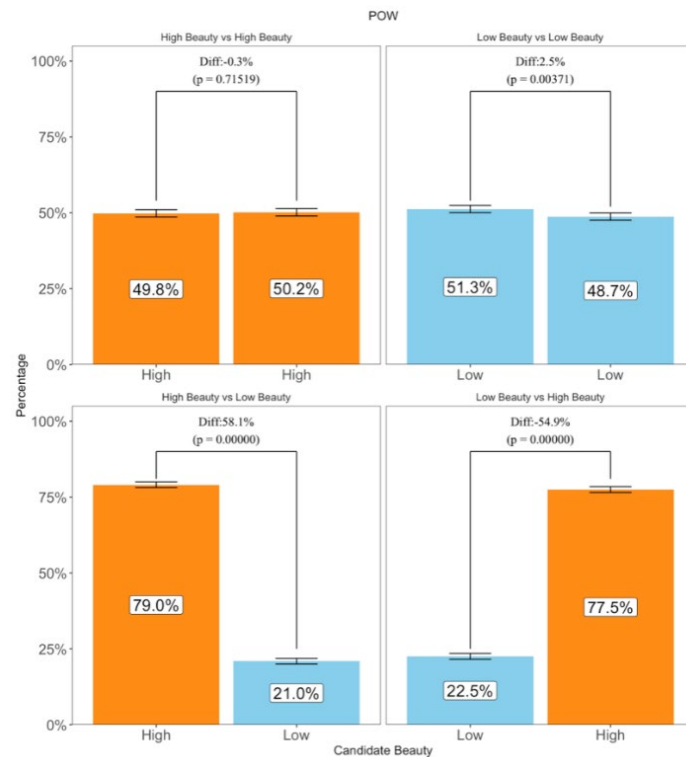**Figure 7. Share of responses by conditions (popularity)**

Figure 8. Share of responses by conditions (prospect for winning)

Conclusion

In this study, we examined the effects of candidate-face cues on election outcomes and voter behavior. Although numerous studies have shown that candidates' facial appearance—perceived beauty, in particular—affects the fate of their election outcomes, we know very little about why the beauty of candidates matters. To solve this puzzle, we first measured the facial appearance of more than 400 real candidates running for national elections in Japan by asking American voters to subjectively evaluate them and also by using an image-sensing technology.

We then explored the correlations between candidates' face scores and their election outcomes. Our findings demonstrate that a candidate's facial attractiveness—beauty—increases his or her vote share. Moreover, neither candidates' facial expression nor the impressions they impart on the viewer hinder the positive influence of perceived beauty of the candidates on election outcomes, and these face cues, which have been considered as important factors in the existing literature, are found to have no correlation with his or her vote share when we take the candidate's facial attractiveness into account. A candidate's facial attractiveness increases his or her vote share even after controlling for his or her facial expression and impression. Thus, it is not the case that better-looking candidates gain more votes simply because their faces look more competent or knowledgeable. These results indicate that voters consider candidates' facial attractiveness when evaluating them, even though their facial beauty itself has nothing to do with their actual capability in politics. Voters' political judgments appear to be obscured by candidates' beautiful faces.

Although it seems irrational for voters to rely on candidate-face cues—facial attractiveness, in particular—in elections, such an action by voters might be rational for them if this is the result that voters sought and thus gained more information about candidates or that voters attempted to cast their vote for likely winners in the hope of becoming a part of the winning group. To tease out the underlying mechanisms by which candidates' facial attractiveness turns into the electoral premium, we further conducted a survey experiment with approximately 3,000 Japanese voters that explored whether respondents seek more information about candidates whose faces are more attractive and whether respondents perceive better-looking candidates as more popular and competitive in elections.

We found that candidates' beauty attracts the attention of voters and alters voters' prospects that the candidate they support wins or loses elections, suggesting that voters' incentives to seek information and get on the bandwagon drive them to support good-looking candidates. The results of our experiment show that better-looking candidates have a greater advantage in gaining respondents' attention. In addition, better-looking candidates are also perceived to be more popular in the electorate and more likely to win the election. Importantly, when evaluating a pair of candidates with similar facial-appearance levels, our respondents did not consider either one of the candidates as more popular or more competitive in the election. These results support our information-seeking and bandwagon hypotheses that claim that candidates' facial beauty influences elections through voters' informational triggers and incentives to vote for the winner.

In our study, we employed the measurement of facial attractiveness based on the evaluations made by American voters. Hence, our results also suggest that people have the ability to predict election results based on candidates' faces, regardless of candidates' 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 election outcomes 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 (with strong support bases), and running from a district with a large district magnitude might be important factors. Such analyses will allow us to further understand the mechanisms behind the correlation between candidate-face cues and electoral outcomes. Second, we acknowledge that the experiment presented in this study only indirectly tests the relationship between beauty and information-seeking or bandwagon. To understand these relations, we further need to examine whether voters remember more about better-looking candidates when they are exposed to the information about the candidates with face cues and whether voters really choose a better-looking candidate when they are asked to break the tie in an election. Third, there may be some alternative factors that explain the rationale of beauty premium. For instance, better-looking candidates may be more likely to be promoted in the parliament after they get elected, or they

may be better able to deliver pork projects to the district. We need to explore how candidates' facial attractiveness influences performance in the post-election period to understand whether the use of candidate-face cues by voters is truly irrational for them.

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