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Niclas Berggren und Henrik Jordahl und Panu Poutvaara:
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The Right Look: Conservative Politicians Look Better and Voters Reward It

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ABSTRACT

Since good-looking politicians win more votes, a beauty advantage for politicians on the left or on the right is bound to have political consequences. We show that politicians on the right look more beautiful in Europe, the United States and Australia. Our explanation is that beautiful people earn more, which makes them less inclined to support redistribution. Accordingly, our model predicts that voters use beauty as a cue for conservatism when they do not know much about candidates and that politicians on the right benefit more from beauty in low-information elections. Evidence from real and experimental elections confirms both predictions.

JEL Codes: D72, J45, J70

Keywords: Beauty, Elections, Political candidates, Appearance, Ideology, Parties

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1. INTRODUCTION

It is by now well established that politicians with an appealing appearance win more votes in elections (see, *e.g.*, Todorov *et al.* 2005; Berggren *et al.* 2010; Lawson *et al.* 2010). After a number of studies demonstrating a relationship between appearance and electoral success, the challenge has been to establish causality and to determine what the political consequences are. Some studies have indeed provided evidence for the relationship being causal. Little *et al.* (2007) found that manipulation of facial photographs of real politicians can predict winners and losers in experimental elections. Lenz and Lawson (2011) showed that the positive relationship between votes and an appealing appearance is most pronounced among voters with low political knowledge who also watch a lot of TV. Such an interaction is exactly what one should expect from an underlying causal relationship. Ahler *et al.* (2015) carried out a field experiment and found that voters in their treatment group, who received ballots that included photographs, were considerably more likely to vote for a candidate with an appearance advantage.

The political consequences of voters relying on candidates' looks are still largely unknown. If one side of the political spectrum has a beauty advantage, it can expect greater electoral success and to have political decisions tilted in its favour.⁴ We put forward the hypothesis that politicians on the right look better, and that voters on the right value beauty more in a low-information setting.⁵ This is based on the observation that beautiful people earn more (Hamermesh and Biddle, 1994; Scholz and Sicinski, 2015) and that people with higher expected lifetime income are relatively more opposed to redistribution (Fong, 2001; Alesina and Giuliano, 2011). In accordance with this reasoning we show that politicians on the right are more beautiful than politicians on the left in Europe, the United States, and Australia.

⁴ Studies have documented a relationship between appearance and electoral success in Australia (King and Leigh, 2009), Brazil and Mexico (Lawson *et al.*, 2010), Denmark (Laustsen, 2014), Finland (Poutvaara *et al.*, 2009; Berggren *et al.*, 2010), France (Antonakis and Dalgas, 2009), Germany (Rosar *et al.*, 2008), Ireland (Buckley *et al.*, 2007), Japan (Rule *et al.* 2010), Switzerland (Lutz, 2010), the United Kingdom (Banducci *et al.*, 2008; Mattes and Milazzo, 2014) and the United States (Todorov *et al.*, 2005; Ballew and Todorov, 2007; Atkinson *et al.*, 2009; Benjamin and Shapiro, 2009; Olivola and Todorov, 2010).

⁵ Budge and Robertson (1987, pp. 394–95) differentiate between left and right in terms of “economic-policy conflicts – government regulation of the economy through direct controls or takeover ... as opposed to free enterprise, individual freedom, incentives and economic orthodoxy.” On the fruitful cross-national usage of left-right terminology, see Bobbio (1996) and Mair (2007).

The general pattern that politicians on the right look better than politicians on the left implies that beauty can be used as a cue for ideology in low-information elections. We present a theoretical model in which beauty is used as such a cue for a conservative ideology in addition to being generally appreciated among voters. In low-information elections, the model predicts that beauty will benefit politicians on the right more than politicians on the left, since the use of beauty as an ideological cue among voters on the right works in tandem with the general appreciation of beauty. In high-information elections, the use of beauty as an ideological cue becomes less relevant and we expect beauty to benefit politicians on the left about as much as politicians on the right. These predictions are supported by experimental and observational evidence.

To analyse the electoral effects of beauty for candidates representing the left and the right, we turn to Finland, which is suitable for our analysis because of its proportional electoral system with multi-member districts, personal votes and within-party competition. Such a system allows us to study whether beauty matters more for candidates on the left or for candidates on the right, since electoral “beauty premia” can be calculated separately for different parties. Plurality-vote systems, in contrast, tend to have two main candidates who compete with each other, and candidates’ vote shares are either highly or perfectly negatively correlated, making it difficult or impossible to investigate whether the effect of candidate appearance differs between the left and the right.⁶

We study beauty premia in municipal and parliamentary elections. The former can be regarded as low-information and the latter as high-information elections, where voters know little and reasonably much, respectively, about candidates. We show that in municipal elections, a beauty increase of one standard deviation attracts about 30% more votes for the average non-incumbent candidate on the right and about 15% more votes for the average non-incumbent candidate on the left. In the parliamentary election, the corresponding figure is about 20% for candidates on the left and right alike. This makes clear that voters both on the left and on the right respond to beauty in both types of elections, but that voters on the right are more responsive in a low-information setting.

Experimental election results confirm the observational findings from real elections.

⁶ Most of the studies on the relationship between appearance and electoral success focus on between-party competition and thus demonstrate that an appearance advantage has the potential to affect the political power balance and policy outcomes. Poutvaara et al., (2009), Berggren et al., (2010) and Lutz (2010) estimate beauty premia in within-party competition.

When matching candidates of similar age, the same gender and the opposite ideology in a random manner and asking respondents whom they would vote for solely on the basis of facial photographs, we find that candidates on the right win more often because they look better on average. Candidates on the right get a higher vote share, both from voters on the right and voters on the left, but with larger success among the former. The average margin of victory of the more beautiful candidate is also larger among voters on the right, indicating that they respond more to beauty. The similar patterns in real and in experimental elections suggest that the results in real elections reflect causal mechanisms. It is hard to see how reverse causality or omitted variable bias related to the election campaigns of candidates could influence voting in experimental elections by respondents from other countries, none of whom recognized any of the candidates.

We proceed as follows. In Section 2, we use data from three continents and establish that politicians on the right look better. We then, in Section 3, present a model of how voters react to beauty in low- and high-information elections. In Section 4, we show that subjects in an experiment use beauty as a cue for conservatism, as predicted by our model. In Section 5, we use data from Finland and show that when candidates compete against others in the same party, the effect of beauty on votes is about the same for candidates on the right and on the left in high-information elections, but twice as large for candidates on the right in low-information elections. Experimental election results in Section 6 confirm that voters on the right react more strongly to beauty in an election with no information apart from facial photographs of the candidates. Section 7 concludes.

2. THE APPEARANCE GAP BETWEEN POLITICIANS ON THE LEFT AND ON THE RIGHT

2.1. *The appearance gap on three continents*

In comparing beauty evaluations of politicians representing the left and the right, we make use of our own data from Europe (candidates in Finnish municipal and parliamentary elections; Members of the European Parliament, MEPs), our own data on U.S. candidates in senatorial and gubernatorial elections, based on photos from Todorov et al. (2005) and Ballew and Todorov (2007), as well as data from Australia (candidates in an election to the House of Representatives), collected by King and Leigh (2009). These data are described in Appendix

A.

Beauty evaluations of candidates from Finland and the United States as well as of MEPs are based on the following question:⁷

What is your evaluation of the physical appearance or attractiveness of this person compared to the average among people living in your country of residence?

Very unattractive (1)

Below average (2)

Average (3)

Above average (4)

Very handsome or beautiful (5)

Cannot say/Prefer not to answer

Beauty evaluations from Australia were collected using a 9-point scale and were then normalized. We find that politicians on the right are more beautiful in Europe, the United States and Australia. Table 1 summarizes our findings.⁸

TABLE 1

Beauty advantages for politicians on the right

	Beauty advantage (%)	Data source
Australia	32***	King and Leigh (2009)
European Union	22***	Own data
Finland	41***	Own data
United States	14**	Own data

Notes: “Beauty advantage” is defined as the difference between the average beauty rating of politicians on the right and the left, expressed as a percentage share of the standard deviation of all politicians’ beauty ratings. *** and ** denote statistical significance at the 1% and 5% levels in one-sided t-tests of the null hypothesis that politicians on the right do not look better than politicians on the left. Australia: candidates for the House of Representatives; European Union: Members of the European Parliament; Finland: candidates in municipal and parliamentary elections; United States: candidates in Senate and gubernatorial elections.

⁷ For our data analysis, the replies were coded from 1 to 5, as indicated.

⁸ In Appendix B.1, we explore our Finnish data further, presenting first average beauty evaluations and then showing that the beauty advantage of candidates on the right is robust and cannot be explained by the ethnicity, age, style or clothing of candidates, by the age, country or ideology of respondents, or by the quality of photographs. We also report that voters on the right value presence and style more than voters on the left.

2.2. *Explaining left-right differences in beauty*

A simple economic explanation of the appearance gap in favour of the right is that beautiful people earn more money (Hamermesh and Biddle, 1994; Mobius and Rosenblat, 2006; Scholz and Sicinski, 2015), and the more people earn, the more they are inclined to oppose redistribution (Alesina and Giuliano, 2011) and, arguably, to support, get active in and represent parties to the right. A more general psychological explanation could be that good-looking people are more likely to perceive the world as a just place, since they are treated better than others (Langlois *et al.* 2000), achieve higher status (Anderson *et al.* 2001) and are happier (Hamermesh and Abrevaya, 2013) – and a frequent reason for people to sympathize with the left is a perception of the world as unfair.⁹ In line with this, it has been found that greater self-reported attractiveness is negatively related to a preference for egalitarianism, typically associated with the left: The more beautiful people consider themselves, the less they are in favour of redistribution (Price *et al.* 2011; Belmi and Neale, 2014).

We are able to address this hypothesis using the National Longitudinal Study of Adolescent Health (Harris and Udry, 2012), which includes interviewer evaluations of physical attractiveness and self-reported ideological position from very liberal (in the American sense of the term, i.e., left-oriented) to very conservative for 4,789 American youths. We find that conservatism and beauty are positively correlated among men (see Appendix B.2 for the detailed results). As most U.S. politicians are men, these findings suggest that Republicans have an advantage in recruiting good-looking politicians.

3. A MODEL OF VOTER RESPONSES TO BEAUTY

We present a theoretical model of how voters react to beauty in high-information and in low-information settings. We assume that politicians differ in their ideology (i) and beauty (b). Voters differ in their ideology and in how informed they are. Informed voters observe politicians' beauty and ideology. Uninformed voters observe only politicians' beauty. The fraction of informed voters is q , which may vary between elections. Politicians' ideology obtains values on the unit interval, with smaller values corresponding to an ideology more to

⁹ In fact, Napier and Jost (2008) present results to the effect that people on the right are happier precisely because they do not see a need for egalitarianism, *i.e.*, because they by and large perceive the world as a just place.

the left and larger values to an ideology more to the right. Beauty also varies between 0 and 1, with 0 being very unattractive and 1 being very attractive.

There are two political candidates, A and B. Subscripts A and B are used to identify the candidate whose beauty or ideology is referred to. Without loss of generality, assume that $b_A \geq b_B$. We analyze the likelihood that voter j votes for candidate A. We denote an individual-specific popularity parameter in favor of candidate A by σ_j , negative values implying a preference in favor of candidate B. It follows a uniform distribution on the interval $\left[-\frac{\Sigma}{2}, \frac{\Sigma}{2}\right]$, where Σ is assumed to be large enough so that the probability of voting for A is always between 0 and 1. The individual-specific popularity parameter follows the same distribution among informed and uninformed voters. This individual-specific variable may depend on the candidate's age, gender or any other characteristics than beauty and ideology that voters may care about. For an informed voter j , the utility in case politician A is elected is

$$U(i_A, b_A) = -|i_j - i_A| + \beta b_A + \sigma_j. \quad (1)$$

The utility in case politician B is elected is

$$U(i_B, b_B) = -|i_j - i_B| + \beta b_B. \quad (2)$$

The term β reflects a general valuation of beauty.¹⁰ Denoting the ideological distance between candidate x and voter j by $d_{j,x} = |i_j - i_x|$, $x \in \{A, B\}$, we can write the condition that voter j votes for A as

$$-d_{j,A} + d_{j,B} + \beta(b_A - b_B) + \sigma_j > 0. \quad (3)$$

An uninformed voter does not observe a politician's ideology, but forms an expectation of it, based on beauty:

$$i_x^E = \mu_0 + \mu_1 b_x, x \in \{A, B\}. \quad (4)$$

We assume that $\mu_0 \geq 0$; $\mu_1 > 0$; $\mu_0 + \mu_1 \leq 1$, corresponding to the idea that beauty serves as a cue for conservatism (as demonstrated empirically in the next Section), and that the perceived ideology of a politician is always between 0 and 1. In case politician A is elected, the expected utility of an uninformed voter j is

$$EU(b_A) = -|i_k - i_A^E| + \beta b_A + \sigma_j. \quad (5)$$

¹⁰ This general appreciation of beauty in politics could be explained by beautiful people being perceived as more competent (Eagly *et al.*, 1991) or by voters experiencing satisfaction when supporting good-looking candidates. On the evolutionary origins of an appreciation of beauty, see the original contribution by Darwin (1871) and recent evidence in Rhodes (2006). Besley and Coate (1997) explicitly mention a preference for good looks as a reason for voters to care about the identity of representatives in their citizen-candidate model.

The expected utility in case politician B is elected is

$$EU(b_B) = -|i_j - i_B^E| + \beta b_B. \quad (6)$$

Voter j votes for A if $EU(b_A) > EU(b_B)$. We can now show:

Proposition 1. The beauty premium of a candidate is $\frac{\beta}{\Sigma}$ among informed voters, $\frac{\beta + \mu_1}{\Sigma}$ among uninformed voters to the right of the expected position of the candidate, and $\frac{\beta - \mu_1}{\Sigma}$ among uninformed voters to the left of the expected position of the candidate.

Proof. See Appendix C.

Note that if $\beta < \mu_1$, there is a negative beauty premium among uninformed voters to the left. In the subsequent empirical analysis, we estimate beauty premia among the groups of voters described in Proposition 1. We also examine the relative size of β and μ_1 .

4. BEAUTY AS A CUE FOR CONSERVATISM

Voters using beauty as a cue for conservatism was a fundamental assumption in the theoretical model in Section 3. The assumption can be justified indirectly by the fact that candidates on the right are generally more beautiful than candidates on the left, as we demonstrated in Section 2. In this Section, we test the assumption directly, by conducting two experiments in which subjects are shown photos of members of the European Parliament, candidates in U.S. Senate and gubernatorial elections, as well as candidates in Finnish municipal and parliamentary elections.

In the first experiment, subjects were shown photographs of either MEPs or U.S. candidates and were asked to indicate on a scale from 1 to 10 where they expected each politician to be located on a left–right scale ranging from 1 (farthest to the left) to 10 (farthest to the right).¹¹ Subjects correctly placed MEPs representing party blocs that we classify as left to the left of MEPs representing party blocs that we classify as right (using the same classification as in Section 2).¹² The average score on the 1–10 scale was 5.36 and 5.72 for

¹¹ Subjects were not told that they were evaluating MEPs or U.S. candidates.

¹² Cf. Jahoda (1954) and Bull and Hawkes (1982), who found that MPs who were perceived to belong to the

MEPs representing the left and the right party bloc, respectively (std. dev. = 0.75; p-value of difference = 0.0000). For U.S. candidates, the average score was 5.47 and 5.66 for Democrats and Republicans, respectively (std. dev. = 0.94; p-value of difference = 0.02).

How were subjects able to differentiate between politicians on the left and on the right in the manner just described? As made precise in our model in Section 3, we propose that voters use beauty as a cue for conservative ideology. To test whether they do, we regress the politicians' inferred ideology on beauty evaluations from another pool of respondents, controlling for the gender and age of the politicians. We find that beautiful politicians, both in Europe and the United States, are placed farther to the right, as shown in Table 2.

TABLE 2
Regressions with inferred ideology as dependent variable

	MEPs	U.S. Senate and gubernatorial candidates
Beauty	0.17*** (0.06)	0.54*** (0.04)
Male dummy	0.43*** (0.06)	0.45*** (0.04)
Age	0.20*** (0.003)	0.13*** (0.04)
Constant	3.79*** (0.30)	0.97*** (0.35)
No. politicians	568	510
R-squared	0.20	0.34

Notes: The dependent variable is the average inferred ideology (on the 1–10 scale) of a politician, with 10 being farthest to the right. Coefficients are standardized. Robust standard errors in parentheses. ***, **, * denote statistical significance at the 1%, 5% and 10% levels. All politicians in the sample represented either a party on the left or a party on the right.

Conservative Party were rated as more attractive than MPs who were perceived to belong to the Labour Party. However, these early studies did not explore whether politicians on the right actually looked better. Rule and Ambady (2010) find that people are able to infer whether political candidates are on the left or on the right only by looking at their faces, which may be taken to support the interpretation that voters use facial appearance as a cue for non-egalitarianism or similar aspects of ideology. Tskhay and Rule (2013) demonstrate that experimental participants are often able to correctly characterize “perceptually ambiguous groups”, including the religious and political affiliation of persons in photographs or video clips.

In the second experiment, we asked subjects to indicate, on the basis of photographs alone, whether Finnish candidates represented the left or the right. These classifications, reported in Table 3, likewise offer support for beauty being used as a cue for conservatism. Regardless of the true party of the candidates, the average beauty of candidates classified as right exceeds that of candidates classified as left.

TABLE 3

Average beauty evaluations of Finnish candidates according to inferred ideology

	Beauty	Observations
Candidates on the right inferred as right	2.96 (1.04)	1,658
p-value of difference	0.0001	
Candidates on the right inferred as left	2.82 (1.00)	1,401
Candidates on the left inferred as right	2.67 (0.98)	2,218
p-value of difference	0.0006	
Candidates on the left inferred as left	2.58 (0.96)	3,080

Notes: Standard deviations are in parentheses. Candidates on the right belong to the National Coalition Party. Candidates on the left belong to the Social Democratic Party or to the Left Alliance. One observation is one assessment of one candidate by one respondent. P-values are from one-sided t-tests of the null hypothesis that candidates on the right do not look better than candidates on the left.

5. BEAUTY PREMIA ON THE LEFT AND ON THE RIGHT IN REAL ELECTIONS

In this Section, we explore whether beauty is more electorally beneficial for political candidates on the right in municipal and parliamentary elections in Finland. Finland has a proportional electoral system in both municipal and parliamentary elections. Each voter has to vote for one candidate on a party list, which creates within-party competition among a large number of candidates. Candidates from a given party are elected in the order of their personal votes in their district. Each municipality is obliged by law to provide each party with the same number of slots for posters – and most posters contain photographs of all candidates of a party. Within-party competition in a proportional system allows us to study whether beauty matters more for candidates on the left or for candidates on the right; in one-member districts, vote shares of competing candidates are perfectly negatively correlated in two-party races and strongly negatively correlated also in the presence of smaller parties. Since we study the electoral effects of beauty in a system with within-party competition, it is important to note that although the ideology of candidates differs less within than between parties, cues about

ideology could still be informative about differences between candidates from the same party. In Appendix D, we use data from a voting aid application to show that there is significant within-party variation in candidates' self-reported ideology.

Electoral competition works quite differently at the municipal and at the national level. Municipal elections can be characterized as low-information elections – defined by Buckley *et al.* (2007, p. 176) as “elections which do not involve significant constitutional office and do not attract large scale media coverage” – because only a few candidates (especially among non-incumbents) are “career politicians” who are politicians by occupation or have a history of active campaigning and public visibility. Advertising is mainly restricted to posters and newspaper ads; hardly any candidates run individual campaigns on television or radio. By contrast, the parliamentary election can be characterized as one of high information. Parliamentary candidates are a more select group that is, for several reasons, more visible to the public. Many parliamentary candidates hold or have previously held seats at the municipal level and have a political history of which voters are aware. Candidates who spend large amounts of money on campaigning are mainly observed in the parliamentary election. In terms of the theoretical model in Section 3, it is reasonable to expect that the fraction of informed voters (q) is smaller in municipal than in parliamentary elections.

We use regression analysis in order to investigate the relationship between beauty and electoral success. We define the *Beauty* of a candidate as the mean beauty assessment of his or her photograph among all respondents who evaluated it. *Beauty* is standardized to have a standard deviation of one. In order to make a clear distinction between low-information and high-information elections we focus on non-incumbent candidates. We use list fixed effects in our regressions in order to capture how beautiful a candidate is perceived to be in relation to the other candidates on the same list. We compare electoral competition within the National Coalition party on the right with that within the Social Democratic Party and within the Left Alliance on the left.¹³

Our dependent variable, *Relative success*, is defined in the following way for candidate i on list j :

$$Relative\ success_{i,j} = (p_i / v_j) * 100 \tag{7}$$

¹³ The pooling of candidates from the Social Democratic Party and the Left Alliance is supported by statistical tests; there is no specification in which we can reject that the beauty coefficients are equal for candidates from these two parties.

where p_i is candidate i 's number of personal votes and v_j is the number of all votes for candidates on list j divided by the number of candidates on list j . As the main explanatory variable, we use *Beauty*. This is in keeping with results found by Berggren *et al.* (2010) and Lutz (2010), showing that beauty evaluations have a higher explanatory power than competence evaluations, and Verhulst *et al.* (2010), demonstrating that beauty can be seen as a fundamental variable with halo effects on character-based inferences such as perceived competence. *Beauty* is interacted with *Right*, a dummy variable for candidates on the right (i.e., candidates who belong to the National Coalition Party). We also include a dummy variable for male candidates, both by itself and interacted with *Right*.

Table 4 contains the regression results that allow us to compare the beauty coefficients of candidates on the left and on the right. Since our identification comes from the interaction of *Beauty* with the dummy variable *Right*, we include the interaction of all unreported dummy variables with *Right* in most specifications, but we do not report estimates for the full set of interaction terms in the table. The unreported dummies are *Young*, which denotes an age under 30, and *Old*, which denotes an age over 60, together with dummies for education. For both the municipal and the parliamentary elections, we report three specifications that differ in whether we control for education and whether we interact the variables with unreported coefficients (age and education) with *Right*.

TABLE 4
Beauty premia in real elections

	Municipal elections			Parliamentary election		
	(1)	(2)	(3)	(4)	(5)	(6)
Beauty	15.40*** (4.33)	15.91*** (4.62)	16.00** (4.82)	24.47*** (5.90)	23.90*** (5.86)	20.98*** (5.90)
Beauty × Right	15.59* (7.94)	18.64** (5.67)	15.00** (5.86)	-2.26 (9.75)	-.54 (9.20)	2.54 (9.24)
Male dummy	-20.66 (16.32)	-33.84 (19.31)	-31.96 (17.73)	13.50 (6.99)	11.89 (8.10)	13.96* (7.04)
Male dummy × Right		42.79 (24.86)	34.97 (25.53)		5.33 (15.75)	3.84 (15.36)
Age dummies	Yes	Yes	Yes	Yes	Yes	Yes
Education dummies	No	No	Yes	No	No	Yes
Unreported dummies interacted with Right	No	Yes	Yes	No	Yes	Yes
List fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of candidates	682	682	682	485	485	485
R-squared	.02	.02	.03	.06	.06	.08

Notes: The dependent variable is Relative success in the Finnish 2004 municipal and 2003 parliamentary elections. All studied candidates are non-incumbents. Candidates on the right belong to the National Coalition Party. Candidates on the left belong to the Social Democratic Party or to the Left Alliance. The education dummies are Comprehensive school or less (at most 10 years of schooling); Upper-secondary education (corresponds to 12 years of schooling); Vocational education (10–12 years of schooling); and University education (with a degree). Robust standard errors clustered at the list level are in parentheses. ***, **, * denote statistical significance at the 1%, 5% and 10% levels.

Columns (1)–(3) show that in the municipal elections, the beauty coefficient of candidates on the right is twice as large as that of candidates on the left (the total beauty coefficient of candidates on the right is obtained by adding the coefficients for *Beauty* and *Beauty × Right*). The beauty coefficients are not much affected by the inclusion of dummies for education. The positive beauty premium for candidates on the left in the low-information municipal election implies that $\beta > \mu_1$ in the model of voter responses to beauty in Section 3. The general appreciation of beauty gives rise to a stronger response among voters compared with the use of beauty as an ideological cue.

As shown in columns (4)–(6), the differences in estimated effects of beauty between candidates on the left and on the right that were evident in the municipal elections seem to be absent in the parliamentary election. There is a beauty premium for both candidates on the left

and on the right such that a beauty increase of one standard deviation attracts about 20% more votes for the average non-incumbent candidate.

Using the estimates in Table 4 (columns 3 and 6), we have calculated the number of elected politicians who would not have been elected had there been no beauty differences within their electoral lists. For municipal elections, we find the numbers to be 2 out of 65 politicians on the left (3.1%) and 9 out of 58 politicians on the right (15.5%). For parliamentary elections the figure for the left is 2 out of 64 politicians (3.1%) and for the right 3 out of 39 politicians (7.7%). This is an indication of the share of politicians on each side that is elected because of their good looks.

We finally note that a larger beauty premium on the right could reinforce the advantages enjoyed by political parties on the right when it comes to recruiting good-looking candidates. Good-looking supporters of parties on the right could respond to a higher responsiveness to beauty among voters on the right by an increased willingness to run for office, compared to good-looking supporters of parties on the left.

6. BEAUTY PREMIA ON THE LEFT AND ON THE RIGHT IN AN EXPERIMENTAL ELECTION

To investigate whether the higher beauty premium on the right reflects a causal mechanism, we have carried out an experimental election. For this election, we used 100 randomly selected photographs of candidates on the left from the Finnish elections and matched them with 100 photographs of candidates on the right. The matching was random subject to the constraints that the candidates should be of the same gender, of similar age and from the same type of election (municipal or parliamentary). Respondents were 41 non-Finns residing outside of Finland, primarily in Germany and Sweden. Since the photographs were the only information about the candidates available to respondents, we have a low-information election by construction. In terms of the theoretical model in Section 3, the fraction of informed voters (q) equals zero.

What we can investigate in this low-information setting is whether candidates on the right win more often; whether this can be linked to better looks; and whether voter-respondents on the right are more responsive to beauty in their voting choices. Not least, since facial photographs are the only information available to respondents, we can be sure that the experimental votes are cast based on this information; i.e., any relationship between candidate

appearance and votes cannot be driven by omitted variables such as candidate effort or monetary resources. For the same reason, the experimental election will support a causal interpretation of the real election results – if voting patterns are similar.

Candidates on the right looked better in 61 of the 100 matched pairs (the p-value is 0.018 in a one-sided binomial test of the null that the winning probability is not larger than 0.5). The average beauty was 2.91 for candidates on the right and 2.61 for candidates on the left (the p-value of the difference is 0.0001 in a one-sided t-test). The candidates on the right are also the more successful in this experimental election, independently of the respondents’ own ideology – see Table 5. The comparison of the two electoral-success measures for voter-respondents on the right and on the left provides a first indication that respondents on the right react more strongly to beauty differences.

TABLE 5

Electoral success for candidates on the right in an experimental election

Respondent category:	Left	Right
Share of races won by candidate on the right	0.60**	0.72***
Average vote share of candidate on the right	0.57***	0.66***

Notes: A voter-respondent is on the right (left) if the answer to a question about whether redistribution in his or her country should be increased was “somewhat against” or “strongly against” (“somewhat in favour” or “strongly in favour”). *** and ** denote statistical significance at the 1% and 5% level. For the average vote share the significance levels refer to p-values from one-sided t-tests of the null hypothesis that the vote share does not exceed 0.5. For the share of races won by the candidate on the right the significance levels refer to p-values from one-sided binomial tests of the null hypothesis that the probability of the right candidate winning is not larger than 0.5 in each pairwise election. Number of respondents on the right (left): 15 (21).

To test whether respondents on the right react more strongly to beauty differences, we present regression results from the same low-information setting. In Table 6 we report results that show the probability of voting for the candidate whose photograph happened to be placed first.

TABLE 6

Beauty in an experimental election

	(1)	(2)
	Vote for the first candidate	Vote for the first candidate
Beauty gap between the first and second candidate	0.22*** (0.01)	0.19*** (0.01)
Right respondent \times Beauty gap		0.06*** (0.02)
Right respondent		-0.002 (0.02)
Constant	0.49*** (0.01)	0.49*** (0.01)
R-squared	0.14	0.14
Observations	2668	2668

Notes: The first (second) candidate refers to the candidate whose photograph was placed to the left (right) on the survey page. The dependent variable is a dummy=1 for voting for the candidate placed first. The beauty gap is the average beauty score of the first candidate minus the average beauty score of the second candidate. Robust standard errors are in parentheses. ***, **, * denote statistical significance at the 1%, 5% and 10% levels. According to F-tests, neither of the constants differs from 0.5 at the 10% significance level. The sample includes respondents who are either classified as being ideologically on the left or on the right. “Abstain from voting” responses are excluded.

Column (1) reveals that respondents are more likely to vote for a candidate the larger that candidate’s beauty advantage is. Column (2), in which *Beauty gap* is interacted with being a respondent on the right, shows that voters on the right respond more to beauty than voters on the left. In line with our findings for real elections in Section 5, the estimates indicate that voter responses based on a general appreciation of beauty (β) are larger than voter responses based on the usage of beauty as an ideological cue (μ_1). Coefficient sizes are, however, not directly comparable across the different settings in Sections 5 and 6.

To sum up, we find that candidates on the right outperform candidates on the left in an experimental election and that the superior performance of candidates on the right can be linked to their beauty advantage – especially among respondents on the right. This supports a causal interpretation of our findings for real elections.

7. SUMMARY AND DISCUSSION

Many studies have shown that candidate appearance is related to electoral success, but so far it has not been explored whether this favours one political side over the other. Our study addresses this question and makes three contributions to the literature on appearance-based voting.

First, we show that politicians on the right are more beautiful than politicians on the left in Europe, the United States and Australia. This is bound to have political consequences, as their beauty advantage, all else equal, makes candidates on the right more likely to win office and implement their preferred policies.

Our second contribution is to formulate a theoretical model of voter responses to beauty. In the model, voters' responses to beauty depend on their ideology and available information. In addition to a general appreciation of beauty, we propose that voters use beauty as a cue for candidate ideology in settings in which they do not know much about candidates apart from their facial appearance. Our explanation is that beautiful people tend to have both higher incomes and higher social status and are therefore more likely to see the world as just place and embrace conservative values. The model predicts that uninformed voters use candidate looks as a cue for a conservative ideology, resulting in a larger beauty premium on the right.

Our third contribution is to show empirically that voters indeed use beauty as a cue for candidate ideology, and that politicians on the right benefit more from beauty in low-information elections. Better-looking politicians are inferred to stand further to the right, independently of which party they really represent. We find that the beauty premium is twice as large among candidates on the right than among candidates on the left in real low-information elections, but about the same in real high-information elections. An experimental election confirms that voters favour better-looking candidates, and that conservative voters do so to a larger extent. The general appreciation of beauty among voters means that politicians on the right, who look better on average, have an advantage in elections.

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APPENDIX A: PRESENTATION OF DATA

In this Appendix we present our data on beauty evaluations (described in Section A.1. and used throughout the paper), on inferred ideology (described in Section A.2. and used in Section 4) and on voting in an experimental election (described in Section A.3. and used in Section 6).

A.1. *Beauty evaluations*

Finland, municipal and parliamentary candidates: Our data on the beauty of municipal and parliamentary Finnish candidates were collected in a web survey. The survey included 1,356 facial photographs of candidates, which were evaluated by an average number of nine respondents each. The photographs were divided into 684 of women and 673 of men; 575 from the 2003 parliamentary election and 782 from the 2004 municipal elections; and 1,170 of non-incumbents and 187 of incumbents. Respondents were informed that they were evaluating political candidates, but were not given any other information about the photographs. The photographs had previously been displayed by the political parties on their campaign posters, as well as in newspaper ads. The 2,513 respondents were from outside of Finland to ensure that the candidates were not recognized. The majority of the respondents were from the United States (32%) or Sweden (31%), but we also had significant participation from France (9%), Germany (8%), and Denmark (5%). Each respondent was shown four photographs (two of men and two of women), one at a time, randomly chosen from the database of photographs, and was asked to evaluate each photograph. Our main question was:

What is your evaluation of the physical appearance or attractiveness of this person compared to the average among people living in your country of residence?

Very unattractive (1)

Below average (2)

Average (3)

Above average (4)

Very handsome or beautiful (5)

Cannot say/Prefer not to answer

For the data analysis, the replies were coded from 1 to 5, as indicated above.

Members of the European Parliament: Beauty evaluations of Members of the European Parliament were collected in a survey in which each of 30 respondents evaluated the official photographs from the web page of the European Parliament of all 736 MEPs from the 2009–2014 parliamentary term. The respondents were research assistants and students from Germany (n=19), the U.S. (5), Finland (2), Sweden (2), Croatia (1) and India (1). They were not given any information about the persons in the photographs.

The question in this survey was:

What is your evaluation of the beauty or attractiveness of this person compared to people in general?

Very unattractive (1)

Rather unattractive (2)

About average (3)

Rather attractive (4)

Very attractive (5)

Don't know or don't want to answer

For the data analysis, the replies were coded from 1 to 5, as indicated above.

U.S. Senate and gubernatorial candidates: Beauty evaluations of U.S. candidates were collected in a survey in which each of 19 respondents evaluated 301 candidates running in Senate elections from 2000 to 2008 and 248 candidates running in gubernatorial elections from 1995 to 2006. We used the same photos as Todorov *et al.* (2005) and Ballew and Todorov (2007), generously provided by Alexander Todorov. We excluded Barack Obama and all responses in which the respondents claimed to recognize the candidate. The respondents were research assistants and students from Germany (n=7), the Czech Republic (4), Canada (2), Spain (2), Sweden (2), China (1) and Ukraine (1). The respondents were not given any information about the photographs.

The question on beauty in this survey was:

What is your evaluation of the physical appearance or attractiveness of this person compared to the average among people living in your country of residence?

- Very unattractive (1)
- Below average (2)
- Average (3)
- Above average (4)
- Very handsome or beautiful (5)
- Cannot say
- Prefer not to answer

For the data analysis, the replies were coded from 1 to 5, as indicated above.

Australia: For Australian candidates, we rely on data from King and Leigh (2009), who asked four Australian respondents to rate the physical attractiveness of 286 candidates in the 2004 election to the federal House of Representatives. The candidates represent one party to the left, the Australian Labor Party, and two parties to the right, the Liberal Party of Australia and the National Party. The two latter parties operate in coalition with one another and do not run candidates against a sitting member of the other party. King and Leigh used candidate photographs from archived versions of party websites and were able to verify that almost all of these photographs were used on the How-to-Vote cards that party representatives hand out to voters at polling stations. They measured physical attractiveness on a scale from 1 to 9 and asked their respondents to try to maintain an average rating of 5. The scores of each individual rater were standardized to a mean of 0 and a standard deviation of unity. Beauty ratings were then obtained by summing the four standardized ratings of each politician and standardizing those sums.

A.2. *Data on inferred ideology (used in Section 4)*

We conducted one experiment in which subjects were asked to infer the ideology of members of the European Parliament and of candidates in U.S. Senate and gubernatorial elections, and another experiment in which subjects were asked to infer the ideology of candidates in Finnish municipal and parliamentary elections.

Members of the European Parliament: Each of 22 respondents evaluated the official photographs (that were collected from the web page of the European Parliament) of all 736 MEPs from the 2009–2014 parliamentary term. The 22 respondents were from Germany (n=13), the United States (4), Finland (2), Sweden (2) and Austria (1). The respondents were not told anything about the photographs that they were evaluating. The main question was: “In political matters, people talk of “the left” and “the right.” Where would you expect this person to stand on this scale? Please indicate a numerical answer from 1 (farthest to the left) to 10 (farthest to the right).”

U.S. Senate and gubernatorial candidates: Each of 11 respondents evaluated 301 candidates running in Senate elections from 2000 to 2008 and 248 candidates running in gubernatorial elections from 1995 to 2006. We used the same photos as Todorov *et al.* (2005) and Ballew and Todorov (2007), generously provided by Alexander Todorov. The respondents were research assistants and students from Germany (n=4), the Czech Republic (3), Sweden (2), Canada (1), and Slovakia (1). We excluded Barack Obama and all responses in which the respondents claimed to recognize the candidate. The main question was: “In political matters, people talk of ‘the left’ and ‘the right.’ Where would you expect this person to stand on this scale? Please indicate a numerical answer from 1 (farthest to the left) to 10 (farthest to the right).”

Finland, municipal and parliamentary candidates: In the second experiment, which was part of the Finnish appearance survey described in Section A.1 above, we asked subjects to classify Finnish municipal and parliamentary candidates as representing either the left or the right, based on facial photographs only. Their classifications were then compared with our classifications of the real parties of the candidates. We classified candidates belonging to the National Coalition Party as being on the right and candidates belonging to the Social Democratic Party or to the Left Alliance as being on the left.

A.3. *Voting in an experimental election (used in Section 6)*

For the experimental election we used 200 photographs of candidates from the Finnish municipal and parliamentary elections described in section A.1. The photographs were selected as follows. We randomly selected 50 photographs of men and 50 photographs of

women from the left (the Social Democratic Party or the Left Alliance), and then matched each photograph with a photograph of a candidate of the same gender in the same district from the right (the National Coalition Party). Candidates were matched by choosing the candidate from the right who was closest in age. The 39 respondents were mostly from Germany (n=30) but also from Sweden (3) as well as single respondents from Australia, Croatia, Denmark, Norway, Russia and Switzerland. Each respondent was shown the 100 matched pairs and given the following instructions: “Sometimes people vote in an election with very little information. Let us assume that you had the choice of voting for one of these persons as a member of Parliament, or abstain from voting. Which would be your choice? Please mark your choice by typing ‘X’ on the relevant line”. For each pair of photographs there were three reply alternatives:

- Vote for the person to the left
- Vote for the person to the right
- Abstain from voting

For each pair, the candidate photograph that was placed to the left was determined by chance. We excluded one respondent who abstained from voting in almost all pairs.

APPENDIX B: TABLES AND TEXT TO SECTION 2

B.1. *About Finnish candidates*

TABLE B1
Average beauty evaluations of Finnish candidates

Election type	Municipal	Parliamentary
Candidates on the right	2.89 (0.71)	2.93 (0.62)
p-value of difference	0.000	0.000
Candidates on the left	2.59 (0.61)	2.70 (0.67)
Female candidates on the right	3.08 (0.79)	3.06 (0.67)
p-value of difference	0.000	0.000
Female candidates on the left	2.63 (0.67)	2.82 (0.74)
Male candidates on the right	2.68 (0.53)	2.78 (0.51)
p-value of difference	0.045	0.002
Male candidates on the left	2.56 (0.60)	2.56 (0.56)
Total No. of candidates	780	575

Notes: Finland: candidates on the right belong to the National Coalition Party, and candidates on the left belong to the Social Democratic Party or to the Left Alliance (none of the respondents recognized any of the candidates). One observation is the average evaluation of one candidate. Standard deviations are in parentheses. P-values are from a t-test of equal means between candidates on the left and on the right.

The differences between Finnish candidates on the left and on the right cannot be explained by age differences: The mean age of candidates on the left and on the right differs by less than one year. Moreover, the age of the respondents does not noticeably affect beauty evaluations.

Could our findings reported in Table B1 be explained by candidate ethnicity, style or clothing or by the ideology of respondents? In the case of the Finnish parliamentary election, ethnicity does not have any significant impact on the results, since only 1.1% of candidates on the right and 1.8% of candidates on the left have immigrant backgrounds, based on their photographs. A potential problem relating to the validity of the evaluations, however, is that candidates on the left and on the right may choose to present themselves in somewhat different fashions (*e.g.*, with regard to clothing). Therefore, there is a risk that the evaluations reflect the political orientations of respondents. In particular, our use of foreign respondents could be problematic if, for instance, U.S. respondents are more conservative on average and, therefore, evaluate political candidates on the right as relatively better looking.

We address these issues from three angles. First, we divide respondents according to

their views on taxes and redistribution in order to investigate whether the evaluation differences are driven by the political orientations of respondents. Second, we divide the candidates by how formally they dress and compare the beauty and competence evaluations of candidates on the left and on the right. Third, we compare the evaluations of Swedish and U.S. respondents.

As reported in Table B2, the beauty differences between candidates on the left and on the right remain both for respondents on the left and on the right (as classified by whether they agree or disagree with the suggestion “to increase taxes on those with high incomes in your country, and distribute the money to those with low incomes”). Moreover, candidates on the right have an appearance advantage irrespective of whether they are dressed formally (which could be taken to signal conservatism) or not (see Table B3); they are also perceived as more beautiful by respondents both from Sweden and from the United States (see Table B4). We conclude that the higher beauty evaluations of candidates on the right do not reflect the political opinions of respondents.

TABLE B2

Average evaluations according to respondent ideology

Candidates	Respondents	Beauty	Number of candidates
Right	Right	2.94 (0.72)	225
	p-value of difference	0.000	
Left	Right	2.63 (0.71)	451
Right	Left	2.85 (0.78)	204
	p-value of difference	0.006	
Left	Left	2.66 (0.77)	365

Notes: Standard deviations are in parentheses. The table contains Finnish candidates both from the municipal and from the parliamentary elections. Candidates on the right belong to the National Coalition Party. Candidates on the left belong to the Social Democratic Party or to the Left Alliance. One observation is the average evaluation of one candidate. Respondents to the right “strongly disagree” or “somewhat disagree” with the suggestion “to increase taxes on those with high incomes in your country, and distribute the money to those with low incomes”. Respondents to the left “strongly agree” or “somewhat agree” with the same suggestion. P-values are from a t-test of equal means between each pair of average evaluations for candidates on the left and on the right.

TABLE B3

Average evaluations according to candidate attire

Candidates	Tie (male) or blouse and/or suit (female)	Beauty	Number of candidates
Right	No	2.89 (0.67)	114
		p-value of difference	0.000
Left	No	2.65 (0.62)	420
Right	Yes	2.91 (0.67)	351
		p-value of difference	0.000
Left	Yes	2.62 (0.65)	471

Notes: Standard deviations are in parentheses. The table contains Finnish candidates both from the municipal and from the parliamentary elections. Candidates on the right belong to the National Coalition Party. Candidates on the left belong to the Social Democratic Party or to the Left Alliance. One observation is the average evaluation of one candidate. P-values are from a t-test of equal means between each pair of average evaluations for candidates on the right and on the left.

TABLE B4

Average evaluations according to respondent country

Candidates	Respondent country	Beauty	Number of candidates
Right	Sweden	2.91 (0.75)	123
		p-value of difference	0.001
Left	Sweden	2.63 (0.78)	244
Right	United States	2.97 (0.81)	180
		p-value of difference	0.000
Left	United States	2.63 (0.79)	346

Notes: Standard deviations are in parentheses. The table contains Finnish candidates both from the municipal and from the parliamentary elections. Candidates on the right belong to the National Coalition Party. Candidates on the left belong to the Social Democratic Party or to the Left Alliance. One observation is the average evaluation of one candidate. P-values are from a t-test of equal means between each pair of average evaluations for candidates on the right and on the left.

A further concern is that the appearance gap in favor of politicians on the right could result from differences in the quality of photographs; perhaps parties on the right spend more on photographers so that their candidates look better in campaign material. We tested for photograph-quality differences by having two men and two women from Germany and from Sweden evaluate the 100 randomly selected pairs of photographs of Finnish candidates used in the experimental election. This photograph-quality evaluation was conducted independently of the collection of appearance ratings. Respondents indicated whether one of

the photographs was of higher quality, whether the photographs were of similar quality or whether an assessment could not be made, and in so doing they were explicitly instructed to disregard any aspects concerning the appearance of the persons in the photographs.

Photographs of candidates on the left were evaluated to be of higher quality in 57% of the cases, and photographs of candidates on the right in 34% of the cases.¹⁴ Therefore, the appearance gap in favor of candidates on the right does not seem to be driven by the quality of the photographs. If anything, the photograph-quality evaluations may be taken to imply that we underestimate this gap.

Finally, in the Finnish National Election Study (Karvonen and Paloheimo 2003), more than one third of voters reported that they were influenced by the presence and style of candidates and more than one fifth by their election campaigns and advertisements: see Table B5, with separate numbers for voters on the right and on the left. For our purposes, it is eye-catching that voters who are politically to the right state that they were more influenced by presence and style, and campaigns and advertisements, whereas voters to the left say that they were more influenced by the gender of candidates.

¹⁴ Furthermore, although there is a positive correlation between photograph quality and beauty evaluations, candidates on the right are evaluated as better looking both in photographs that are of lower and of higher quality than those of candidates on the left, as well as in photographs that are of similar quality.

TABLE B5

Factors that influenced Finnish voters in choosing parliamentary candidates

Influence	Share of voters on the left being significantly or somewhat influenced by	Share of voters on the right being significantly or somewhat influenced by
Candidate's gender	38%	32%
Candidate's age	31%	28%
Candidate's educational background	31%	56%
Candidate's experience in politics	63%	62%
Candidate's presence and style	34%	39%
Candidate's fame	33%	37%
Candidate's views and comments	80%	87%
Candidate represents the party supported by the voter	73%	85%
Candidate's election campaign and advertisements	21%	25%
Recommendations of a friend, acquaintance, or relative	9%	10%
Comments and support of a non- governmental organization	5%	6%

Notes: Candidates on the left belong to the Social Democratic Party or to the Left Alliance. Candidates on the right belong to the National Coalition Party. The percentages presented refer to replies from voters of these three parties. Source: Karvonen and Paloheimo (2013).

B.2. *More on Harris and Udry (2012)*

Lastly, we refer to Harris and Udry (2012). On the 1–5 scale, conservative or very conservative respondents receive the average rating of 3.45 and liberal or very liberal respondents the average rating of 3.32. The difference corresponds to 0.16 standard deviations and is statistically significant at the 1% level. Among women, the difference is smaller and not statistically significant.

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APPENDIX C: PROOF OF PROPOSITION 1 (IN SECTION 3)

Informed voters

We first calculate the beauty premia for candidates A and B when informed voter j decides whom to vote for, taking into account the probability distribution of the individual-specific popularity parameter σ_j . According to equation (3), the cutoff value of σ_j above which j votes for A is given by

$$\hat{\sigma}_j = d_{j,A} - d_{j,B} - \beta(b_A - b_B).$$

Given that σ_j follows a uniform distribution between $-\Sigma/2$ and $\Sigma/2$, the probability of j voting for A is given by $p_{j,A} = (\frac{\Sigma}{2} - \hat{\sigma}_j)/\Sigma$. Differentiating this with respect to b_A gives as the beauty premium $\partial p_{j,A}/\partial b_A = \beta/\Sigma$. Correspondingly, $\frac{\partial p_{j,A}}{\partial b_B} = -\frac{\beta}{\Sigma}$, implying that $\frac{\partial p_{j,B}}{\partial b_B} = \frac{\beta}{\Sigma}$. (As there are two candidates, $p_{j,A} + p_{j,B} = 1$.) Among informed voters, the beauty premium is the same for A and B.

Uninformed voters

If citizen j is uninformed, we can distinguish three cases: (i) $i_j \leq \mu_0 + \mu_1 b_B$; (ii) $\mu_0 + \mu_1 b_B < i_j \leq \mu_0 + \mu_1 b_A$; (iii) $i_j > \mu_0 + \mu_1 b_A$. Case (i) corresponds to voters on the left, case (ii) to voters in the centre and case (iii) to voters on the right.

In case (i), inserting equation (4) into equations (5) and (6) gives

$$EU(b_A) = -\mu_0 - \mu_1 b_A + i_j + \beta b_A + \sigma_j,$$

$$EU(b_B) = -\mu_0 - \mu_1 b_B + i_j + \beta b_B.$$

The cutoff value of σ_j above which j votes for A is given by

$$\hat{\sigma}_j = (\beta - \mu_1)(b_B - b_A).$$

Given that σ_j follows a uniform distribution between $-\Sigma/2$ and $\Sigma/2$, the probability of j voting for A is given by $p_{j,A} = (\frac{\Sigma}{2} - \hat{\sigma}_j)/\Sigma$. Differentiating this with respect to b_A gives $\partial p_{j,A}/\partial b_A = (\beta - \mu_1)/\Sigma$. Differentiating this with respect to b_B gives $\frac{\partial p_{j,A}}{\partial b_B} = (\mu_1 - \beta)/\Sigma$, implying that $\frac{\partial p_{j,B}}{\partial b_B} = \frac{\beta - \mu_1}{\Sigma}$. Therefore, the beauty premium is the same for A and B.

In case (ii), inserting equation (4) into equations (5) and (6) gives

$$EU(b_A) = -\mu_0 - \mu_1 b_A + i_j + \beta b_A + \sigma_j,$$

$$EU(b_B) = \mu_0 + \mu_1 b_B - i_j + \beta b_B.$$

The cutoff value of σ_j above which j votes for A is given by

$$\hat{\sigma}_j = 2\mu_0 - 2i_j + \mu_1(b_A + b_B) - \beta(b_A - b_B).$$

Given that σ_j follows a uniform distribution between $-\Sigma/2$ and $\Sigma/2$, the probability of j voting for A is given by $p_{j,A} = (\frac{\Sigma}{2} - \hat{\sigma}_j)/\Sigma$. Differentiating this with respect to b_A gives $\partial p_{j,A}/\partial b_A = (\beta - \mu_1)/\Sigma$. Differentiating this with respect to b_B gives $\frac{\partial p_{j,A}}{\partial b_B} = -(\beta + \mu_1)/\Sigma$, implying that $\frac{\partial p_{j,B}}{\partial b_B} = (\beta + \mu_1)/\Sigma$. Therefore, the beauty premium is larger for B than for A.

In case (iii), inserting equation (4) into equations (5) and (6) gives

$$EU(b_A) = \mu_0 + \mu_1 b_A - i_j + \beta b_A + \sigma_j,$$

$$EU(b_B) = \mu_0 + \mu_1 b_B - i_j + \beta b_B.$$

The cutoff value of σ_j above which j votes for A is given by

$$\hat{\sigma}_j = (\beta + \mu_1)(b_B - b_A).$$

Given that σ_j follows a uniform distribution between $-\Sigma/2$ and $\Sigma/2$, the probability of j voting for A is given by $p_{j,A} = (\frac{\Sigma}{2} - \hat{\sigma}_j)/\Sigma$. Differentiating this with respect to b_A gives $\partial p_{j,A}/\partial b_A = (\beta + \mu_1)/\Sigma$. Differentiating this with respect to b_B gives $\frac{\partial p_{j,A}}{\partial b_B} = -\frac{\beta + \mu_1}{\Sigma}$, implying that $\frac{\partial p_{j,B}}{\partial b_B} = \frac{\beta + \mu_1}{\Sigma}$. Therefore, the beauty premium is again the same for A and B.

To sum up cases (i), (ii) and (iii): among uninformed voters, the beauty premium of a

candidate is $(\beta - \mu_1)/\Sigma$ among voters to the left of the candidate's expected ideological position and $(\beta + \mu_1)/\Sigma$ among voters to the right of the candidate's expected ideological position.

APPENDIX D: DATA FROM FINNISH VOTING AID APPLICATION (USED IN SECTION 4)

To capture ideological differences between candidates we use data from a voting aid application provided by *Helsingin Sanomat* (Finland's biggest newspaper) for the 2015 parliamentary election. We use candidates' responses to the following statement to capture their ideology:

Labour income taxes should be increased on those with high incomes.

- (1) Fully disagree
- (2)
- (3) Cannot say
- (4)
- (5) Fully agree ¹⁵

For the data analysis, the replies were coded from 1 to 5, as indicated above.

We find that although the ideology of candidates differ less within than between parties, there is significant within-party variation in ideology, making it possible that uninformed voters use candidates' appearance as a cue when choosing an ideologically suitable candidate to vote for from a specific party. The party averages on the 1–5 scale are 1.7 for candidates from the National Coalition Party, 4.0 for candidates from the Social Democratic Party and 4.2 for candidates from the Left Alliance. The standard deviations are between 0.7 and 0.9 within the three parties. Importantly, in all three parties we have that each of the response alternatives on the 1–5 scale are chosen by some candidates, as displayed in Table D1.

¹⁵ There were no verbal explanations for (2) and (4).

TABLE D1

Average ideological scores of candidates in the 2015 parliamentary election in Finland

Response	National Coalition Party	Social Democratic Party	Left Alliance
Fully disagree (1)	41.3%	1.0%	1.6%
(2)	52.9%	13.9%	8.4%
Cannot say (3)	1.4%	1.5%	0.5%
(4)	3.9%	56.4%	44.2%
Fully agree (5)	0.5%	27.2%	45.3%
Mean	1.69	3.95	4.23
Standard Deviation	0.73	0.97	0.94

Notes: Candidates' responses relate to the statement "Labour income taxes should be increased on those with high incomes."

The data were provided by *Helsingin Sanomat*, using Creative Commons license CC BY-NC-SA 4.0 (<http://creativecommons.org/licenses/by-nc-sa/4.0/>) and is available at <http://dynamic.hs.fi/arkku/tiedostot/23821113ehdokasvastaukset-17-04.xlsx>. The voting aid application is available at <http://www.vaalikone.fi/eduskunta2015/> (in Finnish).