Associations between direct and top candidates' physical attractiveness and the electoral success of their parties. An analysis of the 2005 to 2021 federal elections in Germany

Ulrich Rosar[1]/**Roman Althans**[2]/**Luisa Junghänel**[3]

1. Introduction

It is known from attractiveness research that being good-looking has positive effects across multiple life domains from an early age on (Hamermesh, 2011; Langlois et al., 2000). Therefore, it is not surprising that beauty is also an advantage in politics. Many studies have shown that the physical attractiveness of politicians has a positive effect on their electoral success, confirming this for different electoral systems in a range of countries (Ahler et al., 2017; Berggren et al., 2010; Jäckle et al., 2020; Stockemer & Praino, 2017). In Germany, a robust effect giving more attractive politicians better chances of winning seats in parliament has been identified for both national and state-level elections (Gaßner et al., 2019; Jäckle & Metz, 2017; Rosar & Klein, 2010, 2020). This effect has been demonstrated for top candidates, ordinary direct and list candidates (King & Leigh, 2009; Klein & Rosar, 2005; Rosar, 2009; Masch et al., 2021). But the effects of the physical appearance of top candidates and ordinary candidates have not yet been investigated together in a way that would make direct comparisons of their relative significance for electoral success possible. In electoral systems based on closed lists of candidates, this question might be relatively unimportant, as the attention of the electorate in these systems is focused on the front runners. But in electoral systems that provide for the direct election of parliamentarians (in combination, or not, with other voting mechanisms) or make use of some kind of preferential voting or vote transfer, the situation becomes more interesting. In these cases, inquiring into how the characteristics of ordinary candidates and front runners relatively influence the electoral success of their parties seems highly pertinent.

Although our study focuses on Germany, the issue is relevant beyond Germany: numerous other political systems feature electoral mechanisms that are inherently suited to directing voters' attention to both ordinary candidates and top

[1] Prof Dr Ulrich Rosar holds the Chair of Sociology II at the Institute of Social Sciences at Heinrich Heine University Düsseldorf.

[2] Roman Althans is a research assistant at the Chair of Sociology II at the Institute of Social Sciences at Heinrich Heine University Düsseldorf.

[3] Luisa Junghänel is a research assistant at the Chair of Sociology II at the Institute of Social Sciences at Heinrich Heine University Düsseldorf.

candidates put forward by political parties. Examples include the United Kingdom, France, and Portugal, but also Ireland, Malta, and Denmark (Gallagher & Mitchell, 2005; Ismayr, 1997).

To lay the groundwork for investigating and answering this research question appropriately, the basic mechanisms by which physical attractiveness unfolds its social impact need to be introduced first. The superior electoral prospects of more attractive top candidates and ordinary candidates – specifically direct candidates, in this case – are then explained while also pointing out the differences in the expected strengths of the effects as well as the reasons underlying them. After deriving hypotheses from these theoretical expectations, the data basis of the study and the analysis strategy are introduced. The results from the empirical analyses are then presented and the importance of investigating relative attractiveness effects is discussed.

2. Mechanisms and their implications

Several fundamental mechanisms that explain the social impact of people's looks are introduced briefly below. The effects of physical appearance in every domain and phase of life are rooted in the 'attractiveness consensus' (Langlois et al., 2000; Klein & Rosar, 2017): despite idiosyncratic differences, people are in relative agreement about who is attractive and who is not and this agreement is largely independent of cultural contexts, personal demographic attributes, and personal sexual orientation. Building on this, people perceived as attractive capture the attention of others more effectively than their less attractive counterparts; this is termed the 'attractiveness attention boost' (Klein & Rosar, 2017, pp. 692-694).[4] Attractive people are noticed faster and more often and are looked at more intensely. Their presence and what they say are also more likely to be remembered. The most intensively researched mechanism underlying the effects of physical appearance is the 'attractiveness stereotype'. Accordingly, people use the immediately available physical attractiveness of a person as an indicator of other (personality) traits (Braun et al., 2003; Eagly et al., 1991). This leads to better-looking people being perceived as more successful, more intelligent, more likeable, and more pro-social than less attractive people. A further mechanism determining the effects of physical appearance has been termed the 'attractiveness glamour effect' (Bassili, 1981); it describes how missteps by attractive people tend to be downplayed or attributed to external circumstances, so that attractive people are not personally blamed for their wrongdoing to the same degree as less attractive people. As a result of (or independently of) these mechanisms, attractive people are dealt with favourably by others; thanks to this 'attrac-

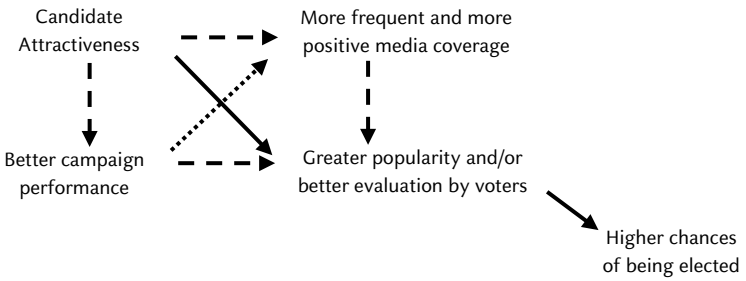
[4] Physical attractiveness is a continuous attribute. The comparison of attractive and unattractive people in this article serves merely to illustrate the mechanisms involved.

tiveness treatment advantage', they are given more respect and more support and have more trust placed in them. They consequently hold advantages over less attractive people in various kinds of social situations (Klein & Rosar, 2017; Langlois et al., 2000).

Taken together, these different mechanisms give attractive people an 'attractiveness competition advantage' or 'beauty premium' that is effective across various life domains and phases (see, for example, Hamermesh, 2011; Krause et al., 2022).

The factors underlying the effects of candidates' looks in the political context can be explained as direct or indirect effects of the mechanisms outlined above (for a more detailed account, see Rosar & Klein, 2015, pp. 220–222; see Figure 1). The direct effects of attractiveness are expected to lead voters to perceive attractive politicians as such, paying more attention to them, remembering them better, being more willing to forgive them for blunders (see also Stockemer & Praino, 2019), and ascribing positive character traits to them such as competence and a capacity to perform at a high level (see also Todorov et al., 2005; Verhulst et al., 2010). The indirect effects of attractiveness could include journalists and media professionals giving more favourable treatment to more attractive politicians and, for example portraying them more often and in a more positive light (see also Maurer & Schoen, 2010; Waismel-Manor & Tsfati, 2011). More attractive politicians could, finally, even have a genuine productivity advantage over less attractive competitors if self-fulfilling-prophecies lead to an expectation of preferential treatment that develops early on and boosts their social but also their human capital resources (for a similar line of thinking, see Converse et al., 2016).

Figure 1: Possible causal paths for the influence of electoral success through the physical attractiveness of candidates



Note: solid arrow: direct effects; dashed arrows: first-order indirect effects; dotted arrow: second-order indirect effects.

Source: Klein & Rosar, 2015, p. 222.

These causal paths supply a basis for explaining why greater candidate attractiveness correlates with a higher vote share for candidates, especially under the conditions of a presidential (majoritarian) electoral system. Although attractive-

ness effects are more likely to be demonstrated in elections like these (Potrafke et al., 2020; Stockemer & Praino, 2017), research has shown that parties can also benefit in their vote share from attractive (direct) candidates in proportional elections (see above; Gaßner et al., 2019; Rosar & Klein 2020, 2014). Candidates are perceived as an attribute of the party for which they are running for, so that positive associations based on attractiveness are transferred to the party. Due to the 'halo effect' and the 'attractiveness stereotype', good-looking candidates can trigger more positive perceptions of the party with which they are affiliated. This process is subtle and could be compared to product advertising that features beautiful models in that it does not compel voters to engage in any detail with a given party, its candidate, or its politics.

But differences in the strength of attractiveness effects can also be expected depending on which candidates are involved. This can be described well using Germany as an example: the different positions in the electoral system occupied by direct candidates in electoral districts, list candidates on the state lists of their parties, and the top candidates (Spitzenkandidierenden) can be expected to influence the effects of attractiveness at these different levels.

It has been demonstrated on multiple occasions (Gaßner et al., 2019; Jäckle & Metz, 2017, 2019; Rosar & Klein, 2020) that the appearance of direct candidates does influence the shares of both first and second votes which their parties achieve at the level of their districts – as direct candidates are usually not known beyond their regions, they are, nevertheless, important figures locally (Pappi et al., 2021). The share of first votes achieved by candidates (and therefore their chances of being elected directly) increases with greater attractiveness (Klein & Rosar, 2005; Potrafke et al., 2020; Rosar & Klein, 2010; Stockemer & Praino, 2017). It has also been shown that candidates who run as both direct and list candidates are more attractive, on average, than candidates who run only as list candidates (Potrafke et al., 2020). In line with the mechanisms outlined above, attractive direct candidates can be expected to compete for attention in their electoral district – an important part of the election campaign (Lerch, 2014) – more successfully than their less attractive rivals (see also Gaßner et al., 2019). But this effect seems more likely to have an impact on the share of first votes achieved by the direct candidate than on the share of second votes reached by the party with which they are affiliated (see Potrafke et al., 2020; Stockemer & Praino, 2017). This difference is due to the fact that the first vote is a direct vote for a candidate – possibly influenced by their appearance – while the effect of the candidate's physical attractiveness on their party's share of second votes is indirect and more likely to be diluted by other factors. Conditioning factors could, however, also affect the influence of appearance on the first vote share. It is conceivable, for example, that incumbents who are re-running for office occupy a more

prominent position (Weßels, 2016) and that the attractiveness effect is less relevant as a result (see Jäckle & Metz, 2016, 2019).

List candidates are elected to parliament via the voters' second vote, which goes to a party and not directly to a specific individual. It follows that attractiveness effects should have barely any significance here, especially since election campaigns do not focus on list candidates as individual personalities and most list candidates are not well known as such to voters (see, for example, Pappi et al., 2021). At best, the top candidates on the state lists for each party could be known figures in some places and to some extent, but this should not be of much overall significance apart from those few cases in which they are also prominent in politics in some other capacity. As it is common practice in Bundestag elections for list candidates to also run as direct candidates in districts and vice versa, the overlap between both groups is large in any case. This means that list candidates can be excluded from the analysis from the outset.

Especially in Germany but also in other countries with comparable political systems, the top candidates form a group of people who are perceived as the public faces of their parties during election campaigns (Klingemann & Taylor, 1977; Ohr, 2019). They have become highly relevant for voter choice (Glinitzer & Jungmann, 2019). For voters it is also easier to identify with a person than with a party (Schoen, 2014). While citizens may not recognise the candidates running in their own electoral districts, the top candidates – and, consequently, their appearance – are more popular. More attractive top candidates are more likely to be remembered, and this effect also extends to the parties to which they belong (Rosar & Klein, 2014). The presence of top candidates on election posters can also explain the positive effects of top candidates on electoral success (Herrmann & Shikano, 2021). Since top candidates are seen as representing their parties in election campaigns, the party results relate to their individual performance at times (Rosar, 2009). As the personal traits of the front runners influence wider perceptions of their parties and party activities, they can also have an influence on the election of direct candidates in individual districts. A mistake by a top candidate can affect perceptions of their party (Rosar & Masch, 2022). In this light, it is unsurprising that the appearance of top candidates has also been shown to be an influential factor: Rosar (2009) demonstrates for elections to state parliaments in Germany between 1990 and 2008 that the physical attractiveness of the front runners has a positive influence on the second vote shares achieved and that this is independent of party affiliation. This can be explained by the presence of these candidates in the public eye, as conveyed by the media, and by the importance of these candidates for overall political developments after the election. These factors merge with the physical attractiveness mechanisms and causal paths traced above.

This explanation appears to initially contradict existing research. Typically, in most analyses, attractiveness effects in election are seen to work as heuristics: Appearance is used as a shortcut for other characteristics such as competence (see the direct path in Figure 1; see, for example, Stockemer & Praino, 2017). This presupposes an electorate that has not engaged with the candidate or political content. However, given that top candidates are likely known to a broader audience, it is necessary to reconsider the indirect impact of attractiveness in this context (see Figure 1). The potential influence on voting behaviour is larger due to their high profile. One can argue that more attractive top candidates are treated more favourably by the media. Furthermore, they might score higher on characteristics that are related to campaign performance such as confidence or charisma (i.e., social capital). Additionally, if one rejects these indirect explanations for attractiveness effects there is still the possibility that even some of the top candidates are not as known to the broader electorate as one might think.[5] Additionally, their prominence among citizens is also influenced by their attractiveness (see above).[6]

Considering these assumptions, a larger attractiveness effect can be expected for top candidates than for direct candidates standing at district level because voters can be expected to be more familiar with the top candidates and to perceive them as more important on balance. However, this effect can be expected to be more pronounced for second vote shares than to first vote shares. While the electorate's knowledge of the electoral law provisions governing elections to the Bundestag is limited (see, for example, Westle & Tausendpfund, 2019, p. 22), most voters are nevertheless likely to realise that their second vote – regardless of all the changes that have been made over time to federal electoral law – is essentially a vote influencing the composition of parliament, while their first vote favours a direct candidate in their own electoral district.

The ideas and expectations discussed thus far yield the following three hypotheses for testing:

(1) The influence of the attractiveness effect on first and second votes is greater for top candidates than for direct candidates.

[5] The point here is not to give a complete analysis of how appearance might translate into electoral success, but to show that it is often more complex than just a heuristic – even more so for top candidates.

[6] Looking at the data from the rolling cross-section of the German Longitudinal Election Study for the federal election in 2021 the familiarity of the top candidates ranges between 96,4% (Olaf Scholz, SPD) and 45,1% (Janine Wissler, The Left). Additionally, combining data from the *Politikbarometer* between 2005 and 2021 with appearance ratings we can see that the average assessment for sympathy for the 25 top candidates correlates positively with their physical attractiveness ($r = 0.27$).

(2) The attractiveness effect on second votes is stronger than the effect on first votes for top candidates.
(3) The attractiveness effect on first votes is stronger than the effect on second votes for direct candidates.

3. Data basis and analysis strategy

The data set used to test the hypotheses covers the Bundestag elections from 2005 to 2021 and the candidates put forward by the parties AfD (from 2017 on), the Greens (Bündnis'90/Die Grünen), CDU/CSU[7], FDP, The Left (Die Linke)[8] and SPD. This data set has already formed the basis for numerous studies and its creation, cleaning and structure have been described elsewhere (Masch et al., 2021; Rosar & Klein, 2015, 2020). Thus, we will limit ourselves to only outlining its most salient features here.

Firstly, the results for the first and second votes – our two dependent variables – in each election year in the data set were taken (at the level of the individual electoral districts) from the official announcement of results by the Federal Returning Officer. This data was supplemented by information on the direct candidates. The Federal Returning Officer also provides information on candidates online. Candidate lists from this source were used to add the following information to the data set:

- Year of the Bundestag election (dummy-coded in the data set with 2005 as the reference category)
- Number of opposing candidates in each electoral district
- Party affiliation of each direct candidate in combination with the location of the electoral district in East or West Germany (dummy-coded in the data set with AfD/East as the reference category)
- Age of each direct candidate at the time of the election (measured in decades)
- Squared age of each direct candidate at the time of the election (measured in decades)
- Gender (dummy-coded in the data set with woman = 0 and man = 1)

This information was supplemented by the following additional details obtained from online research, in most cases from the election campaign websites of the direct candidates or their parties:

- Whether the direct candidate was already a sitting member of the Bundestag at the time of the election (dummy-coded in the data set with no = 0 and yes =1)

[7] CDU/CSU are treated as a single party in the following.
[8] We have opted to use the current party name throughout for the sake of convenience; we are aware that the party ran as an electoral alliance between PDS and WASG in 2005.

- Whether the direct candidate was especially prominent at the time of the election as federal chancellor, a federal minister, the president of the Bundestag, a parliamentary group leader (or state group leader, in the case of CSU candidates), a party leader or a top candidate (dummy-coded in the data set with no = 0 and yes =1)
- A portrait photograph of the direct candidate

Photographs of the candidates were subsequently employed in rating experiments to assess their physical attractiveness. The truth of consensus method widely used in attractiveness research was applied (see Henss, 1992; Patzer, 1985). This method takes advantage of the attractiveness consensus (see above), i.e. the phenomenon that relative agreement about a person's attractiveness generally exists despite idiosyncratic differences. Determining the physical attractiveness of a person using this method typically involves asking a group of people – who ideally do not know the person and have not yet formed an impression of them – to rate how attractive they spontaneously find the person on a multi-level scale.[9] The 'true' attractiveness score of the person being rated is then calculated as the mean of the individual scores given by the raters to balance out the small idiosyncratic differences that do arise. Physical attractiveness can be determined sufficiently with groups as small as 6 to 12 raters. In our case, 24 incentivised raters participated in the analysis of each Bundestag election.[10] All of them were students with German citizenship and they were selected as statistical twins in terms of gender and age, their age ranging from 18 to 29 (Masch et al., 2021; Rosar & Klein, 2015, 2020). An online questionnaire was compiled for the raters

[9] To minimise any distortion of the results arising due to raters possibly being familiar with candidates, the electoral districts with the candidates with which the raters were most likely to be familiar were evaluated last in a separate block that was also randomised.

[10] We build upon previous studies; therefore, the measurement was conducted in this manner. An intuitive objection to this approach might be to argue that a larger rater sample with a more diverse demographic distribution would have made it possible to score attractiveness more reliably. But we had two reasons – apart from the obvious motive of practicality – for opting to proceed as we did. Firstly, it has already been demonstrated in comprehensive studies that even a relatively small number of raters permits an appraisal of the physical attractiveness of people that is not substantially skewed by the preferences or response styles of individual raters (see Henss, 1992 for a summary). These idiosyncratic differences can be characterised as very small in any case, both interculturally and between the genders (in line with the attractiveness consensus outlined above; see also Cunningham, 1986; Cunningham et al., 1990; Cunningham et al., 1995). This is illustrated by the result reached by Klein and Rosar (2005) in an attractiveness rating exercise performed under similar conditions that found no in-group bonus with regard to gender. Determining physical attractiveness on the basis of groups of 6–12 raters has become established practice by now (see, for example, Biddle & Hamermesh, 1998; Hamermesh & Parker, 2005). Secondly, we see the composition of the rater groups as a way of making our test conditions more challenging: if the attractiveness judgements in our sample differ greatly from the judgements of the electorate, that would make achieving meaningful and robust results more difficult, but if such robust results were nevertheless achieved, they could then be regarded as especially strong (for a similar argument, see also Klein & Rosar, 2005, pp. 271–272; Rosar, 2009, p. 760).

for the respective Bundestag election. Images of the candidates were presented (in a standardised size and resolution) on a separate webpage for each candidate. These photographs were presented to the raters (randomised by electoral district and within electoral districts). The raters were able to take breaks at any time during their processing of the questionnaires. Any features that might have hinted at the party affiliation or political activity of each person depicted were removed from the photographs before compiling the questionnaires. The raters were then asked to rate the attractiveness of the person in the photograph on a seven-point scale with the end poles 'unattractive' (coded 0 in the data set) and 'attractive' (coded 6 in the data set) based on their first spontaneous impression. Averaged over all five rating experiments, the inter-rater reliability had a Cronbach's α of 0.961 with a minimum value of 0.948 (2013) and a maximum value of 0.986 (2005). From the 2009 Bundestag election questionnaires onwards, at least 50 photos were double rated for each election to determine the internal consistency of the raters' responses. The Cronbach's α average across all 120 raters was 0.862 with a standard deviation of 0.071. The lowest value was 0.629 and the highest 0.952. The mean attractiveness score across all direct candidates was 2.016 with a standard deviation of 0.982. The lowest score reached was 0.040 and the highest was 5.50. This range of 5.460 means that the scores covered almost the entire range of the measurement scale used.

In a final step, the top candidates were rated in much the same way as the direct candidates. Although almost all the top candidates in the Bundestag elections analysed also stood as direct candidates, separate attractiveness-rating exercises were carried out for the top candidates, again with students as raters. Where using the same photograph as in the attractiveness scoring of the direct candidates was not possible, images from the same sources were used. The top candidates in each Bundestag election were presented to the raters in randomised order in an online questionnaire. The treatments were structured in the same way as for the direct candidates. The attractiveness of each block of top candidates was rated by at least 27 and at most 34 raters. The inter-rater reliability reached a minimum Cronbach's α = 0.855 and a maximum Cronbach's α = 0.979. The average Cronbach's α across all five rater groups was 0.945. The arithmetic mean of the physical attractiveness scores of the top candidates (or the top candidate teams, where applicable) is 2.129. The standard deviation is 1.012. The minimum score is 0.470 and the maximum score 4.410. This means that the attractiveness range here is around 1.5 scale points lower than for the direct candidates but nevertheless reflects a wide range of levels of physical attractiveness in this group of candidates.

The AfD contested all the Bundestag elections in the study with a double bill of top candidates. The Greens and The Left have mostly also campaigned with top candidate duos. The Left even ran with an eight-person team of top candidates

in 2013. This needed to be accounted for when coding how the top candidates' attractiveness scores flowed into the study. We approached this problem by calculating the mean attractiveness scores of each party's top candidates in each election. When a party contested an election with only one front runner, the value used is the attractiveness score of that one person. When a party contested an election with two or more front runners, the value used is the arithmetic mean of their individual attractiveness scores.[11] Following the same logic, other attributes of the top candidates also had to be coded as mean or proportional values so that they could be included as control variables. This data was collected in the same way as information was gathered for each direct candidate and coded as follows:

- Proportion of women among a party's top candidates (coded from 0 to 1 in the data set)
- Average age in decades of the top candidates in a party
- Squared average age in decades of a party's top candidates
- Proportion of members of the Bundestag among a party's top candidates (coded from 0 to 1 in the data set)
- Proportion of members of the federal government among a party's top candidates (coded from 0 to 1 in the data set)
- In addition, whether a party ran with a single top candidate, a duo of top candidates, or a team of eight was also coded (dummy-coded in the data set with a single top candidate as the reference category)

Our analyses focus on comparing top candidates and direct candidates in terms of the influence of their physical attractiveness on vote share for both the first votes and second votes. Other characteristics listed are mostly covariates that need to be statistically controlled for in order to capture the 'true' adjusted attractiveness effects as accurately as possible (Gaßner et al., 2019; Rosar et al., 2012). For example, physical attractiveness and electoral success are both linked to the age and gender of the candidates, so the models need to take this into account. At the same time, knowing the degree to which attributes like gender, incumbency status and prominence in politics influence electoral success generates useful benchmarks for contextualising and comparing the significance of the effects of physical attractiveness.

[11] There are, of course, other ways of combining the individual attractiveness scores of the top candidates, and we tested several options, but none of them significantly changed the results of the regression analyses. In that light, we chose to stick with the procedure outlined above since it is the simplest approach.

We have complete data on all 8,031 direct candidates[12] and all 33 top candidates or top candidate teams from the parties analysed here for all five elections. This has two implications that need to be addressed here briefly to explain the analysis strategy we have opted to pursue. Firstly, our data has a hierarchical structure: the direct candidates are clustered three-dimensionally in election years, electoral districts, and parties. The top candidates are clustered two-dimensionally (by election year and party). This would appear to require a complex multi-level analysis of the first vote shares and second vote shares. However, for our specific research question, estimating simple OLS regressions is an adequate strategy because the 'misspecification' of the model does not actually affect the regression estimates. Its primary impact is on the observed levels of significance, as the degrees of freedom for their determination are set too high for variables at higher levels. Secondly, all relevant data is available for every survey point. We have a complete coverage, in other words, and determining the risk of a type 1 error is superfluous given that context.[13] Experts occasionally argue that significance values can also be of interest when working with full samples (for a discussion of significance tests in full samples, see Behnke, 2005; Broscheid & Gschwend, 2005). While we do not share this view, we have nevertheless included significance levels in our tables for informational purposes.[14] But we do not consider them in our interpretation of the empirical results.

---

[12] Simple multiplication suggests an expected number of 8,073 direct candidates given the numbers of elections, electoral districts, and parties involved. But it was relatively common for smaller parties not to nominate a direct candidate in individual electoral districts and formal grounds sometimes precluded the Federal Returning Officer from authorising nominations.

[13] One could counter this assessment by pointing out that we are theoretically only looking at a sample of all possible Bundestag elections in post-unification Germany or that inferential statistics also provide information on the robustness and predictive power of regression coefficients in full samples, see for example Vierus et al. (2022). However, the first of these objections can only be made if one ignores an issue that simply prohibits the application of inferential statistics here: our measurements can be regarded as samples, but not as random samples. In fact, we can take this perspective further and observe that in the social sciences we are practically never dealing with random samples. Logic dictates that we cannot arbitrarily reach into the future to take samples, so our options for sampling are always right censored along the time axis. In practice, they are also usually left censored, as our capacity to collect or reconstruct data from the past is limited by the tools and re-sources at our disposal. If it is accepted that data collection can only ever cover specific points or periods along the time axis, then a complete sample can be assumed to exist whenever complete data is available for all the elements of a survey population. The second argument does not stand up to scrutiny if these points are ignored. Even if we had a random sample of all past and future Bundestag elections in post-unification Germany, this sample would be very large compared to the population. In the context of regression analyses, this would then require a finite population correction of the standard errors of the regression coefficients (Bortz, 2005, p. 86, pp. 92–93). This, in turn, would result in the standard errors tending to zero and the t-scores all, or at least almost all, passing the statistical significance threshold and therefore no longer being suitable as a guide to the robustness and predictive power of the effects identified.

[14] As the data are statistically heteroscedastic, however, we have estimated robust standard errors.

4. Results

We calculated two regression models to test our three hypotheses, one with the first vote share in the electoral district as the dependent variable and one with the second vote share in the electoral district as the dependent variable.[15] The findings from both models are shown in Table 1 and need to be compared to reach conclusions about the three statements being tested. Superficial inspection of the relevant regression coefficients suffices to demonstrate that all three hypotheses have stood up to empirical testing. The influence of the physical attractiveness of the top candidates is always greater than the influence of the attractiveness of the direct candidates (Hypothesis 1). The influence of the physical attractiveness of the top candidates is more noticeable in the second vote share than in the first vote share (Hypothesis 2) and exactly the opposite applies for the direct candidates (Hypothesis 3). Considering the range of the attractiveness scores in each case, an arithmetical difference of 15.7 percentage points (=4.078*3.840) separates the least attractive top candidate and the most attractive top candidate when one looks at the share of first votes achieved.[16] For the direct candidates, an arithmetical difference of 4.2 per-centage points (=0.775*5.460) in the share of first votes achieved is found. The corresponding values in the models with the second vote share as the dependent variable are 17.0 percentage points and 2.6 percentage points, respectively. This means that physical attractiveness is one of the most powerful predictors among the personal attributes of top and direct candidates in both models. It clearly exceeds the influence exerted by the gender of the direct candidates or the proportion of female top candidates in every case. In the case of the direct candidates, the effect is broadly comparable in its strength to the effects of incumbency (being a sitting member of the Bundestag in the run-up to the election) or of occupying a prominent position in politics at the time of the election. And for the top candidates, it clearly outweighs the influence of those characteristics.

[15] In the analyses with the second-vote shares in the electoral district as the dependent variable, the number of cases is reduced from 8,031 to 8,027 because formal errors in the composition of the list precluded the list submitted by the Greens in the Saarland from being admitted to the 2021 Bundestag election. Thus, no Greens could be elected via second votes in the Saarland. The four Green direct candidates were excluded from the analysis because no values were available for them for the dependent variable.

[16] These are both single individuals and not teams.

Table 1. Results of linear regressions to estimate the first and second vote share.

	DV: First vote share			DV: Second vote share		
	B		RSE	B		RSE
Constant	27.480	***	5.11	8.619	+	4.74
Election year (Ref.: 2005)						
2009 (= 1)	0.010		0.24	-0.375		0.23
2013 (= 1)	-0.508		0.39	-0.931	**	0.36
2017 (= 1)	-4.198	***	0.31	-4.509	***	0.28
2021 (= 1)	-2.978	***	0.30	-3.023	***	0.27
Number of opposing candidates	-0.225	***	0.05	-0.119	**	0.04
Party (Ref.: CDU-West)						
CDU-East (= 1)	-8.942	***	0.50	-6.781	***	0.46
SPD-West (= 1)	-3.482	***	0.38	-3.222	***	0.33
SPD-East (= 1)	-12.050	***	0.48	-8.965	***	0.43
FDP-West (= 1)	-30.367	***	0.43	-21.316	***	0.41
FDP-East (= 1)	-30.875	***	0.45	-24.262	***	0.42
Left-West (= 1)	-29.256	***	0.45	-24.037	***	0.42
Left-East (= 1)	-13.804	***	0.62	-9.913	***	0.58
Greens-West (= 1)	-28.022	***	0.37	-21.663	***	0.35
Greens-East (= 1)	-31.442	***	0.47	-26.255	***	0.42
AfD-West (= 1)	-20.304	***	0.50	-14.557	***	0.46
AfD-East (= 1)	-8.171	***	0.77	-2.871	***	0.72
Gender (1 = female)	-1.362	***	0.16	-0.773	***	0.15
Age in decades	1.554	***	0.33	1.110	***	0.29
Age² in decades	-0.143	***	0.04	-0.109	***	0.03
Candidate is Bundestag member (= 1)	3.945	***	0.19	2.440	***	0.17
Candidate is prominent (= 1)	5.544	***	0.73	2.961	***	0.55
Physical attractiveness (0–6)	0.775	***	0.08	0.476	***	0.07
Number of top candidates (Ref.: one candidate)						
Two top candidates (= 1)	0.549		0.37	0.210		0.34
Eight top candidates (= 1)	-1.935	**	0.62	-2.091	***	0.57
Share of women among top candidates (1 = 100 %)	0.143		0.40	-0.951	*	0.37
Mean age in decades of top candidates	-3.890	*	1.67	1.310		1.57
Mean squared age in decades of top candidates	0.545	***	0.14	0.114		0.14
Share of Bundestag members among top candidates (1= 100 %)	1.629	***	0.18	1.621	***	0.16
Share of government members among top candidates (1 = 100 %)	1.351	***	0.27	2.202	***	0,24
Mean physical attractiveness of top candidates (0–6)	4.078	***	0.23	4.440	***	0.21
Adjusted R^2	0.856			0.814		
N	8,031			8,027		

Note: +p<0.1; *p<0.05; **p<0.01; ***p<0.001; DV: Dependent variable; RSE: Robust standard errors

Source: Original Data Collection

It cannot be ruled out that the findings reported here – confirming validity of our hypotheses – may have been influenced by three unusual aspects of the German federal elections of 2017 and 2021. Firstly, the Greens achieved by far the best Bundestag election result in their party's history in 2021. At the same time, their top candidate in 2021, Annalena Baerbock, was not only the most attractive top candidate of all the Bundestag elections considered here, but also significantly more attractive than all the Greens politicians who ran as a top candidate or part of a top duo in previous Bundestag elections. Secondly, the CDU/CSU achieved its worst-ever Bundestag election result in 2021 with a top candidate, Armin Laschet, who is not only far less attractive than Angela Merkel but also one of the least attractive top candidates in any of the elections included in the study. Both circumstances can be seen as statistical coincidences that may, in the most unfavourable case, have contributed significantly to the physical attractiveness effects reported here for top candidates. Thirdly, the AfD achieved successes in 2017 and 2021 primarily as a protest party. While it has since acquired a more ideologically solid voter base, the authentic characteristics of the party and its representatives were most likely not the main factors driving voter choice in its favour in these two elections (see, for example, Bieber, Roßteutscher, and Scherer 2018; Smolka and Stark 2022). If this context influenced the effects of individual candidate attributes or the overall significance of the attributes of direct and top candidates, that could also have compromised the robustness of our results.

To shed more light on the effects of these three issues, we recalculated the analyses shown in Table 1 for four subgroups, first excluding all Greens candidates in 2021, then all CDU/CSU candidates in 2021, and then all AfD candidates in 2017 and 2021.[17] The results are shown in Table A1, available at https://doi.org/10.24338/mip-202519-39. Our hypotheses were still supported unchanged by all four subgroup analyses. Again, the results confirm that the physical attractiveness of front runners is always more significant than that of the direct candidates, and the postulated differences in the strength of the effect are again seen in the first vote and second vote shares obtained. The only striking effect noted was that the influence of the physical attractiveness of top candidates or top teams is lower when the AfD is excluded from the analysis. Candidate attributes are seemingly not a completely negligible factor even for protest parties.

[17] Of course, it is possible to think of other context factors, for example on the party level, that could influence the results. Therefore, we estimated additional models to investigate these effects. However, our findings remained consistent across these supplementary analyses. We do not report them here.

5. Conclusion

The starting point of our investigation was the realisation that there has not yet been a study – in this otherwise quite well-researched field – that makes it possible to compare the relative significance of the physical attractiveness of top candidates and ordinary candidates for the electoral success of their parties. To move towards closing this research gap, we drew on a complete coverage from the 2005 to 2021 Bundestag election to analyse the influence of both factors on the first vote share and second vote share, relative to each other and to additional predictors of electoral success. Our empirical findings unequivocally show that the physical appearance of top candidates is vastly more significant than that of ordinary candidates. This applies to both the first vote share and the second vote share, although its importance for the second vote share proved, as anticipated, to be even greater. It follows that parties would be well advised to select their front runners with care and not to limit themselves to considering only political aspects.

But drawing the reverse conclusion from these results – that the performance and appearance of ordinary candidates can be neglected – would be unwise. While their attractiveness and other personal attributes included in the study are considerably less significant – especially for the second vote share – these attributes nevertheless contribute to the electoral success (or lack of it) of their parties. Even small advantages can be decisive for parties vying for the most seats in parliament or struggling to enter parliament at all. Success in the competition for direct mandates is also always a question of prestige – and the outcomes of neck-and-neck races can ultimately be decided by trivial details.

Several limitations of our study must be addressed at this point. The number of top candidates that could be studied was naturally relatively small in comparison to the number of ordinary candidates. This may limit the generalisability of our results, as individual outliers can exert noticeable influence on results when small numbers are involved. In the strictest interpretation of our analyses, the results only allow statements to be made about the observed Bundestag elections from 2005 to 2021 and about the 33 top candidates or top teams involved. While it can be argued that the results reached for direct candidates would presumably also be found in studies of additional Bundestag elections, given the number of elections and candidates observed and the (partial) replication of the results reached for direct candidates by other analyses (for example, Jäckle & Metz, 2017; Stockemer & Praino, 2017), the empirical basis for drawing conclusions about the top candidates is less stable – not least because significantly fewer comparative studies have been carried out with a strong focus on the effects of the physical appearance of top candidates.

The small numbers involved may also accentuate the influence of possible conditioning factors (such as specific features of each election or the effects of

electoral law) on the attractiveness effect. For example, due to the nature of the data it was not possible to control for time-varying aspects that might influence election results and account for some of the attractiveness effect. The finding of up to 17 % difference in the second vote share between the most unattractive and most attractive top candidate is arguably very large and may not reflect the 'true' attractive effect. In that light, replication in similar studies with a larger number of top candidates (and therefore also a larger number of elections) and a wider range of predictors on the level of the top candidates is a desideratum. In the German case, for example, studying state-level elections could prove rewarding, as the number of elections that take place within any given period is higher and correspondingly larger numbers of top candidates are involved. Such an approach would facilitate the analysis of relative attractiveness effects as a function of electoral law variations and the level of the political system.

Rosar (2009), for example, finds with data on 283 top candidates for state-level elections between 1990 and 2008 a weaker maximum effect of 5,5 percentage points between the most unattractive and most attractive candidate. Even if these models cannot be compared directly, this is another indicator that there is an attractiveness bonus even for top candidates, but its effect strength varies depending on the predictors controlled. Similarly, Klein and Rosar (2013) examine appearance effects for 216 top candidates between 1968 and 2008 for 108 state-level elections and find a maximum attractiveness effect of 9.2 percentage points. Thus, both analyses yield noticeably more moderate or weaker attractiveness effects for top candidates. However, some of the differences to the results of the present article attributed to the weakening of the SPD and the CDU/CSU. At the time of the previous articles, these parties were very strong, resulting in a wider range of attractiveness effects for candidates of these parties. Currently, there is greater volatility, and the parties have become more closely aligned. Certainly, more research is needed to examine the actual effect strength of physical attractiveness of top candidates on their electoral success.

Finally, it must be emphasised once more that our analyses relate to the German case, although it can be expected, that the attractiveness of both ordinary candidates and front runners in politics presumably influences election outcomes in similar political systems in broadly similar ways. However, it is necessary to identify additional factors that may moderate this effect. Differences could arise from political culture – such as generally high or low levels of partisanship among the electorate, or the mediatisation of politics and electoral systems (see also Rosar & Klein, 2010). The study presented here can therefore be seen as an initial point of reference for understanding the relative effects of physical attractiveness on electoral success. However, further research is needed to gain a more comprehensive understanding of these relationships and to identify possible moderating factors.

References

Ahler, D. J., Citrin, J., Dougal, M. C., & Lenz, G. S. (2017). Face value? Experimental evidence that candidate appearance influences electoral choice. Political Behavior, 39(1), 77–102.

Bassili, J. N. (1981). The attractiveness stereotype: Goodness or glamour? Basic and Applied Social Psychology, 2(4), 235–252.

Behnke, J. (2005). Lassen sich Signifikanztests auf Vollerhebungen anwenden? Einige essayistische Anmerkungen. Politische Vierteljahresschrift, 46(1), O1–O15.

Berggren, N., Jordahl, H., & Poutvaara, P. (2010). The looks of a winner: Beauty and electoral success. Journal of public economics, 94(1-2), 8–15.

Bieber, I., Roßteutscher, S., & Scherer, P. (2018). Die Metamorphosen der AfD-Wählerschaft: Von einer euroskeptischen Protestpartei zu einer (r)echten Alternative? Politische Vierteljahresschrift, 59(3), 433–461.

Bortz, J. (2005). Statistik Für Human- und Sozialwissenschaftler: Mit 242 Tabellen. 6th ed. Berlin: Springer.

Braun, C., Gründl, M., Marberger, C., & Scherber, C. (2001). Beautycheck – Ursachen und Folgen von Attraktivität.

Broscheid, A., & Gschwend, T. (2005). Zur statistischen Analyse von Vollerhebungen. Politische Vierteljahresschrift, 46(1), O16–O26.

Converse, P. D., Thackray, M., Piccone, K., Sudduth, M. M., Tocci, M. C., & Miloslavic, S. A. (2016). Integrating self-control with physical attractiveness and cognitive ability to examine pathways to career success. Journal of Occupational and Organizational Psychology, 89(1), 73–91.

Cunningham, M. R. (1986). Measuring the physical in physical attractiveness: Quasi-experiments on the sociobiology of female facial beauty. Journal of personality and social psychology, 50(5), 925–935.

Cunningham, M. R., Barbee, A. P., & Pike, C. L. (1990). What do women want? Facialmetric assessment of multiple motives in the perception of male facial physical attractiveness. Journal of personality and social psychology, 59(1), 61–72.

Cunningham, M. R., Roberts, A. R., Barbee, A. P., Druen, P. B., & Wu, C. H. (1995). "Their ideas of beauty are, on the whole, the same as ours": Consistency and variability in the cross-cultural perception of female physical attractiveness. Journal of personality and social psychology, 68(2), 261–279.

Eagly, A. H., Ashmore, R. D., Makhijani, M. G., & Longo, L. C. (1991). What is beautiful is good, but…: A meta-analytic review of research on the physical attractiveness stereotype. Psychological bulletin, 110(1), 109–128.

Gallagher, M., & Mitchell, P. (2005). The politics of electoral systems. Oxford: Oxford University Press.

Gaßner, A., Masch, L., Rosar, U., & Schöttle, S. (2019). Schöner wählen: Der Einfluss der physischen Attraktivität des politischen Personals bei der Bundestagswahl 2017. In K.-R. Korte & J. Schoofs (Eds.), Die Bundestagswahl 2017: Analysen der Wahl-, Parteien-, Kommunikations- und Regierungsforschung (pp. 63–82). Wiesbaden: Springer Fachmedien Wiesbaden.

Glinitzer, K., & Jungmann, N. (2019). Spitzenkandidaten. In S. Roßteutscher, R. Schmitt-Beck, H. Schoen, B. Weßels & C. Wolf (Eds.). Zwischen Polarisierung und Beharrung: Die Bundestagswahl 2017 (pp. 247-262). Baden-Baden: Nomos Verlagsgesellschaft mbH & Co. KG.

Hamermesh, Daniel S. (2011). Beauty pays: Why attractive people are more successful. Princeton, N.J: Princeton University Press.

Henss, R. (1992). "Spieglein, Spieglein an der Wand…": Geschlecht, Alter und physische Attraktivität. Weinheim: Psychologie-Verlag-Union.

Herrmann, M., & Shikano, S. (2021). Do campaign posters trigger voting based on looks? Probing an explanation for why good-looking candidates win more votes. Acta Politica, 56(3), 416–435.

Ismayr, W. (1997). Die Politischen Systeme Westeuropas. Wiesbaden: VS Verlag für Sozialwissenschaften.

Jäckle, S., & Metz, T. (2016). Brille, Blazer oder Bart? Das Aussehen als Determinante des Wahlerfolgs von Bundestags-Direktkandidaten. Politische Vierteljahresschrift, 57(2), 217–246.

Jäckle, S., & Metz, T. (2017). Beauty contest revisited: The effects of perceived attractiveness, competence, and likability on the electoral success of German MPs. Politics & Policy, 45(4), 495–534.

Jäckle, S., & Metz, T. (2019). "Schönheit ist überall ein gar willkommener Gast" – Zum Einfluss des Aussehens auf die Wahlchancen von Direktkandidaten bei der Bundestagswahl 2017. Zeitschrift für Parlamentsfragen, 50(3), 523–544.

Jäckle, S., Metz, T., Wenzelburger, G., & König, P. D. (2020). A catwalk to congress? Appearance-based effects in the elections to the US House of Representatives 2016. American Politics Research, 48(4), 427–441.

King, A., & Leigh, A. (2009). Beautiful politicians. Kyklos, 62(4), 579–593.

Klein, M., & Rosar, U. (2005). Physische Attraktivität und Wahlerfolg. Eine empirische Analyse am Beispiel der Wahlkreiskandidaten bei der Bundestagswahl 2002. Politische Vierteljahresschrift, 46(2), 263–287.

Klein, M., & Rosar, U. (2013). Pretty politicians: Die physische Attraktivität von Spitzenkandidaten, ihr Einfluss bei Wahlen und die These der Personalisierung des Wahlverhaltens. In: T. Faas, K. Arzheimer, S. Roßteutscher & B. Weßels (Eds.), Koalitionen, Kandidaten, Kommunikation: Analysen zur Bundestagswahl 2009 (pp. 149–170). Wiesbaden: Springer VS.

Klein, M., & Rosar, U. (2017). Candidate Attractiveness. In: Arzheimer, K. (Ed.), The Sage hand-book of electoral behaviour, Vol. 1 (pp. 688-708). Los Angeles.

Klingemann, H. D., & Taylor, C. L. (1977). Affektive Parteiorientierung, Kanzlerkandidaten und Issues: Einstellungskomponenten der Wahlentscheidung bei Bundestagswahlen in Deutschland. Politische Vierteljahresschrift, 18(2/3), 301–347.

Krause, J., Binckli, J., & Rosar, U. (Eds.). (2022). Soziale Wirkung physischer Attraktivität. Wiesbaden: Springer Fachmedien Wiesbaden.

Langlois, J. H., Kalakanis, L., Rubenstein, A. J., Larson, A., Hallam, M., & Smoot, M. (2000). Maxims or myths of beauty? A meta-analytic and theoretical review. Psychological bulletin, 126(3), 390–423.

Lerch, D. C., & Lerch, D. C. (2014). Kandidat und Kampagne: Zur Modellierung von Wahlkämpfen. In D. Lerch (Ed.), Wahlkampf in den Bundesländern: Der Einfluss der KandidatInnen und der regionalen politischen Kultur (pp. 105-145). Wiesbaden: Springer Fachmedien Wiesbaden.

Masch, L., Gassner, A., & Rosar, U. (2021). Can a beautiful smile win the vote?: The role of candidates' physical attractiveness and facial expressions in elections. Politics and the life sciences, 40(2), 213–223.

Maurer, M., & Schoen, H. (2010). Der mediale Attraktivitätsbonus. Kölner Zeitschrift für Soziologie und Sozialpsychologie, 62(2), 277–295.

Ohr, D. (2019). 20. Kandidatenorientierungen und Wahlentscheidung. In T. Faas, O. W. Gabriel & J. Maier (Eds.), Politikwissenschaftliche Einstellungs- und Verhaltensforschung (pp. 480-501). Baden-Baden: Nomos Verlagsgesellschaft mbH & Co. KG.

Pappi, F. U., Kurella, A. S., Bräuninger, T., Pappi, F. U., Kurella, A. S., & Bräuninger, T. (2021). Valenzvorteile von Kandidaten und der Medianwähler. Strategische Positionswahl deutscher Wahlkreiskandidaten. In F. U. Pappi, A. S. Kurella & T. Bräuninger (Eds.), Parteienwettbewerb und Wählerverhalten im deutschen Mischwahlsystem (pp. 177-198). Wiesbaden: Springer Fachmedien Wiesbaden.

Patzer, Gordon L. 1985. The Physical Attractiveness Phenomena. Boston, MA: Springer US.

Potrafke, N., Rösch, M., & Ursprung, H. (2020). Election systems, the "beauty premium" in politics, and the beauty of dissent. European Journal of Political Economy, 64, 101900.

Rosar, U. (2009). Fabulous Front-Runners. Eine empirische Untersuchung zur Bedeutung der physischen Attraktivität von Spitzenkandidaten für den Wahlerfolg ihrer Parteien. Politische Vierteljahresschrift, 50(4), 754–773.

Rosar, U., & Klein, M. (2010). And the Winner is... Ein Drei-Länder-Vergleich zum Einfluss der physischen Attraktivität von Direktkandidaten auf den Wahlerfolg bei nationalen Parlamentswahlen. In T. Beckers, K. Birkelbach, J. Hagenah & U. Rosar (Eds.), Komparative empirische Sozialforschung (pp. 307-335). Wiesbaden: VS Verlag für Sozialwissenschaften.

Rosar, U., & Klein, M. (2014). The physical attractiveness of front-runners and electoral success. Zeitschrift für vergleichende Politikwissenschaft, 2(8), 197–209.

Rosar, U., & Klein, M. (2015). Politische Wahlen als Schönheitskonkurrenz: Ursachen – Mechanismen – Befunde. In T. Faas, C. Frank & H. Schoen (Eds.), Politische Psychologie (pp. 222-245). Baden-Baden: Nomos Verlagsgesellschaft mbH & Co. KG.

Rosar, U., & Klein, M. (2020). Der Einfluss der physischen Attraktivität der Wahlkreiskandidaten bei den Bundestagswahlen 2005, 2009 und 2013 auf das Zweitstimmen-Wahlkreisergebnis ihrer Partei. In A. Mays et al. (Eds.), Grundlagen-Methoden-Anwendungen in den Sozialwissenschaften: Festschrift für Steffen-M. Kühnel (pp. 531–546). Wiesbaden: Springer Fachmedien Wiesbaden.

Rosar, U., Klein, M., & Beckers, T. (2012). Magic mayors: Predicting electoral success from candidates' physical attractiveness under the conditions of a presidential electoral system. German Politics, 21(4), 372–391.

Rosar, U., & Masch, L. (2022). Von einem, der auszog, Kanzler zu werden: Armin Laschet, die Union, ihre Wählerschaft und die Bundestagswahl 2021. In K.-R. Korte, M. Schiffers, A. von Schuckmann & S. Plümer (Eds.), Die Bundestagswahl 2021: Analysen der Wahl-, Parteien-, Kommunikations- und Regierungsforschung (pp. 89-115). Wiesbaden: Springer Fachmedien Wiesbaden.

Schoen, H. (2014). Wahlkampfforschung. In J. W. Falter & H. Schoen (Eds.), Handbuch Wahlforschung (pp. 661-728). Wiesbaden: Springer Fachmedien Wiesbaden.

Smolka, T., & Stark, T. (2022). Wähler: innen im Krisenmodus? Der Einfluss von Angst und politischen Einstellungen auf das Wahlverhalten bei der Bundestagswahl 2021. In K.-R. Korte, M. Schiffers, A. von Schuckmann & S. Plümer (Eds.), Die Bundestagswahl 2021: Analysen der Wahl-, Parteien-, Kommunikations- und Regierungsforschung (pp. 1-30). Wiesbaden: Springer Fachmedien Wiesbaden.

Stockemer, D., & Praino, R. (2017). Physical attractiveness, voter heuristics and electoral systems: The role of candidate attractiveness under different institutional designs. The British Journal of Politics and International Relations, 19(2), 336–352.

Stockemer, D., & Praino, R. (2019). The good, the bad and the ugly: Do attractive politicians get a 'break' when they are involved in scandals? Political Behavior, 41(3), 747–767.

Todorov, A., Mandisodza, A. N., Goren, A., & Hall, C. C. (2005). Inferences of competence from faces predict election outcomes. Science, 308(5728), 1623–1626.

Verhulst, B., Lodge, M., & Lavine, H. (2010). The attractiveness halo: Why some candidates are perceived more favorably than others. Journal of nonverbal behavior, 34(2), 111–117.

Vierus, P., Ziller, C., & Marx, N. (2022). Grenzen politischer Repräsentation: Determinanten der Wahlbeteiligung bei Integrationsratswahlen in Nordrhein-Westfalen. KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie, 74(4), 525–551.

Waismel-Manor, I., & Tsfati, Y. (2011). Why do better-looking members of Congress receive more television coverage?. Political Communication, 28(4), 440–463.

Weßels, B. (2016). Wahlkreiskandidaten und politischer Wettbewerb. In H. Schoen & B. Weßels (Eds.), Wahlen und Wähler: Analysen aus Anlass der Bundestagswahl 2013 (pp. 181-204). Wiesbaden: Springer Fachmedien Wiesbaden.

Westle, B., & Tausendpfund, M. (2019). Politisches Wissen: Relevanz, Messung und Befunde. In B. Westle & M. Tausendpfund (Eds.), Politisches Wissen (pp. 1-39). Wiesbaden: Springer Fachmedien Wiesbaden.