Electoral Vulnerability and Women MPs' Estimation of Voters' Preferences on Women's Issues

Online Appendix

Appendix A1 - Details on Interview and Survey Protocols

For the elite survey, we targeted MPs at the national level in Germany and Switzerland, as well as a selection of Swiss cantons. The interviews were conducted between March 2018 and September 2019 in both countries and were completed in each setting within six months. Due to the size of the German Bundestag, stratified sampling by party, incumbency and gender was used. In the Swiss case, all MPs in each locality were contacted. The initial contact with MPs was made through a formal letter sent to politicians describing the goals of the study, the interview setup, the type of questions asked, and the funding of the project. Ensuing follow-up phone calls were used to set a date for an in-person interview meeting. The participating politicians completed the questionnaire during a face-to-face meeting on an electronic device. The setup guarantees that politicians themselves and not their staffers answered our questions. Meetings were held mostly in respondents' parliamentary offices, and took about 45 minutes to complete on average. The politicians were not compensated financially for taking part in the interviews. Before the interview, politicians provided informed consent to participate. Additionally, they were informed that the interview will include questions about their attitudes and perceptions of specific policy issues. There was no deception of respondents involved, no intervention in political processes, and respondents were assured explicitly and repeatedly that their answers will remain confidential and anonymous.

The population surveys were conducted online by professional survey companies. The companies were asked to provide a citizen sample that was representative on partisanship, age, gender and education — which they did by drawing a sample from actual census data (Switzerland) or by enforcing quotas (Germany). In Switzerland, FORS contacted a probability sample of 10,261 between 28th of May and 16th July 2018 and collected responses from 4,677 citizens. In Germany, YouGov achieved a sample size of 1,520 during October 2018. All person-specific data are handled in ways that ensure the anonymity of respondents in accordance with established data protection standards. This means that the reference to any respondent is irreversibly removed from the datasets in such a way that it is no longer possible to draw conclusions about individ-

ual respondents without disproportionate effort. The survey companies additionally ensured an informed consent of all survey participants, including information on the type and scope of the survey and of the data processing, a reference to the intended use of the data, and the rights of the participants to cancellation, access and opposition to their participation in the survey at any time. The surveys did not include any form of deception of respondents or any intervention in political processes. All survey participants were compensated financially according to the internal rules of the involved survey companies.

In Switzerland, ethical approval for the survey was granted by the Ethics Commission of the Geneva School of Social Sciences (University of Geneva) on 16 April 2018. The German part of the study was deemed exempt from review by the ethical board of the University of Konstanz.

Appendix A2 - Approval of women-specific policy proposals among Swiss and German legislators

Our theoretical assumptions start from the premise that divergent life experiences of women and men result in distinct policy preferences between men and women. Appendix A2 provides descriptive evidence to illuminate the degree to which women and men MPs personally agree with our six policy proposals on women's issues.

Figure 1 displays the approval of women-specific policy proposals among Swiss and German legislators. The distributions clearly demonstrate that women MPs more strongly support these policy proposals compared to their men colleagues. For the Swiss MPs, the difference in the approval ratings is particularly pronounced for regulations on sexual harassment. Whereas more than 70% of the women MPs totally support stricter punishments of sexual harassment, only slightly over 40% of the men MPs are strongly in favor of this proposal. The same pattern holds for the other three issues that were presented to Swiss MPs. The descriptive evidence for German MPs is quite similar to the Swiss case. As shown in the bottom row of Figure 1, support for women-friendly policy proposals is much stronger among women MPs than among men leg-

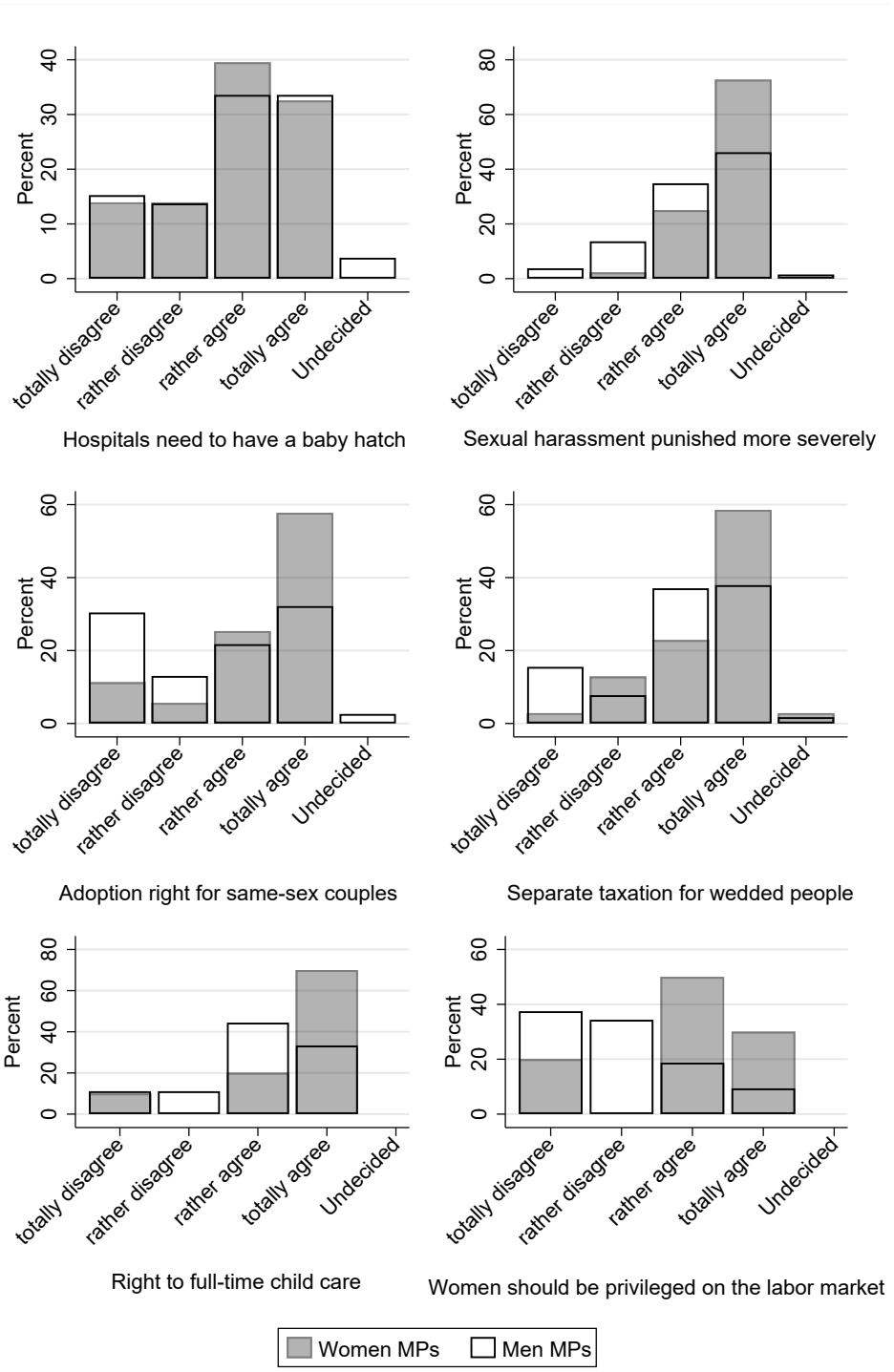


Figure 1: Own Position on Women's Issues Among Swiss and German MPs. The top four policies are Swiss and the bottom row is for Germany.

islators. 70% of the women MPs strongly support the right to full-time child care until the end of elementary school, and 30% totally agree that equally qualified women should be privileged

on the labor market. Support among men MPs for these proposals only amounts to 35% and 9%, respectively. In sum, on the six public policies regarding women's issues discernible differences between men and women MPs persist.

Appendix A3 - Policy statements placebo analysis

The placebo analysis re-estimates the main analysis and uses MPs' perceptual accuracy on non women-related policy proposals as the dependent variable.
For Swiss MPs, we used the following policy statements:

1. Switzerland needs to buy new fighter jets.
2. Jobs in my Canton need to be reserved for people residing my Canton.
3. The concerned Cantons need to allow the hunt of wolves that attack flock.
4. Switzerland should only accept well-educated immigrants.
5. Citizens should be able to participate in federal elections via internet.
6. Taxes on high-income should be raised while taxes on low-income should be reduced.
7. The pension age needs to be raised to 67.
8. Civil defense facilities that are not in use need to be closed for good.
9. Elderly employees need to be protected better from dismissal.
10. Private households should be able to freely choose their electricity provider.
11. The police needs to prevent unauthorized demonstrations at all costs.
12. My Canton should spend more for the integration of asylum seekers.
13. Foreigners who have lived in Switzerland for at least ten years should be able to participate in Cantonal elections and referenda.
14. My canton should create a cantonal health insurance institution for its residents.

For German MPs, we used the following policy statements:

1. The cooperation between EU member states should be strengthened.

2. Video surveillance in public spaces should be expanded.
3. Citizens with higher incomes should be taxed more heavily than today.
4. There should be referendums on the federal level.
5. There should be more driving restrictions in cities suffering from air pollution.
6. The retirement age should be raised step by step.
7. Foreign citizens' children that were born and raised in Germany should be allowed to keep their parent's citizenship in addition to the German citizenship.
8. There should be no further EU enlargement.
9. Delinquents should be punished more severely.
10. Income and wealth should be redistributed in favor of poorer people.
11. The electoral age should be lowered to 16 years for federal elections.
12. Activities with high CO2 emissions such as air travel should be taxed more heavily.
13. There should be an "opt-out" system for organ donations. Everyone that does not decline explicitly would be organ donor.
14. Declined asylum seekers should be more consequently deported.

Appendix A4 - Robustness Tests

Besides the placebo test, we conduct several analyses to determine the robustness of our main findings. First, the assessment of public opinion might be easier for specific policy statements. For example, MPs might possess a better sense of public opinion if a specific topic has been highly salient in the public discourse and has been discussed frequently in the media. Therefore, Model A1 and Model A2 in Table 1 are re-estimations of our core analysis but include additional fixed effects for the different policy statements. The dependent variables are identical to the main analysis. The results of Models A1 and A2 show that our findings are robust toward the inclusion of policy statement fixed effects. We still find a statistically significant and positive interaction estimate of women MPs and their electoral vulnerability. The effect sizes also remain unaltered.

Table 1: Robustness tests. The dependent variable in Model A1 and Model A3 is perceptual accuracy of the assessment of the public opinion of the entire party electorate on women's issues. The dependent variable in Model A2 and Model A4 is perceptual accuracy with regard to the public opinion of women in the party electorate. Standard errors (in parentheses) are clustered by MPs.

	Model A1	**Model A2**	**Model A3**	**Model A4**
Woman	-1.860	-4.018*	-1.464	-3.992*
	(1.96)	(1.98)	(1.93)	(1.96)
Electoral vulnerability	-1.872	-1.746	-2.025	-1.777
	(1.23)	(1.17)	(1.25)	(1.17)
Woman * Electoral vulnerability	3.375*	4.190**	3.408*	4.208**
	(1.63)	(1.57)	(1.63)	(1.56)
Age	-0.073	-0.083	-0.072	-0.083
	(0.07)	(0.07)	(0.07)	(0.07)
Seniority	-0.076	0.025	-0.102	0.018
	(0.15)	(0.15)	(0.15)	(0.15)
Member women's committee	0.198	-0.075		
	(2.52)	(2.39)		
Represent specific group	0.155	0.258	0.139	0.253
	(0.63)	(0.60)	(0.62)	(0.59)
Follow own conviction	-0.057	-0.217	-0.031	-0.197
	(0.41)	(0.40)	(0.41)	(0.39)
Contact citizens	0.601	0.609	0.519	0.592
	(0.41)	(0.40)	(0.40)	(0.40)
Swiss MP	2.210	5.279	0.381	3.697
	(3.62)	(3.94)	(2.54)	(2.69)
Regional MP	-2.267	-1.348	-2.461	-1.398
	(2.07)	(2.05)	(2.09)	(2.05)
Party Position	-0.107***	-0.093**	-0.107***	-0.093**
	(0.03)	(0.03)	(0.03)	(0.03)
Issue fixed effects	✓	✓		
Constant	83.517***	80.769***	84.357***	81.765***
	(6.41)	(6.42)	(5.88)	(5.84)
N	565	565	565	565
Adj. R	0.079	0.066	0.071	0.063

Significance Levels: * p<0.05, ** p<0.01, *** p<0.001.;

Second, previous research has shown that women legislators are more likely to become members of the women's committee (Coffé, Bolzendahl, and Schnellecke, 2019). If, in turn, their position in this committee enables them to better estimate the party voters' opinion on women's issues, this effect might introduce a potential post-treatment bias into our analysis. Models A3 and A4 therefore re-estimate our core model specification without the control variable for membership in the women's committee. The results demonstrate that our substantive findings essentially remain unchanged.

Additionally, we test the sensitivity of our results to the inclusion of a specific policy proposal in the estimation of the dependent variable. Since the classification of the statement on adoption rights for same-sex couples as women-specific can be disputed, we re-estimate our main model without including this statement in the calculation of the perceptual accuracy score. The results in Table 2 show that the estimated effect sizes and their uncertainties remain largely unchanged.

Table 2: The gendered perception of public opinion. Swiss and German MPs.

	Model A5	**Model A6**	**Model A7**	**Model A8**
Woman	1.259	-0.448	-1.998	-4.197
	(1.77)	(1.68)	(2.29)	(2.14)
Electoral vulnerability	-1.049	-0.728	-2.051	-1.881
	(1.12)	(1.04)	(1.39)	(1.28)
Woman * Electoral vulnerability			3.512	4.043*
			(1.82)	(1.67)
Age	-0.050	-0.070	-0.045	-0.065
	(0.09)	(0.08)	(0.09)	(0.08)
Seniority	-0.108	0.007	-0.110	0.006
	(0.16)	(0.15)	(0.17)	(0.16)
Member women's committee	0.929	0.364	1.068	0.525
	(2.97)	(2.66)	(2.90)	(2.57)
Represent specific group	0.683	0.578	0.585	0.465
	(0.73)	(0.66)	(0.72)	(0.66)
Follow own conviction	-0.018	-0.218	0.048	-0.142
	(0.48)	(0.45)	(0.48)	(0.44)
Contact citizens	0.623	0.661	0.655	0.697
	(0.47)	(0.46)	(0.47)	(0.46)
Swiss MP	0.465	4.062	0.392	3.978
	(2.66)	(2.73)	(2.67)	(2.74)
Regional MP	-2.971	-1.768	-2.987	-1.787
	(2.43)	(2.20)	(2.44)	(2.21)
Party Position	-0.114**	-0.105**	-0.112**	-0.103**
	(0.03)	(0.03)	(0.03)	(0.03)
Constant	79.732***	78.882***	80.243***	79.470***
	(7.00)	(6.68)	(6.93)	(6.57)
N	443	443	443	443
Adj. R	0.063	0.059	0.068	0.068

Ordinary Least Square Regression. The dependent variable in Model A5 and Model A7 is the perceptual accuracy of the assessment of the public opinion of the entire party electorate on women's issues. The dependent variable in Model A6 and Model A8 is the perceptual accuracy with regard to the public opinion of women in the party electorate. Perceptual accuracy is calculated without using the policy statement on adoption rights for same-sex couples. Standard errors (in parentheses) are clustered by MPs. Significance Levels: * p<0.05, ** p<0.01, *** p<0.001.;

Lastly, to validate that our results are not affected by the choice of our indicator for electoral vulnerability, we tested whether our main findings change if we use an objective indicator for electoral vulnerability. Unfortunately, we can only conduct this robustness test for Swiss MPs in our sample. Given that the used dataset does not include vote shares for the winner and runner-up candidates in the SMD tier of the German mixed-electoral system, it is not possible to estimate an objective vulnerability score for German MPs. Since the dataset is fully anonymized, we are not able to add this information to the analysis. For the Swiss MPs, we rely on André, Depauw, and Martin (2015) to calculate a measure for objective electoral vulnerability. Due to the preferential voting system for the Swiss National Council, we used the following formula:

$$ObjectiveVulnerability_i = \frac{Order_i}{S},$$

where *order* indicates the place on which the politician was elected on the list s/he was competing and *S* stands for the number of seats the party won in the electoral district. The indicator is bounded between 0 and 1, with higher values showing higher electoral vulnerability. The results demonstrate that the main findings from our analysis remain unchanged if we use this objective measure for electoral vulnerability. The marginal effects in Figure 2 (based on Model A11 in Table 3) below show that, compared to their men colleagues, women MPs' perceptual accuracy of their voters' opinion on women's issues improves as their objective electoral vulnerability increases. If the electoral vulnerability of women MPs increases, the effect of *woman* gets substantially stronger and the difference in the perceptual accuracy of women and men MPs becomes more pronounced. This effect is statistically significant for high values of electoral vulnerability. As expected by our theoretical expectations, differences between women and men MPs are indistinguishable from zero for lower values of electoral vulnerability.

Table 3: The gendered perception of public opinion. Swiss MPs.

	Model A9	**Model A10**	**Model A11**	**Model A12**
Woman	3.320*	1.489	0.346	-1.757
	(1.62)	(1.58)	(4.66)	(4.42)
Obj. Electoral vulnerability	0.193	-1.046	-1.414	-2.801
	(3.23)	(3.00)	(4.75)	(4.284)
Woman * Electoral vulnerability			4.036	4.405
			(5.98)	(5.76)
Age	-0.078	-0.081	-0.081	-0.084
	(0.08)	(0.08)	(0.08)	(0.08)
Seniority	0.026	0.047	0.021	0.041
	(0.19)	(0.19)	(0.19)	(0.19)
Member women's committee	-1.131	-1.476	-1.061	-1.399
	(2.84)	(2.64)	(2.83)	(2.64)
Represent specific group	0.524	0.687	0.503	0.665
	(0.78)	(0.73)	(0.79)	(0.74)
Follow own conviction	0.163	-0.035	0.173	-0.024
	(0.51)	(0.46)	(0.51)	(0.45)
Contact citizens	0.598	0.813	0.593	0.808
	(0.47)	(0.46)	(0.47)	(0.45)
Regional MP	-2.149	-2.054	-2.213	-2.124
	(2.59)	(2.59)	(2.60)	(2.59)
Party Position	-0.101***	-0.076**	-0.101**	-0.075**
	(0.03)	(0.03)	(0.03)	(0.03)
Constant	78.348***	80.785***	79.772***	82.339***
	(7.63)	(7.19)	(8.65)	(7.88)
N	426	426	426	426
Adj. R	0.076	0.057	0.077	0.058

Ordinary Least Square Regression. The dependent variable in Model A9 and Model A11 is the perceptual accuracy of the assessment of the public opinion of the entire party electorate on women's issues. The dependent variable in Model A10 and Model A12 is perceptual accuracy with regard to the public opinion of women in the party electorate. Compared to the main analysis, the models use an objective measure for electoral vulnerability. Standard errors (in parentheses) are clustered by MPs. Significance Levels: * p<0.05, ** p<0.01, *** p<0.001.

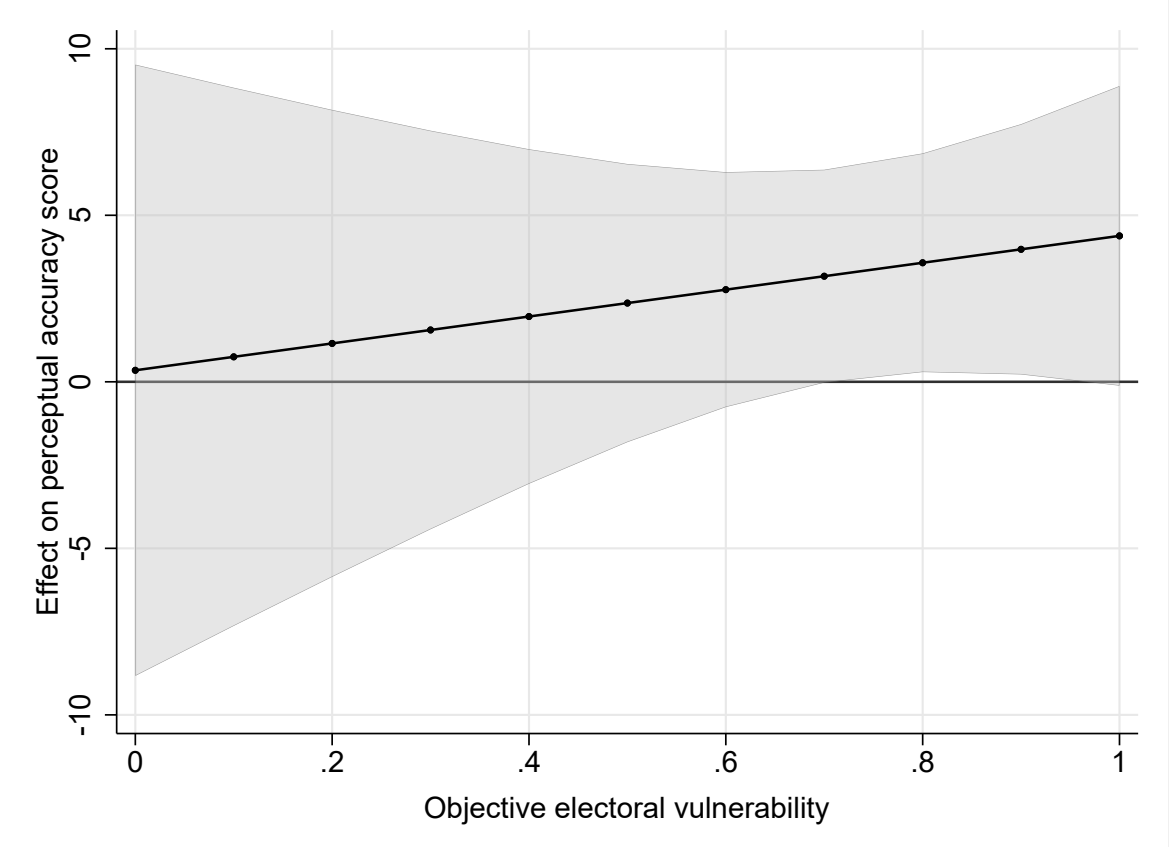


Figure 2: Marginal effect of women MPs on perceptual accuracy. 95% confidence band is in grey.

Appendix A5 - Robustness Test: Personality Traits

To further analyze potential mechanisms, we explore if personality traits which are neither caused by being socialized as a woman nor by working harder toward understanding women's issues impact perceptual accuracy. The idea is that women may have certain personality traits which make them better suited to understand women's interests. Research on the personality of politicians is still in its infancy but has shown that politicians are more extrovert (Hanania, 2017; Nørgaard and Klemmensen, 2019; Schumacher and Zettler, 2019; Scott and Medeiros, 2020), emotionally stable (Hanania, 2017; Nørgaard and Klemmensen, 2019; Scott and Medeiros, 2020) and assertive (Nørgaard and Klemmensen, 2019) than an average voter. Among these personality traits, particularly extroversion and openness might enable politicians to develop a more accurate assessment of voter preferences. Being more open to social interactions and deriving pleasure from social contacts and action stimulates extroverted politicians to engage and converse with citizens frequently. These additional opportunities to learn about voter preferences, make extroverts -

compared to introverts - more attuned to public opinion. Women parliamentarians might have to be even more open and extroverted than their men colleagues in order to be able to contend with a men-dominated political environment. In a political environment where women have to speak up to be heard and where women have to consciously network and form alliances, women MPs cannot afford to be introverts. Hence, we expect that higher level of extroversion and openness may lead to a better knowledge of voters' preferences.

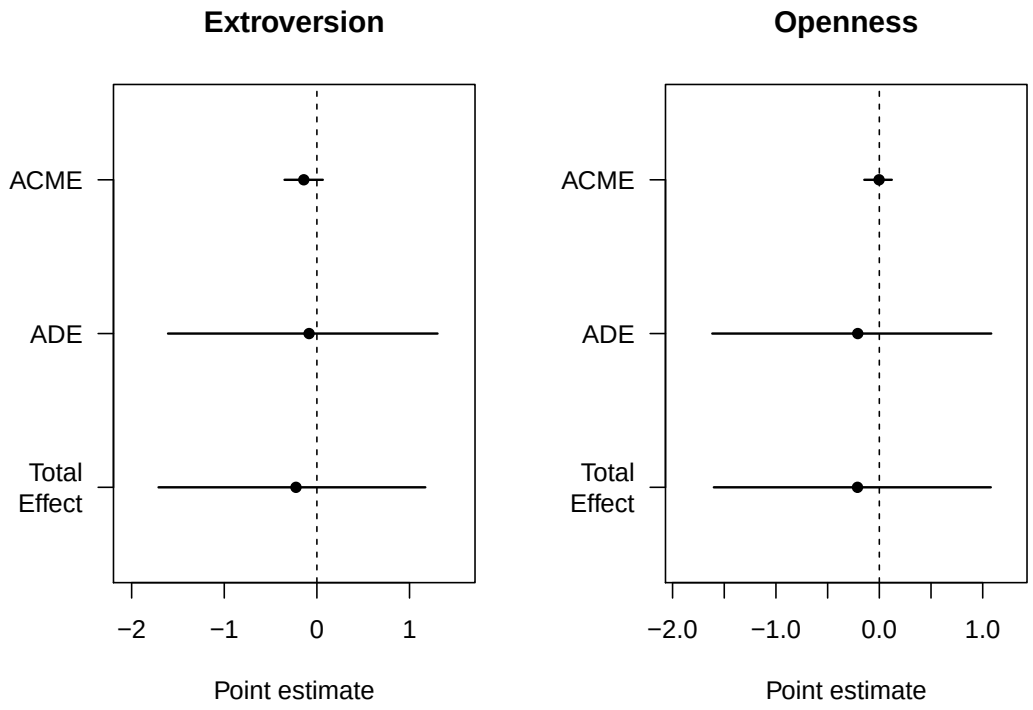


Figure 3: Mediation analysis of woman on perceptual accuracy, with extroversion (left panel) and openness (right panel) as mediators. The plots report the point estimates and 95% confidence intervals for the Average Causal Mediation Effect (ACME), the Average Direct Effect (ADE), as well as the Total Effect for women MPs. MPs' extroversion and openness are assumed to mediate the effect of women MPs on the perceptual accuracy.

In the survey, MPs were asked to rate the extent to which different personal characteristics apply to them. In the analysis, we use the self-assessment of MPs' *extroversion* and their *openness* to new experience. Both variables are measured on a scale from 1 to 7 (1 - Strongly disagree; 7 - Strongly agree). Descriptively, our results do indeed show that women MPs tend to be more extrovert compared to their men colleagues. Does this difference also translate into a more accurate assessment of the public opinion?

The argument about personality puts forward a causal chain in which *woman* is associated with *personality* that, in turn, affects *perceptual accuracy*. We therefore estimate a causal mediation analysis where *extroversion* and *openness* act as mediators of the gendered perception of public opinion. Following the approach of Imai et al. (2011), we calculate the Average Causal Mediation Effect (ACME) of our two personality variables. The mediation analysis decomposes "the causal effect of a treatment into the indirect effect, which represents the hypothesized causal mechanism, and the direct effect, which represents all other mechanisms" (Imai et al., 2011, p.768). In our case, the ACME describes how a change in *extroversion* or *openness* as a function of MPs' sex affects their perceptual accuracy regarding women's issues.

The results of the mediation analysis are shown in Figure 3. The ACME for *extroversion* as well as for *openness* is not statistically significant. In the case of extroversion, we find that there is a statistically significant difference in extroversion between women MPs and men. However, this difference in personality has no effect on the perceptual accuracy of voters' opinion. Neither the average direct effect (ADE) nor the total effect of gender and extroversion are statistically significant (see left panel of Figure 3). For the openness of MPs to new experiences, we neither find a statistically significant difference between women and men MPs nor do we observe a mediated effect on perceptual accuracy. All effects of the mediation analysis (ACME, ADE, and Total Effect, see right panel of Figure 3) are not statistically distinguishable from zero. In short, personality plays little role in estimating public opinion.

References

André, Audrey, Sam Depauw, and Shane Martin. 2015. "Electoral Systems and Legislators' Constituency Effort: The Mediating Effect of Electoral Vulnerability." *Compararative Political Studies* 48(4): 464–494.

Coffé, Hilde, Catherine Bolzendahl, and Katia Schnellecke. 2019. "Parties, Issues, and Power: Women's Partisan Representation on German Parliamentary Committees." *European Journal of Politics and Gender* 2(2): 257–281.

Hanania, Richard. 2017. "The Personalities of Politicians: A Big Five Survey of American Legislators." *Personality and Individual Differences* 108(1): 164–167.

Imai, Kosuke, Luke Keele, Dustin Tingley, and Teppei Yamamoto. 2011. "Unpacking the Black Box of Causality: Learning about Causal Mechanisms from Experimental and Observational Studies." *American Political Science Review* 105(4): 765–789.

Nørgaard, Asbjørn, and Robert Klemmensen. 2019. "The Personalities of Danish MPs: Trait- and Aspect-level Differences." *Journal of Personality* 87(2): 267–275.

Schumacher, Gijs, and Ingo Zettler. 2019. "House of Cards or West Wing? Self-reported Hexaco Traits of Danish Politicians." *Personality and Individual Differences* 141(1): 173–181.

Scott, Colin, and Mike Medeiros. 2020. "Personality and Political Careers: What Personality Types are Likely to Run for Office and Get Elected?" *Personality and Individual Differences* 152(1): 1–9.