



UNIVERSITY OF BERGEN

IS DESCRIPTIVE REPRESENTATION A PROXY FOR SUBSTANTIVE REPRESENTATION?

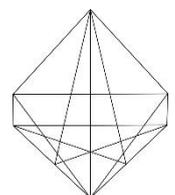
SVEINUNG ARNESEN
DOMINIK DUELL
MIKAEL JOHANNESSON

WORKING PAPER SERIES 2017:8

DIGSSCORE DIGITAL SOCIAL SCIENCE CORE FACILITY
UNIVERSITY OF BERGEN
BOX 7802, 5020 BERGEN
DECEMBER 2017

ISSN 2535-3233

© 2017 BY SVEINUNG ARNESEN, DOMINIK DUELL AND MIKAEL JOHANNESSON
ALL RIGHTS RESERVED.



DIGSSCORE

Is Descriptive Representation a Proxy for Substantive Representation? *

Sveinung Arnesen[†] Dominik Duell[‡] Mikael Johannesson[§]

Working paper.
Monday 11th December, 2017

Abstract

We measure the appeal of descriptive representation – representation based on social group markers – and investigate its relation to substantive representation. Applying conjoint survey experiments within the Norwegian Citizen Panel, we test whether voters perceive and use descriptive representation as a proxy for substantive representation. We find that voters discriminate between candidates based on social markers with a weak preference for in-group representatives and prefer candidates who share their political views. Voters also form beliefs on candidates' preferences on different political issues based on simply knowing the candidates' social markers. We conclude that there is a demand for substantive representation and that voters demonstrate their ability to discern candidates' policy positions based on social markers, allowing descriptive representation to enable substantive representation. The results of our direct experimental test of descriptive representation as a proxy for substantive representation, however, are inconclusive.

*We thank Catherine de Vries, Eric Dickson, Robert Johns, and discussants at various conferences for their thoughtful comments.

[†]University of Bergen. Corresponding author (sveinung.arnesen@uib.no)

[‡]University of Essex

[§]University of Bergen

1 Introduction

Representation is at the heart of how contemporary democracies organize their governing 'by the people' and has as such been studied extensively. One important aspect within this field has been the normative and empirical study of descriptive representation (Mansbridge, 1999; Reynolds, 2013) – political representation based on shared social characteristics. Many studies have concluded that descriptive representation is crucial in supporting the principles of democracy: Citizens tend to be more willing to accept a political decision made by a representative body that descriptively reflects society (Arnesen and Peters, 2017), have more trust in such an institution (Pitkin, 1967; Bobo and Gilliam, 1990), feel symbolically represented by it (Schwindt-Bayer and Mishler, 2005), see this institution as more responsive (Fenno, 1978; Pantoja and Segura, 2003; Sanchez and Morin, 2011), and are more likely to seek political participation in it (Gay, 2002; Broockman, 2014). A lack of descriptive representation has been linked to policy outcomes biased against, for example, women and minorities (Bratton and Ray, 2002; Franck and Rainer, 2012).

This study asks whether voters value descriptive representation itself or largely utilize it to achieve substantive representation – political representation based on shared political preferences. Voters take shared social markers as cues and group identity becomes instrumental in electoral decisions (Rahn, 1993; Chandra, 2004; Eifert, Miguel and Posner, 2010). With instrumental group identities, voters may think of descriptive representation as a mere proxy for substantive representation (Phillips, 1995). In two conjoint experiments embedded in the Norwegian Citizen Panel, we elicit voters' willingness and ability to facilitate descriptive representation based on shared age, gender, education, religion, or place of residence to achieve substantive representation. The appropriate counterfactual comparison to clarify the relationship between descriptive and substantive representation is to look at voters' choices when they learn candidates' social markers only versus when they know candidates' policy preferences as well. Should the vote choice be less driven by social markers as soon as policy preference information is available, voters utilize descriptive representation as a proxy for substantive representation. The respondents in our first conjoint experiment are asked to choose between a series of pairs of hypothetical candidates while seeing, in random order, either candidates' social markers only, candidates' political preferences only, or both. In our second conjoint experiment, we show respondents more profiles of candidates containing social markers only and elicit their

beliefs about those candidates' presumed political preferences. In other words, we test whether voters are able to form expectations about how social markers and preferences relate.

In experiment 1, we find that respondents prefer political candidates based on descriptive characteristics and candidates who share their political views. Voters also choose candidates who share the same religious or educational background. We cannot, however, identify the utilization of descriptive representation for substantive representation cleanly. We learn from experiment 2 that voters infer candidates' policy positions from the candidates' social markers. We conclude that descriptive representation enables voters to choose instrumentally, allowing for substantive representation, but survey respondents in our study do not fully make use of this ability.

Scholars have explored the relationship between descriptive and substantive representation. Gay (2002) attempts to understand the effect of descriptive representation on political attitudes and behavior by controlling for the confounding influences of representatives' policy positions with observational data. Hayes and Hibbing (2017) find in a series of survey experiments that descriptive but not substantive representation affects African Americans' sense of being symbolically represented. Other studies have identified variation in the value that different social groups attach to descriptive representation. This value is lower for Hispanics (Henderson, Sekhon and Titunik, 2016) and women (West, 2017) than for African Americans. Additionally, this value varies strongly with partisanship (Casellas and Wallace, 2015) and whether the winning candidate comes from voters' social group (Bowler, 2017). Carnes and Lupu (2016) elicit voters' valuation for representation by working-class politicians across countries. Stepping outside the U.S. context as well and incorporating multiple social markers, our study implements an experimental test of voters' valuations of descriptive representation and of descriptive representation as a proxy for substantive representation. Jones (2016)'s study is closest to ours as it endows hypothetical representatives with racial identities and preferences on five policy issues. The study finds a mostly erroneous attribution of shared preferences to co-racial candidates. We demonstrate that for salient group markers in Norway, the respondents are often able to correctly predict candidates' policy preferences based on candidates' social markers.

2 Research design and hypotheses

We present two conjoint experiments implemented in two separate waves of the Norwegian Citizen Panel (NCP) during spring and fall of 2016 (Ivarsflaten, 2016*b,a*) with 1139 participants

in experiment 1 and 1077 in experiment 2. Such experiments can handle complex choice situations wherein several attributes have an important influence on judgment (Auspurg, Hinz and Sauer, 2017). The NCP is a probability-based general population survey panel administered by the Digital Social Science Core Facility (DIGSSCORE) at the University of Bergen.¹ Given its homogeneity, Norway could be seen as a least-likely case (Eckstein, 2000) for finding voters who appreciate descriptive representation, which arguably is more important in societies with substantial between-group differences. Finding any appeal of descriptive representation in Norway could be taken as indicative for more diverse countries. Still, divisions arise along the lines of gender, education level, age, and region of residence² and descriptive representation is valued (Arnesen and Peters, 2017).

In conjoint experiment 1, we ask the respondents which of two hypothetical candidates they would prefer to represent them in the national parliament. In random order, respondents make three such decisions (representing three different treatments): (1) one decision where the candidates are randomized with regard to the social markers age, gender, education, religion, and region of residence (*group* treatment); (2) another decision where candidates vary in their stated preferences on three policy issues: income inequality, refugee rights, and emission reduction (*issue* treatment); and (3) a third decision where candidates are described by both social markers and political preferences (*both* treatment).³ In conjoint experiment 2, the respondents are presented with a scenario identical to the *group* treatment in Experiment 1; that is, respondents are given two profiles of hypothetical candidates characterized by age, gender, education, religion, and region of residence. Respondents are then asked to guess the preferences of the two candidates on the three policy issues (shown in random order).⁴

¹The data in our analysis come from the “Norwegian Citizen Panel Wave 6, 2016” and “Norwegian Citizen Panel Wave 7, 2016”. The survey was financed by the University of Bergen (UiB) and Uni Rokkan Centre. The data are provided by UiB, prepared and made available by Ideas2Evidence, and distributed by the Norwegian Social Science Data Services (NSD). Neither UiB, Uni Rokkan Centre nor NSD are responsible for our analyses/interpretations.

²We included these social markers plus religion, occupational, and marital statuses in our study but the latter two had no effect on vote choice and were excluded from the main analysis. Without effect, the question whether a marker facilitates substantive representation is redundant (we find an effect of work experience, but we do not consider this attribute to form a social group). We do not include race given that racial minorities are very small in Norway. The Supporting Information (SI) offers the full presentation of results.

³All potential values across the attributes are shown in Table A.1, and an example of the screen displayed to respondents is given in Figure A.1 in the SI.

⁴Additionally, respondents were randomly assigned into groups that presented either two “politicians” or two “persons.” This assignment enables us to measure whether people perceive politicians as having different views than non-politicians; our results show that they do not (see Figure C.3 in the SI).

This study sets out to answer whether voters value descriptive representation itself or largely utilize it to achieve substantive representation. *Hypothesis 1* follows accordingly: *descriptive representation serves as a proxy for achieving substantive representation*. We test hypothesis 1 by comparing the effect of shared social markers on vote choice across *group* and *both* treatments in experiment 1. When social markers are influential independent of whether issue positions are shown, descriptive representation does not allow instrumental motivations to drive vote choice. When social markers lose their influence when political preferences are shown as well, we argue that information about social markers enables substantive representation.

The identification of such instrumental voting rests on a few assumptions: First, within each treatment, we estimate the relative importance of one attribute assigned to the candidate over others. Specifically, following Hainmueller, Hopkins and Yamamoto (2014), we estimate the Average Marginal Component Effect (AMCE). We need to assume that the order of vignettes shown to respondents and the order of attributes within displayed profiles do not matter for respondents' choice. To meet this assumption, we randomize the order of vignettes and attributes across respondents and control for order in our regressions. Additionally, the randomization of attributes and realizations of the values of attributes need to be carried out in such a way that respondents' choices are statistically independent of the vignette assignment (accomplished by randomization within the NCP). Second, we assume that the number of attributes does not change responses; a larger number of attributes per profile should not lead to satisficing, in which respondents use choice heuristics to break down the complexity of too much information.⁵ Third, we assume that respondents interpret the information about candidates' political preferences as such and do not make inferences from these preferences about a social marker (e.g., interpreting candidates' preferences on income inequality as a reflection of, say, candidates' social class).

Should we find no evidence to support hypothesis 1, voters may simply not be able to form beliefs about candidates' preferences from seeing their social characteristics only. Such an ability is the prerequisite for the existence of instrumental motivations driving vote choice and for descriptive representation being a proxy for substantive representation.⁶ For this reason, in experiment 2, we test whether *voters are able to form beliefs about candidates' political preferences based on candidates' social markers (Hypothesis 2)*.

⁵Bansak et al. (2017) find that choice tasks with even 18 attributes do not lead to meaningful changes in the estimates of the relative importance of any one attribute; our number of attributes is well below.

⁶Voters may hold incorrect beliefs but still believe that they achieve substantive representation.

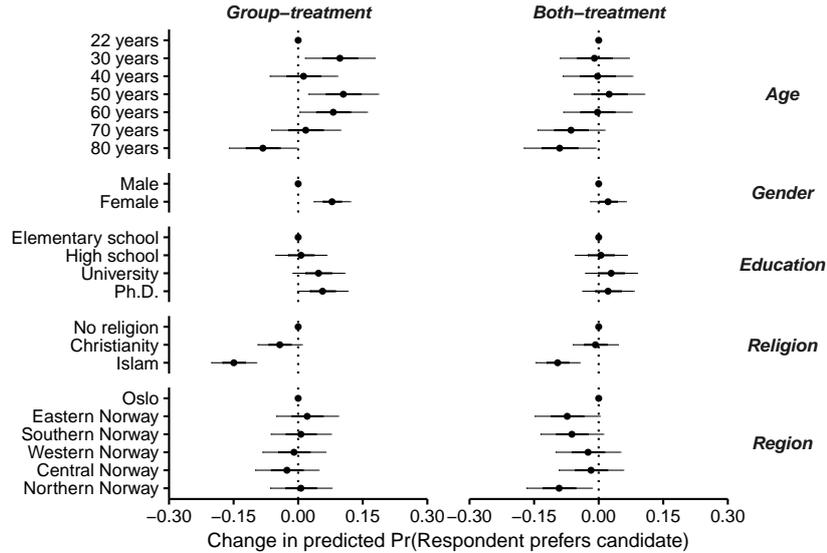


Figure 1: Change in the predicted probability of preferring a candidate based on information about the candidates’ social markers for *group* and *both* treatments. In the *group* treatment respondents see candidates’ social marker only while in the *both* treatment they are shown candidates’ social markers as well as candidates’ policy preferences. For all figures, estimates are based on an OLS regression of respondents’ choices against a set of dummies for each attribute realization (omitting a reference category) with clustered standard errors. The dotted line denotes the reference category for each attribute. Bars show one and two standard errors of the estimates.

3 Results

Experiment 1: Is descriptive representation seen as proxy for substantive representation?

The respondents clearly utilize social markers to choose between candidates and do so when they also have information about candidates’ issue positions. Figure 1 shows the estimates of the effects of social markers on the probability of choosing a candidate in the *group* treatment (left column) and the *both* treatment (right column). In the *group* treatment, all candidate attributes except for region have statistically significant effects on vote choice (at $\alpha < .1$). The strongest relative effect, a decrease in the estimated vote probability of .15 with a 95% confidence interval of .10 to .20, arises for a Muslim candidate versus a candidate with no religious affiliation. On average, the respondents are more likely to choose a middle-aged candidate than a young or elderly candidate, a female candidate than a male candidate, a candidate with a doctorate than one without higher education, and a Christian or non-religious candidate over a Muslim candidate. When also shown information about the issue positions of the candidates in the *both* treatment, the effects of age, religion, and region remain statistically significant but are smaller. In other words, *voters make choices based on candidates’ social markers (Result 1)*.

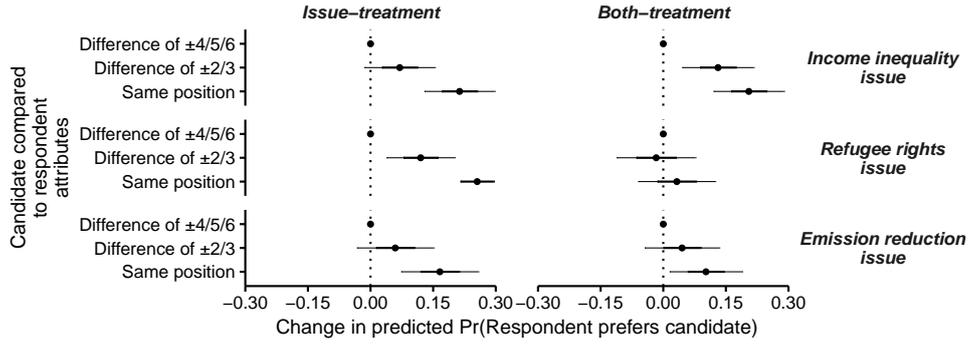


Figure 2: Change in the predicted probability of preferring a candidate when the candidate's issue positions are the same as or different from the respondents for the *issue* and *both* treatments. In the *issue* treatment respondents see candidates' policy preferences only while in the *both* treatment they are shown candidates' social markers as well as candidates' issue preferences.

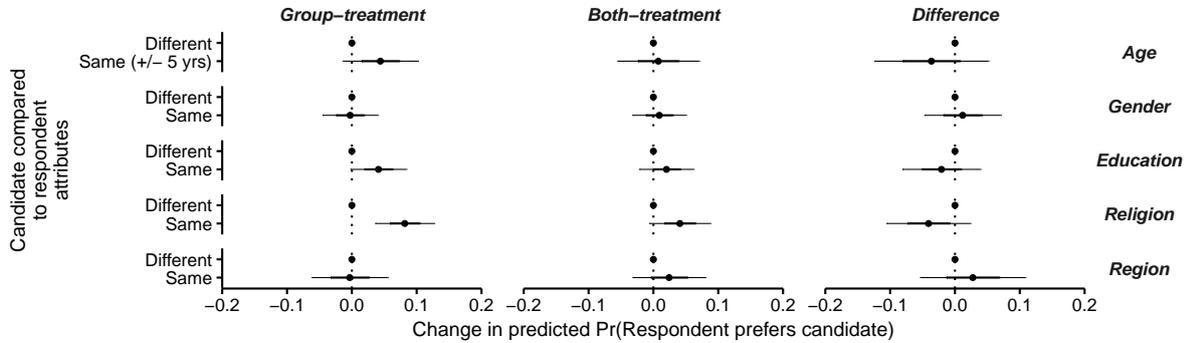


Figure 3: Change in the predicted probability of preferring a candidate when the candidate's social markers are the same as respondents' for *group* and *both* treatments.

Respondents also choose candidates with similar political preferences. Figure 2 shows estimates of the effect of the distance between the respondents own and the candidate's issue position on vote choice. In the *issue* treatment, respondents see only the issue positions of the candidates, and the predicted probability of choosing a candidate significantly increases as the political distance between the candidate and respondent decreases. On a seven-point scale, the change from a large distance ($\pm 4, 5, 6$) to sharing the same preference as the candidate increases the vote probability by .21 (.13, .30) on income inequality, .26 (.18, .34) refugees rights, and .17 (.07, .26) emission reduction. In the *both* treatment, only the preference distance on refugee rights is no longer statistically significant; we therefore conclude that *voters prefer candidates with the same political preferences (Result 2)* and want substantive representation.

When shown only social markers in the *group* treatment, respondents sometimes discriminate in favour of in-group candidates. Figure 3 shows the estimates of the effect of shared vs. different social markers. In the *group* treatment, a candidate with the same level of education faces a

.04 (−.02, .08) significantly higher probability of being chosen ($\alpha < .1$). Candidates featuring the same religious affiliation are significantly more often elected ($\alpha < .05$) with an estimated increase in probability of .08 (−.04, .13).⁷ In sum, *voters discriminate in favour of candidates with whom they share a social marker for some attributes (Result 3)*.

The main question of this study, however, is whether the decisions of voters who share a social attribute with a candidate are less likely to be influenced by social markers when voters observe candidates' political preferences as well. If this is the case, we argued, descriptive representation largely serves as proxy for substantive representation. The middle column of Figure 3 shows estimates of the effects of the respondent and the candidate having the same social marker when also shown issue positions (*both* treatment). The right column shows the difference between the *group* and *both* treatments, where a negative effect indicates that social markers were used as cues for issue positions. We find no statistically significant effect of the *both* treatment on the social markers shared between the voter and candidate, which did influence the vote choice in the *group* treatment. The effect of the *both* treatments is .02 (−.08, .04) for shared level of education and −.04, (−.11, .02) for shared religion. The evidence so far suggests that *voters do not to use descriptive representation to facilitate substantive representation (Result 4)*.

Experiment 2: Do voters link candidates' social markers and policy preferences?

The results from experiment 1 establish that people do discriminate between candidates based on their social markers but that they prefer in-group candidates only on some attribute dimensions. We find a strong preference for candidates who share the same political preferences. However, we cannot yet clearly identify whether descriptive representation serves as proxy for substantive representation. These mixed results come as a surprise given that voters differentiate candidates by their social markers and prefer those who share their political preferences. Why are voters not using the information embedded in social markers even when no other information is available? Is it that voters are not able to perceive that there is a correlation between candidates' social markers and political preferences?

Experiment 2 tests whether respondents believe that candidates' preferences on policy issues are associated with their social backgrounds. If voters form such beliefs, we take this as evidence that instrumental motivations are enabled by descriptive representation, and, therefore, that descriptive representation has the potential to serve as proxy for substantive representa-

⁷Note that our sample is too small to measure moderating effects of the respondents' social markers.

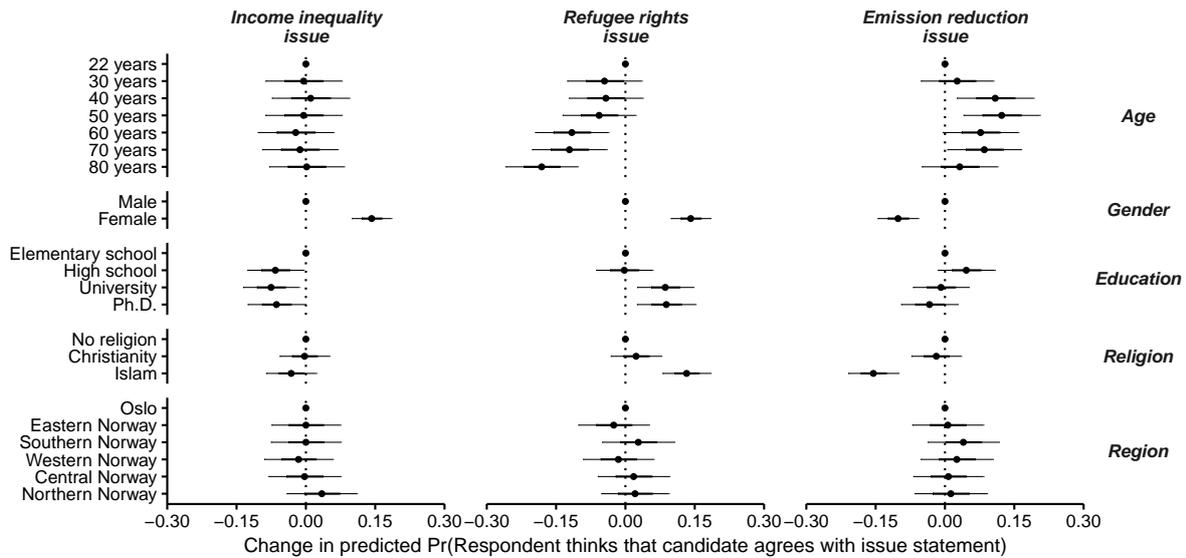


Figure 4: Change in predicted probability that respondent thinks a hypothetical candidate agrees with the issue statement; proportions shown by candidates’ social markers.

tion. Experiment 2 shows that respondents’ beliefs about candidates’ political preferences vary significantly with variation in candidates’ age, gender, education, and religion (Figure 4). *Voters infer candidates’ issue positions based on only knowing candidates’ social markers (Result 5)*. Respondents’ beliefs about variation in policy preferences based on difference in candidates’ social markers often align with how actually observed attitudes of respondents’ vary with their social background (see Figure C.3 in the SI). The congruence is most pronounced for gender but also mostly exists for education.⁸

4 Conclusion

We designed two conjoint experiments embedded within the Norwegian Citizen Panel to investigate the use of descriptive information when choosing between candidates. We argued that voters have instrumental incentives to choose candidates who share their social markers. The results of our two experiments reveal that respondents select hypothetical candidates based on social markers but only prefer their in-group candidate on a few attribute dimensions (education and religion). We do not immediately identify the utilization of descriptive information to achieve substantive representation, even though respondents hold commonly accepted beliefs about which social characteristics align with particular political preferences of a candidate and, importantly, clearly desire representatives who share their political preferences. Descriptive

⁸One should be wary of making too strong inferences when comparing predicted and observed attitudes, however, given that the underlying probabilities of the experimental data and the observational data are different.

representation can serve as proxy for substantive representation given the ability of voters to form appropriate beliefs about the relationship between candidates' social markers and their political preferences as well as voters' desire to be represented by someone who shares their preferences. Our evidence, however, suggests that there could be more to demand for descriptive representation than its instrumental benefits from policy matching.

References

- Arnesen, Sveinung and Yvette Peters. 2017. "The Legitimacy of Representation. How Descriptive, Formal, and Responsiveness Representation Affect the Acceptability of Political Decisions." *Comparative Political Studies*. Prepublished August 8, 2017.
- Auspurg, Katrin, Thomas Hinz and Carsten Sauer. 2017. "Why Should Women Get Less? Evidence on the Gender Pay Gap from Multifactorial Survey Experiments." *American Sociological Review* 82(1):179–210.
- Bansak, Kirk, Jens Hainmueller, Daniel J. Hopkins and Teppei Yamamoto. 2017. "Beyond the Breaking Point? Survey Satisficing in Conjoint Experiments." *Stanford University Graduate School of Business Research Paper No. 17-33*.
- Bobo, Lawrence and Franklin D Gilliam. 1990. "Race, sociopolitical participation, and black empowerment." *American Political Science Review* 84(2):377–393.
- Bowler, Shaun. 2017. "Trustees, delegates, and responsiveness in comparative perspective." *Comparative Political Studies* 50(6):766–793.
- Bratton, Kathleen and Leonard Ray. 2002. "Descriptive representation, policy outcomes, and municipal day-care coverage in Norway." *American Journal of Political Science* pp. 428–437.
- Broockman, David E. 2014. "Distorted communication, unequal representation: constituents communicate less to representatives not of their race." *American Journal of Political Science* 58(2):307–321.
- Carnes, Nicholas and Noam Lupu. 2016. "Do voters dislike working-class candidates? Voter biases and the descriptive underrepresentation of the working class." *American Political Science Review* 110(4):832–844.
- Casellas, Jason P and Sophia J Wallace. 2015. "The role of race, ethnicity, and party on attitudes toward descriptive representation." *American Politics Research* 43(1):144–169.
- Chandra, Kanchan. 2004. *Why Ethnic Parties Succeed*. New York: Cambridge University Press.
- Eckstein, Harry. 2000. Case study and theory in political science. In *Case Study Method: Key Issues, Key Texts*. London: Sage pp. 119–164.
- Eifert, Benn, Edward Miguel and Daniel N Posner. 2010. "Political competition and ethnic identification in Africa." *American Journal of Political Science* 54(2):494–510.
- Fenno, Richard F. 1978. *Home style: House members in their districts*. Boston: Little, Brown.
- Franck, Raphael and Ilija Rainer. 2012. "Does the leader's ethnicity matter? Ethnic favoritism, education, and health in sub-Saharan Africa." *American Political Science Review* 106(2):294–325.

- Gay, Claudine. 2002. "Spirals of trust? The effect of descriptive representation on the relationship between citizens and their government." *American Journal of Political Science* 46(4):717–732.
- Hainmueller, Jens, Daniel J Hopkins and Teppei Yamamoto. 2014. "Causal Inference in Conjoint Analysis: Understanding Multidimensional Choices via Stated Preference Experiments." *Political analysis* 22(1):1–30.
- Hayes, Matthew and Matthew V Hibbing. 2017. "The Symbolic Benefits of Descriptive and Substantive Representation." *Political Behavior* 39(1):31–50.
- Henderson, John A, Jasjeet S Sekhon and Rocio Titiumik. 2016. "Cause or effect? Turnout in hispanic majority-minority districts." *Political Analysis* 24(3):404–412.
- Ivarsflaten, Elisabeth, Sveinung Arnesen Bjarte Folkestad Endre Tvinnereim Mikael Johannesson Erik Knudsen Nina Serdarevic Åsta Nordø. 2016a. Norwegian Citizen Panel Wave 7. Technical report University of Bergen. University of Bergen and UNI Research Rokkan Centre. Data available at The Norwegian Center for Research Data, first NSD edition.
- Ivarsflaten, Elisabeth, Sveinung Arnesen Endre Tvinnereim Mikael Johannesson Erik Knudsen Åsta Nordø. 2016b. Norwegian Citizen Panel Wave 6. Technical report University of Bergen. University of Bergen and UNI Research Rokkan Centre. Data available at Norwegian Center for Research Data, second NSD edition.
- Jones, Philip Edward. 2016. "Constituents' Responses to Descriptive and Substantive Representation in Congress." *Social Science Quarterly* 97(3):682–698.
- Mansbridge, Jane. 1999. "Should blacks represent blacks and women represent women? A contingent "yes". " *The Journal of Politics* 61(03):628–657.
- Pantoja, Adrian D and Gary M Segura. 2003. "Does ethnicity matter? Descriptive representation in legislatures and political alienation among Latinos." *Social Science Quarterly* 84(2):441–460.
- Phillips, Anne. 1995. *The Politics of Presence*. Oxford: Clarendon Press.
- Pitkin, Hanna Fenichel. 1967. *The Concept of Representation*. Berkeley: Univ of Cal Press.
- Rahn, Wendy. 1993. "The Role of Partisan Stereotypes in Information Processing about Political Candidates." *American Journal of Political Science* 37:472–96.
- Reynolds, Andrew. 2013. "Representation and rights: The impact of LGBT legislators in comparative perspective." *American Political Science Review* 107(02):259–274.
- Sanchez, Gabriel R and Jason L Morin. 2011. "The Effect of Descriptive Representation on Latinos' Views of Government and of Themselves." *Social Science Quarterly* 92(2):483–508.
- Schwindt-Bayer, Leslie A and William Mishler. 2005. "An integrated model of women's representation." *Journal of Politics* 67(2):407–428.
- Skjervheim and Høgestøl. 2016a. Norwegian Citizen Panel, Fifth Wave Methodology report. Technical report Ideas2Evidence.
- Skjervheim and Høgestøl. 2016b. Norwegian Citizen Panel, Sixth Wave Methodology report. Technical report Ideas2Evidence.
- West, Emily A. 2017. "Descriptive Representation and Political Efficacy: Evidence from Obama and Clinton." *The Journal of Politics* 79(1):351–355.

Supporting information

A Experimental design

A.1 Experiment 1

In the first conjoint experiment, the *group* treatment shows only social background attributes. This experiment has a total of seven attribute dimensions, and given the number of potential values for each attribute, the number of possible candidate profiles is $7 \times 2 \times 4 \times 6 \times 3 \times 3 \times 6 = 18144$. The respondents see a randomly drawn sample of two of these variations and are asked to compare the two. The respondents are then asked to choose which of the two candidates they would prefer to represent them in the national parliament. The *issue* treatment shows only the candidates’ political preferences on three issues, and this treatment has $7 \times 7 \times 7 = 343$ possible combinations of unique candidate profiles. As in the *group* treatment, the respondents are asked to choose which candidate they prefer out of the two presented within each decision task. In the *both* treatment, the respondents are also asked to make a decision between two candidates but this time with information about both the social background attributes and political views of the candidates. Thus, respondents choose between two profiles that are randomly drawn from a universe of $7 \times 2 \times 4 \times 6 \times 3 \times 3 \times 6 \times 7 \times 7 \times 7 = 6223392$ possible candidate profiles. Clearly, only a fraction of the possible profiles are evaluated by the respondents. Since the profiles are randomly sampled from the profile universe with a uniform probability distribution, we can nevertheless estimate the average likelihood that the respondent chooses a candidate with a certain characteristic on each dimension.

ID	Dimension	Values
Social group characteristics		
age	Age	[22 years / 30 years / 40 years / 50 years / 60 years / 70 years / 80 years]
gender	Gender	[Male / Female]
education	Completed education	[Elementary school / High school / University degree / Phd]
region	Region of residence	[Oslo area / Eastern Norway / Southern Norway / Western Norway / Middle Norway / Northern Norway]
civil	Civil status	[Living alone / Cohabitant / Married]
religion	Religion	[Christianity / Islam / No religion]
work	Work experience outside of politics	[None / Care worker / Farmer / Oil worker / Self-employed / IT consultant]
Political issue attitudes		
inequality	The state should reduce income inequality	[Strongly agree / Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree / Strongly disagree]
refugee	Refugees should have the same right to social assistance as citizens	[Strongly agree / Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree / Strongly disagree]
emissions	Most of the carbon emission reductions should be done abroad	[Strongly agree / Agree / Somewhat agree / Neither agree nor disagree / Somewhat disagree / Disagree / Strongly disagree]

Table A.1: Attribute dimensions and their corresponding values, Experiment 1

Before each decision task, respondents are shown an introductory text that translates to: “Be-

low we have listed two hypothetical representatives for the national parliament with different attributes. Imagine that you had to choose one of these two to represent you personally in parliament. Please read the description of each candidate carefully. After that, please indicate which representative you would prefer to represent you.” Figure A.1 shows an example from the *both* treatment as it was presented to the respondents on the screen.

Representantvalg 2 av 3

Nedenfor har vi satt opp to hypotetiske stortingsrepresentanter med ulike egenskaper. La oss si at du måtte velge én av disse to til å representere deg personlig på Stortinget.

Vennligst les beskrivelsen av hver representant nøye. Etter det, vennligst indiker hvilken representant du foretrekker til å representere deg.

	Representant 1	Representant 2
Kjønn	Kvinne	Kvinne
Alder	80 år	30 år
Sivilstatus	Gift	Bor alene
Utdanning	Videregående	Universitet
Bosted	Vestlandet	Oslo-området
Religiøs tilhørighet	Ingen	Ingen
Arbeids erfaring utenfor politikk	IT-konsulent	Barnehageansatt
Påstand: Staten bør bidra til å redusere inntektsforskjeller i samfunnet	Verken enig eller uenig	Enig
Påstand: Flyktninger bør ha samme rett til sosialhjelp som nordmenn, selv om de ikke er norske statsborgere	Svært enig	Noe enig
Påstand: Mesteparten av utslippsreduksjonene av klimagasser som Norge har forpliktet seg til, bør tas i utlandet.	Noe enig	Svært enig

Jeg foretrekker representant 1 Jeg foretrekker representant 2

Neste

Figure A.1: Screen-shot example of experimental vignette in experiment 1 as it was presented to the respondents.

A.2 Experiment 2

Figure A.2 shows an example of the task as it was presented to the respondents on the screen.

NORSK MEDBORGERPANEL

Folk har ulike politiske holdninger, og noen ganger er deres holdninger relatert til deres bakgrunn. Under har vi generert to hypotetiske politikere med forskjellig bakgrunn, og vi ønsker å vite hvilken av disse to du mener er mest enig i følgende påstand: «Flyktninger bør ha samme rett til sosialhjelp som nordmenn, selv om de ikke er norske statsborgere.»

	Politiker 1	Politiker 2
Alder	60 år	50 år
Kjønn	Mann	Mann
Bosted	Midt-Norge	Oslo
Sivilstatus	Samboer	Gift
Utdanning	Universitet	Doktorgrad
Religiøs tilhørighet	Kristendom	Ingen
Arbeids erfaring utenfor politikk	Sykepleier	Oljearbeider

Politiker 1 Politiker 2

Tilbake Neste

Figure A.2: Screen-shot example of experimental vignette in experiment 2 as it was presented to the respondents.

Before each decision task, respondents are shown introductory text that translates to: “People have differing political opinions, and sometimes these opinions are related to their background. Below, we have made up two imaginary persons/politicians of different background. We wish to know which of these you think would be mostly in agreement with the statement below.”

B Data description and summary statistics

B.1 Norwegian Citizen Panel, Waves 6 and 7, 2016

The Norwegian Citizen Panel (NCP) is a research-oriented online panel with about 6000 active participants. The panel members complete a 20-minute online questionnaire approximately three times a year. For more details about the response rates or other methodological issues, we refer to the NCP methodology reports (Skjervheim and Høgestøl, 2016*a,b*). The data are freely available for scholars via the Norwegian Centre for Research Data.

B.2 Summary statistics

Variable	Value	N	%
Age	Aged 18-25	56	5
Age	Aged 26-35	126	11
Age	Aged 36-45	166	15
Age	Aged 46-55	235	21
Age	Aged 56-65	273	24
Age	Aged 66-75	222	19
Age	Aged 76+	61	5
Education	Elementary school	85	8
Education	High School	357	32
Education	Higher education	667	60
Gender	Female	568	50
Gender	Male	571	50
Professional field	Agriculture/fishing	34	5
Professional field	None	341	54
Professional field	Nursing or care services	169	27
Professional field	Oil/gas	49	8
Professional field	Telecommunications/IT	36	6
Marital Status	Cohabitant	213	19
Marital Status	Live alone	281	25
Marital Status	Married	640	56
Region	Central Norway	111	10
Region	Eastern Norway	285	25
Region	Northern Norway	88	8
Region	Oslo	302	27
Region	Southern Norway	57	5
Region	Western Norway	296	26
Religious affiliation	Christianity	777	72
Religious affiliation	Islam	6	1
Religious affiliation	None	286	26
Religious affiliation	Other	11	1
Emission reduction issue	1	123	11
Emission reduction issue	2	279	25
Emission reduction issue	3	189	17
Emission reduction issue	4	285	25
Emission reduction issue	5	151	13
Emission reduction issue	6	78	7
Emission reduction issue	7	33	3
Income inequality issue	1	11	1
Income inequality issue	2	60	5
Income inequality issue	3	105	9
Income inequality issue	4	100	9
Income inequality issue	5	293	26
Income inequality issue	6	352	31
Income inequality issue	7	218	19
Refugee rights issue	1	134	12
Refugee rights issue	2	191	17
Refugee rights issue	3	235	21
Refugee rights issue	4	123	11
Refugee rights issue	5	212	19
Refugee rights issue	6	182	16
Refugee rights issue	7	62	5

Table B.1: Summary statistics for the respondents participating in experiment 1.

Variable	Value	N	%
Age	Aged 18-25	63	6
Age	Aged 26-35	117	11
Age	Aged 36-45	154	14
Age	Aged 46-55	207	19
Age	Aged 56-65	265	25
Age	Aged 66-75	222	21
Age	Aged 76+	49	5
Education	Elementary school	88	8
Education	High School	334	32
Education	Higher education	626	60
Gender	Female	539	50
Gender	Male	538	50
Professional field	Agriculture/fishing	32	5
Professional field	None	343	59
Professional field	Nursing or care services	134	23
Professional field	Oil/gas	42	7
Professional field	Telecommunications/IT	34	6
Marital Status	Cohabitant	176	16
Marital Status	Live alone	298	28
Marital Status	Married	600	56
Region	Central Norway	89	8
Region	Eastern Norway	272	25
Region	Northern Norway	88	8
Region	Oslo	287	27
Region	Southern Norway	51	5
Region	Western Norway	290	27
Religious affiliation	Christianity	736	73
Religious affiliation	Islam	3	0
Religious affiliation	None	260	26
Religious affiliation	Other	10	1
Emission reduction issue	1	125	12
Emission reduction issue	2	228	23
Emission reduction issue	3	171	17
Emission reduction issue	4	251	25
Emission reduction issue	5	130	13
Emission reduction issue	6	72	7
Emission reduction issue	7	36	4
Income inequality issue	1	13	1
Income inequality issue	2	54	5
Income inequality issue	3	106	10
Income inequality issue	4	93	9
Income inequality issue	5	273	25
Income inequality issue	6	328	30
Income inequality issue	7	210	19
Refugee rights issue	1	114	11
Refugee rights issue	2	186	17
Refugee rights issue	3	232	22
Refugee rights issue	4	113	10
Refugee rights issue	5	197	18
Refugee rights issue	6	174	16
Refugee rights issue	7	61	6

Table B.2: Summary statistics for the respondents participating in experiment 2.

Variable	Value	N	%
Age	Aged 18-25	273	0.06
Age	Aged 26-35	562	0.12
Age	Aged 36-45	724	0.15
Age	Aged 46-55	925	0.20
Age	Aged 56-65	1116	0.24
Age	Aged 66-75	872	0.19
Age	Aged 76+	217	0.05
Gender	Male	2355	0.50
Gender	Female	2334	0.50
Education	Elementary school	428	0.09
Education	High School	1405	0.31
Education	Higher education	2695	0.60
Religion	None	1127	0.26
Religion	Christianity	3132	0.73
Religion	Islam	17	0.00
Region	Oslo	1335	0.28
Region	Eastern Norway	1133	0.24
Region	Southern Norway	216	0.05
Region	Western Norway	1235	0.26
Region	Central Norway	425	0.09
Region	Northern Norway	345	0.07
Emission reductions issue	Strongly disagree	502	0.11
Emission reductions issue	Disagree	1058	0.24
Emission reductions issue	Somewhat disagree	793	0.18
Emission reductions issue	Neither agree nor disagree	1027	0.23
Emission reductions issue	Somewhat agree	552	0.13
Emission reductions issue	Agree	322	0.07
Emission reductions issue	Strongly agree	156	0.04
Income inequality issue	Strongly disagree	81	0.02
Income inequality issue	Disagree	249	0.05
Income inequality issue	Somewhat disagree	432	0.09
Income inequality issue	Neither agree nor disagree	496	0.11
Income inequality issue	Somewhat agree	1176	0.25
Income inequality issue	Agree	1387	0.30
Income inequality issue	Strongly agree	860	0.18
Refugees rights issue	Strongly disagree	545	0.12
Refugees rights issue	Disagree	811	0.17
Refugees rights issue	Somewhat disagree	953	0.20
Refugees rights issue	Neither agree nor disagree	476	0.10
Refugees rights issue	Somewhat agree	828	0.18
Refugees rights issue	Agree	772	0.16
Refugees rights issue	Strongly agree	302	0.06

Table B.3: Summary statistics for the respondents observed in Figure C.5.

Treatment	Value	<i>both</i> treatment N (proportion)	Group or issue only- treatment N (proportion)
Age	22 years	307 (.14)	316 (.14)
Age	30 years	311 (.14)	299 (.14)
Age	40 years	324 (.15)	339 (.15)
Age	50 years	297 (.13)	307 (.14)
Age	60 years	326 (.15)	311 (.14)
Age	70 years	348 (.16)	319 (.14)
Age	80 years	295 (.13)	321 (.15)
Gender	Female	1146 (.52)	1101 (.50)
Gender	Male	1062 (.48)	1111 (.50)
Education	Elementary school	531 (.24)	555 (.25)
Education	High school	550 (.25)	539 (.24)
Education	Ph.D.	587 (.27)	575 (.26)
Education	University	540 (.24)	543 (.25)
Marital Status	Cohabitant	766 (.35)	707 (.32)
Marital Status	Living alone	719 (.33)	736 (.33)
Marital Status	Married	723 (.33)	769 (.35)
Occupation	Care worker	328 (.15)	322 (.15)
Occupation	Farmer	393 (.18)	378 (.17)
Occupation	IT consultant	378 (.17)	420 (.19)
Occupation	No work experience	361 (.16)	374 (.17)
Occupation	Oil worker	362 (.16)	373 (.17)
Occupation	Self-employed	386 (.17)	345 (.16)
Region	Central Norway	373 (.17)	344 (.16)
Region	Eastern Norway	387 (.18)	357 (.16)
Region	Northern Norway	359 (.16)	397 (.18)
Region	Oslo	337 (.15)	362 (.16)
Region	Southern Norway	399 (.18)	393 (.18)
Region	Western Norway	353 (.16)	359 (.16)
Religious affiliation	Christianity	713 (.32)	733 (.33)
Religious affiliation	Islam	719 (.33)	736 (.33)
Religious affiliation	No religion	776 (.35)	743 (.34)
Emission reduction issue	Agree	304 (.14)	291 (.13)
Emission reduction issue	Disagree	322 (.15)	319 (.14)
Emission reduction issue	Neither agree nor disagree	314 (.14)	324 (.15)
Emission reduction issue	Somewhat agree	331 (.15)	324 (.15)
Emission reduction issue	Somewhat disagree	329 (.15)	348 (.16)
Emission reduction issue	Strongly agree	301 (.14)	305 (.14)
Emission reduction issue	Strongly disagree	307 (.14)	293 (.13)
Income inequality issue	Agree	338 (.15)	316 (.14)
Income inequality issue	Disagree	342 (.15)	311 (.14)
Income inequality issue	Neither agree nor disagree	323 (.15)	330 (.15)
Income inequality issue	Somewhat agree	296 (.13)	299 (.14)
Income inequality issue	Somewhat disagree	310 (.14)	299 (.14)
Income inequality issue	Strongly agree	283 (.13)	307 (.14)
Income inequality issue	Strongly disagree	316 (.14)	342 (.16)
Refugee rights issue	Agree	304 (.14)	327 (.15)
Refugee rights issue	Disagree	314 (.14)	282 (.13)
Refugee rights issue	Neither agree nor disagree	348 (.16)	318 (.14)
Refugee rights issue	Somewhat agree	303 (.14)	299 (.14)
Refugee rights issue	Somewhat disagree	296 (.13)	308 (.14)
Refugee rights issue	Strongly agree	329 (.15)	350 (.16)
Refugee rights issue	Strongly disagree	314 (.14)	320 (.15)

Table B.4: Treatment assignments of candidate attributes for experiment 1.

Treatment (Candidate)	Value	N	%
Age	22 years	163	15
Age	30 years	167	15
Age	40 years	166	15
Age	50 years	147	13
Age	60 years	160	14
Age	70 years	163	15
Age	80 years	153	14
Gender	Female	550	49
Gender	Male	569	51
Education	Elementary school	283	25
Education	High school	278	25
Education	Ph.D.	272	24
Education	University	286	26
Marital Status	Cohabitant	341	30
Marital Status	Living alone	387	35
Marital Status	Married	391	35
Occupation	Care worker	176	16
Occupation	Farmer	188	17
Occupation	IT consultant	200	18
Occupation	No work experience	190	17
Occupation	Oil worker	191	17
Occupation	Self-employed	174	16
Region	Central Norway	182	16
Region	Eastern Norway	173	15
Region	Northern Norway	196	18
Region	Oslo	179	16
Region	Southern Norway	208	19
Region	Western Norway	181	16
Religious affiliation	Christianity	369	33
Religious affiliation	Islam	379	34
Religious affiliation	No religion	371	33
Emission reduction issue	Agree	5	15
Emission reduction issue	Disagree	3	9
Emission reduction issue	Neither agree nor disagree	7	21
Emission reduction issue	Somewhat agree	1	3
Emission reduction issue	Somewhat disagree	8	24
Emission reduction issue	Strongly agree	8	24
Emission reduction issue	Strongly disagree	1	3
Income inequality issue	Agree	6	18
Income inequality issue	Disagree	5	15
Income inequality issue	Neither agree nor disagree	2	6
Income inequality issue	Somewhat agree	6	18
Income inequality issue	Somewhat disagree	4	12
Income inequality issue	Strongly agree	6	18
Income inequality issue	Strongly disagree	4	12
Refugee rights issue	Agree	7	21
Refugee rights issue	Disagree	6	18
Refugee rights issue	Neither agree nor disagree	5	15
Refugee rights issue	Somewhat agree	5	15
Refugee rights issue	Somewhat disagree	2	6
Refugee rights issue	Strongly agree	3	9
Refugee rights issue	Strongly disagree	5	15

Table B.5: Treatment assignments of candidate attributes for experiment 2.

B.3 Tabled results shown in Figures 1-4

Treatment	Attribute	Attr. level	Coef.	Std. Error	t-value	p-value	
<i>group</i> treatment	Age	22 years	(ref.)				
<i>group</i> treatment	Age	30 years	0.097	0.04	2.395	0.017	*
<i>group</i> treatment	Age	40 years	0.012	0.039	0.318	0.750	
<i>group</i> treatment	Age	50 years	0.105	0.04	2.594	0.010	**
<i>group</i> treatment	Age	60 years	0.081	0.039	2.076	0.038	*
<i>group</i> treatment	Age	70 years	0.018	0.04	0.437	0.662	
<i>group</i> treatment	Age	80 years	-0.082	0.039	-2.079	0.038	*
<i>group</i> treatment	Gender	Male	(ref.)				
<i>group</i> treatment	Gender	Female	0.079	0.021	3.727	0.000	***
<i>group</i> treatment	Education	Elementary school	(ref.)				
<i>group</i> treatment	Education	High school	0.007	0.030	0.222	0.825	
<i>group</i> treatment	Education	University	0.047	0.030	1.575	0.115	
<i>group</i> treatment	Education	Ph.D.	0.057	0.029	1.938	0.053	.
<i>group</i> treatment	Religion	No religion	(ref.)				
<i>group</i> treatment	Religion	Christianity	-0.043	0.026	-1.665	0.096	.
<i>group</i> treatment	Religion	Islam	-0.150	0.026	-5.727	0.000	***
<i>group</i> treatment	Region	Oslo	(ref.)				
<i>group</i> treatment	Region	Eastern Norway	0.021	0.036	0.585	0.559	
<i>group</i> treatment	Region	Southern Norway	0.006	0.035	0.182	0.855	
<i>group</i> treatment	Region	Western Norway	-0.010	0.037	-0.267	0.790	
<i>group</i> treatment	Region	Central Norway	-0.026	0.037	-0.709	0.478	
<i>group</i> treatment	Region	Northern Norway	0.006	0.036	0.176	0.860	
<i>both</i> treatment	Age	22 years	(ref.)				
<i>both</i> treatment	Age	30 years	-0.010	0.04	-0.248	0.804	
<i>both</i> treatment	Age	40 years	-0.003	0.04	-0.066	0.948	
<i>both</i> treatment	Age	50 years	0.024	0.041	0.594	0.553	
<i>both</i> treatment	Age	60 years	-0.003	0.04	-0.070	0.944	
<i>both</i> treatment	Age	70 years	-0.064	0.039	-1.651	0.099	.
<i>both</i> treatment	Age	80 years	-0.091	0.042	-2.182	0.029	*
<i>both</i> treatment	Gender	Male	(ref.)				
<i>both</i> treatment	Gender	Female	0.022	0.021	1.054	0.292	
<i>both</i> treatment	Education	Elementary school	(ref.)				
<i>both</i> treatment	Education	High school	0.005	0.030	0.166	0.868	
<i>both</i> treatment	Education	University	0.029	0.030	0.965	0.335	
<i>both</i> treatment	Education	Ph.D.	0.022	0.03	0.731	0.465	
<i>both</i> treatment	Religion	No religion	(ref.)				
<i>both</i> treatment	Religion	Christianity	-0.008	0.026	-0.288	0.773	
<i>both</i> treatment	Religion	Islam	-0.095	0.026	-3.739	0.000	***
<i>both</i> treatment	Region	Oslo	(ref.)				
<i>both</i> treatment	Region	Eastern Norway	-0.073	0.038	-1.942	0.052	.
<i>both</i> treatment	Region	Southern Norway	-0.062	0.036	-1.708	0.088	.
<i>both</i> treatment	Region	Western Norway	-0.025	0.038	-0.659	0.510	
<i>both</i> treatment	Region	Central Norway	-0.018	0.037	-0.476	0.634	
<i>both</i> treatment	Region	Northern Norway	-0.092	0.038	-2.425	0.015	*

Note: . p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table B.6: Results from an OLS regression of vote choice against a set of dummies for each attribute realization (omitting a reference category) with clustered standard errors as presented in Figure 1.

Treatment	Attribute	Attr. level	Coef.	Std. Error	t-value	p-value	
<i>issue</i> treatment	Income inequality issue	Difference of $\pm 4/5/6$	(ref.)				
<i>issue</i> treatment	Income inequality issue	Difference of $\pm 2/3$	0.070	0.042	1.656	0.098	.
<i>issue</i> treatment	Income inequality issue	Same position	0.213	0.042	5.072	0.000	***
<i>issue</i> treatment	Refugee rights issue	Difference of $\pm 4/5/6$	(ref.)				
<i>issue</i> treatment	Refugee rights issue	Difference of $\pm 2/3$	0.120	0.041	2.945	0.003	**
<i>issue</i> treatment	Refugee rights issue	Same position	0.255	0.040	6.400	0.00	***
<i>issue</i> treatment	Emission reduction issue	Difference of $\pm 4/5/6$	(ref.)				
<i>issue</i> treatment	Emission reduction issue	Difference of $\pm 2/3$	0.059	0.046	1.294	0.196	
<i>issue</i> treatment	Emission reduction issue	Same position	0.166	0.046	3.595	0.000	***
<i>both</i> treatment	Income inequality issue	Difference of $\pm 4/5/6$	(ref.)				
<i>both</i> treatment	Income inequality issue	Difference of $\pm 2/3$	0.131	0.043	3.066	0.002	**
<i>both</i> treatment	Income inequality issue	Same position	0.205	0.042	4.868	0.000	***
<i>both</i> treatment	Refugee rights issue	Difference of $\pm 4/5/6$	(ref.)				
<i>both</i> treatment	Refugee rights issue	Difference of $\pm 2/3$	-0.017	0.047	-0.361	0.718	
<i>both</i> treatment	Refugee rights issue	Same position	0.032	0.046	0.704	0.482	
<i>both</i> treatment	Emission reduction issue	Difference of $\pm 4/5/6$	(ref.)				
<i>both</i> treatment	Emission reduction issue	Difference of $\pm 2/3$	0.045	0.045	1.009	0.313	
<i>both</i> treatment	Emission reduction issue	Same position	0.102	0.043	2.356	0.019	*

Note:

p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table B.7: Results from an OLS regression of vote choice against a set of dummies for each attribute realization (omitting a reference category) with clustered standard errors as presented in Figure 2.

Treatment	Attribute	Attr. level	Coef.	Std. Error	t-value	p-value
<i>group</i> treatment	Age	Different	(ref.)			
<i>group</i> treatment	Age	Same (+/- 5 yrs)	0.044	0.029	1.516	0.130
<i>group</i> treatment	Gender	Different	(ref.)			
<i>group</i> treatment	Gender	Same	-0.003	0.021	-0.128	0.898
<i>group</i> treatment	Education	Different	(ref.)			
<i>group</i> treatment	Education	Same	0.041	0.022	1.904	0.057
<i>group</i> treatment	Religion	Different	(ref.)			
<i>group</i> treatment	Religion	Same	0.082	0.023	3.592	0.000 ***
<i>group</i> treatment	Region	Different	(ref.)			
<i>group</i> treatment	Region	Same	-0.003	0.029	-0.114	0.909
<i>both</i> treatment	Age	Different	(ref.)			
<i>both</i> treatment	Age	Same (+/- 5 yrs)	0.008	0.031	0.242	0.809
<i>both</i> treatment	Gender	Different	(ref.)			
<i>both</i> treatment	Gender	Same	0.009	0.021	0.439	0.661
<i>both</i> treatment	Education	Different	(ref.)			
<i>both</i> treatment	Education	Same	0.020	0.021	0.965	0.334
<i>both</i> treatment	Religion	Different	(ref.)			
<i>both</i> treatment	Religion	Same	0.041	0.023	1.736	0.083
<i>both</i> treatment	Region	Different	(ref.)			
<i>both</i> treatment	Region	Same	0.024	0.028	0.862	0.389
Difference	Age	Different	(ref.)			
Difference	Age	Same (+/- 5 yrs)	-0.036	0.044	-0.827	0.408
Difference	Gender	Different	(ref.)			
Difference	Gender	Same	0.012	0.029	0.400	0.689
Difference	Education	Different	(ref.)			
Difference	Education	Same	-0.021	0.030	-0.693	0.488
Difference	Religion	Different	(ref.)			
Difference	Religion	Same	-0.041	0.032	-1.262	0.207
Difference	Region	Different	(ref.)			
Difference	Region	Same	0.028	0.041	0.678	0.498

Note:

p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table B.8: Results from an OLS regression of vote choice against a set of dummies for each attribute realization (omitting a reference category) with clustered standard errors as presented in Figure 3.

Issue	Attribute	Attr. level	Coef.	Std. Error	t-value	p-value	
Income inequality issue	Age	22 years	(ref.)				
Income inequality issue	Age	30 years	-0.005	0.041	-0.121	0.903	
Income inequality issue	Age	40 years	0.010	0.042	0.245	0.806	
Income inequality issue	Age	50 years	-0.005	0.041	-0.121	0.904	
Income inequality issue	Age	60 years	-0.022	0.041	-0.539	0.590	
Income inequality issue	Age	70 years	-0.013	0.041	-0.313	0.754	
Income inequality issue	Age	80 years	0.002	0.041	0.042	0.967	
Income inequality issue	Gender	Male	(ref.)				
Income inequality issue	Gender	Female	0.142	0.021	6.646	0.000	***
Income inequality issue	Education	Elementary school	(ref.)				
Income inequality issue	Education	High school	-0.066	0.030	-2.175	0.030	*
Income inequality issue	Education	University	-0.075	0.030	-2.488	0.013	*
Income inequality issue	Education	Ph.D.	-0.064	0.031	-2.054	0.040	*
Income inequality issue	Religion	No religion	(ref.)				
Income inequality issue	Religion	Christianity	-0.003	0.027	-0.105	0.916	
Income inequality issue	Religion	Islam	-0.032	0.027	-1.174	0.241	
Income inequality issue	Region	Oslo	(ref.)				
Income inequality issue	Region	Eastern Norway	0.000	0.037	0.004	0.997	
Income inequality issue	Region	Southern Norway	0.000	0.038	0.002	0.998	
Income inequality issue	Region	Western Norway	-0.016	0.037	-0.427	0.669	
Income inequality issue	Region	Central Norway	-0.003	0.039	-0.074	0.941	
Income inequality issue	Region	Northern Norway	0.035	0.038	0.911	0.363	
Refugee rights issue	Age	22 years	(ref.)				
Refugee rights issue	Age	30 years	-0.045	0.040	-1.127	0.260	
Refugee rights issue	Age	40 years	-0.042	0.040	-1.061	0.289	
Refugee rights issue	Age	50 years	-0.057	0.040	-1.440	0.150	
Refugee rights issue	Age	60 years	-0.116	0.040	-2.926	0.003	**
Refugee rights issue	Age	70 years	-0.121	0.040	-3.004	0.003	**
Refugee rights issue	Age	80 years	-0.181	0.039	-4.655	0.000	***
Refugee rights issue	Gender	Male	(ref.)				
Refugee rights issue	Gender	Female	0.141	0.021	6.606	0.000	***
Refugee rights issue	Education	Elementary school	(ref.)				
Refugee rights issue	Education	High school	-0.002	0.031	-0.079	0.937	
Refugee rights issue	Education	University	0.086	0.031	2.827	0.005	**
Refugee rights issue	Education	Ph.D.	0.088	0.032	2.787	0.005	**
Refugee rights issue	Religion	No religion	(ref.)				
Refugee rights issue	Religion	Christianity	0.023	0.027	0.844	0.399	
Refugee rights issue	Religion	Islam	0.132	0.026	5.093	0.000	***
Refugee rights issue	Region	Oslo	(ref.)				
Refugee rights issue	Region	Eastern Norway	-0.025	0.038	-0.664	0.507	
Refugee rights issue	Region	Southern Norway	0.028	0.039	0.714	0.475	
Refugee rights issue	Region	Western Norway	-0.015	0.038	-0.398	0.691	
Refugee rights issue	Region	Central Norway	0.018	0.039	0.459	0.646	
Refugee rights issue	Region	Northern Norway	0.021	0.036	0.571	0.568	
Emission reduction issue	Age	22 years	(ref.)				
Emission reduction issue	Age	30 years	0.026	0.039	0.672	0.501	
Emission reduction issue	Age	40 years	0.109	0.042	2.618	0.009	**
Emission reduction issue	Age	50 years	0.123	0.041	2.975	0.003	**
Emission reduction issue	Age	60 years	0.077	0.041	1.881	0.060	.
Emission reduction issue	Age	70 years	0.085	0.040	2.134	0.033	*
Emission reduction issue	Age	80 years	0.032	0.041	0.780	0.436	
Emission reduction issue	Gender	Male	(ref.)				
Emission reduction issue	Gender	Female	-0.102	0.022	-4.644	0.000	***
Emission reduction issue	Education	Elementary school	(ref.)				
Emission reduction issue	Education	High school	0.046	0.031	1.495	0.135	
Emission reduction issue	Education	University	-0.009	0.030	-0.287	0.774	
Emission reduction issue	Education	Ph.D.	-0.034	0.031	-1.095	0.274	
Emission reduction issue	Religion	No religion	(ref.)				
Emission reduction issue	Religion	Christianity	-0.019	0.027	-0.699	0.485	
Emission reduction issue	Religion	Islam	-0.155	0.027	-5.716	0.000	***
Emission reduction issue	Region	Oslo	(ref.)				
Emission reduction issue	Region	Eastern Norway	0.006	0.038	0.160	0.873	
Emission reduction issue	Region	Southern Norway	0.040	0.039	1.033	0.302	
Emission reduction issue	Region	Western Norway	0.026	0.039	0.657	0.511	
Emission reduction issue	Region	Central Norway	0.007	0.038	0.196	0.845	
Emission reduction issue	Region	Northern Norway	0.013	0.039	0.322	0.748	

Note: . p<0.1; *p<0.05; **p<0.01; ***p<0.001

Table B.9: Results from an OLS regression of whether voter thinks the candidate agrees with the issue statement on a set of dummies for each attribute realization (omitting a reference category) with clustered standard errors as presented in Figure 4.

C Additional results

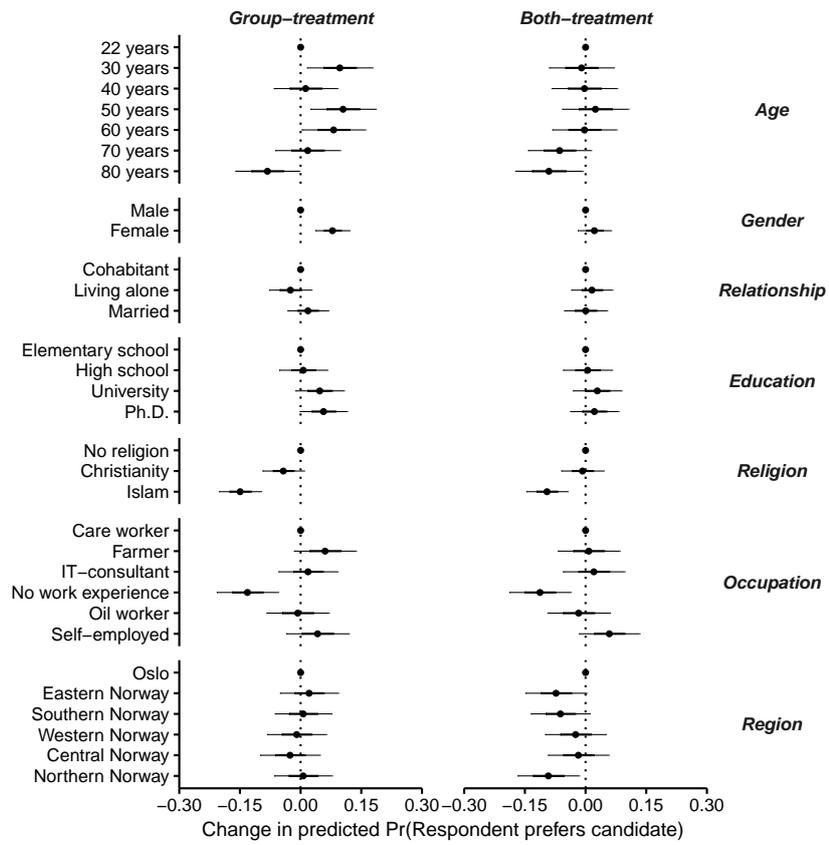


Figure C.1: Figure 1 with all social markers included.

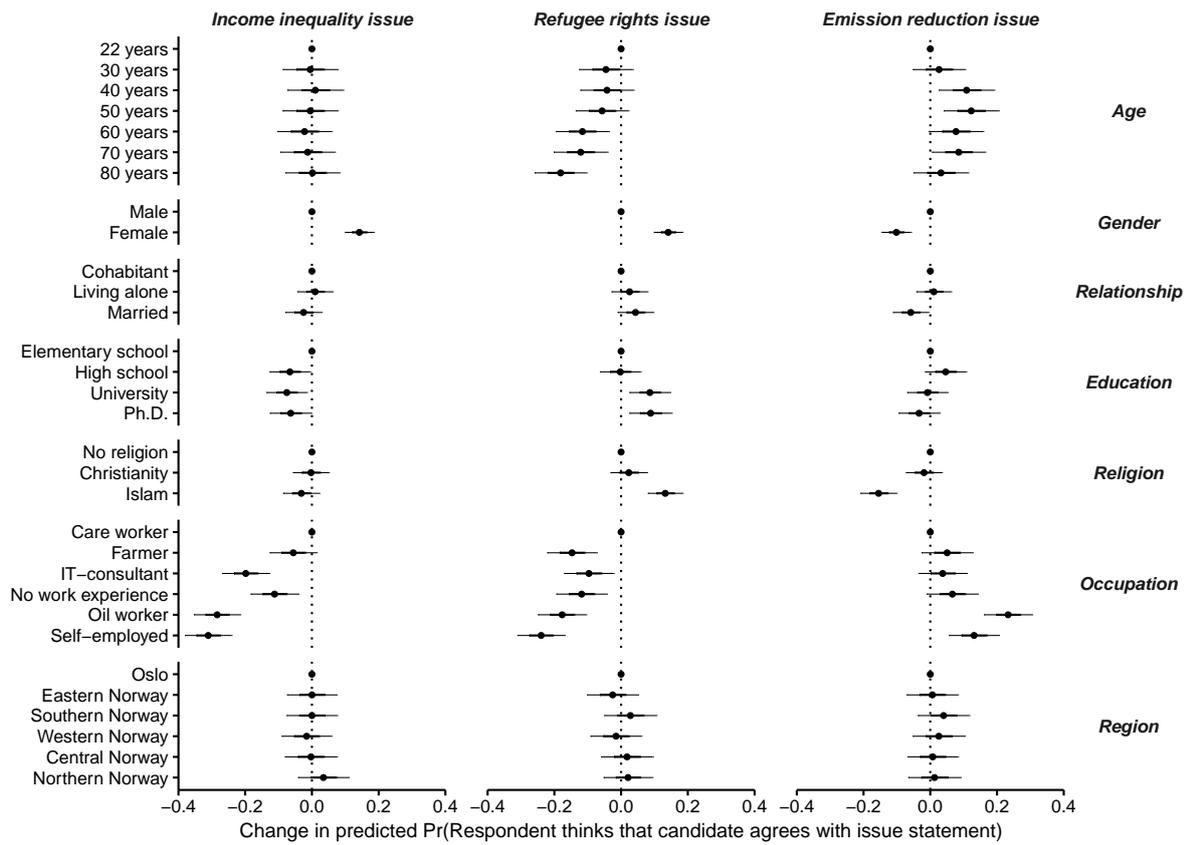


Figure C.2: Figure 4 with all social markers included.

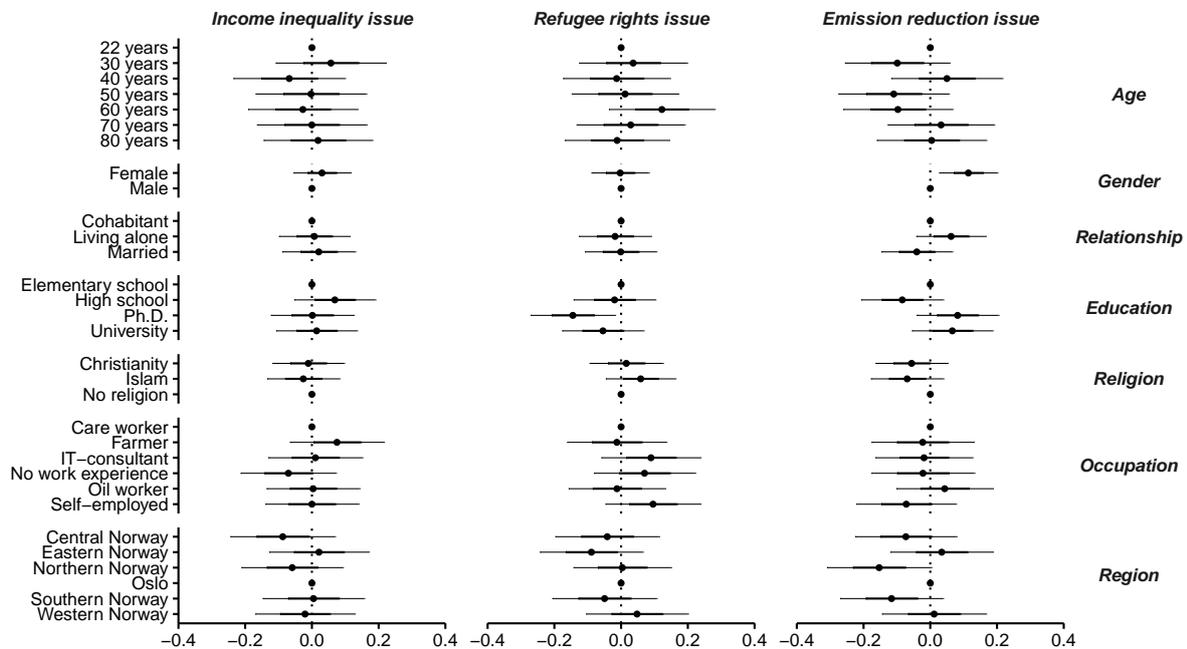


Figure C.3: Difference in change in predicted probability that a respondents thinks a **candidate** agrees with the issue statement (as shown in Figure 4) and change in predicted probability that a respondents thinks **another person** agrees with the issue statement.

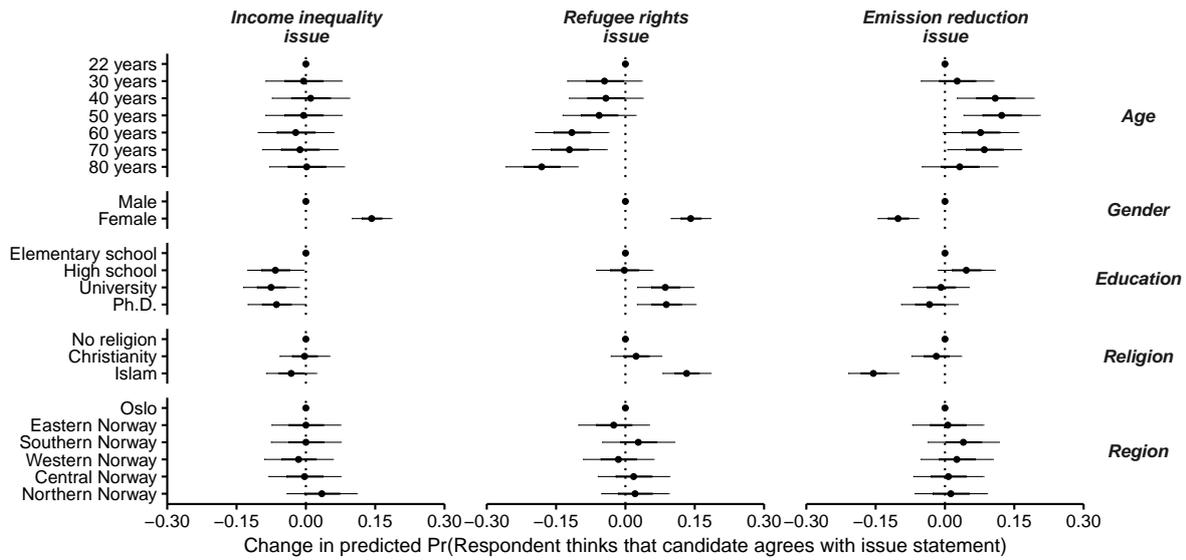


Figure C.4: Change in **predicted** probability that respondent thinks a hypothetical candidate agrees with the issue statement; proportions shown by candidates' social markers; replication of 4 in the main text.

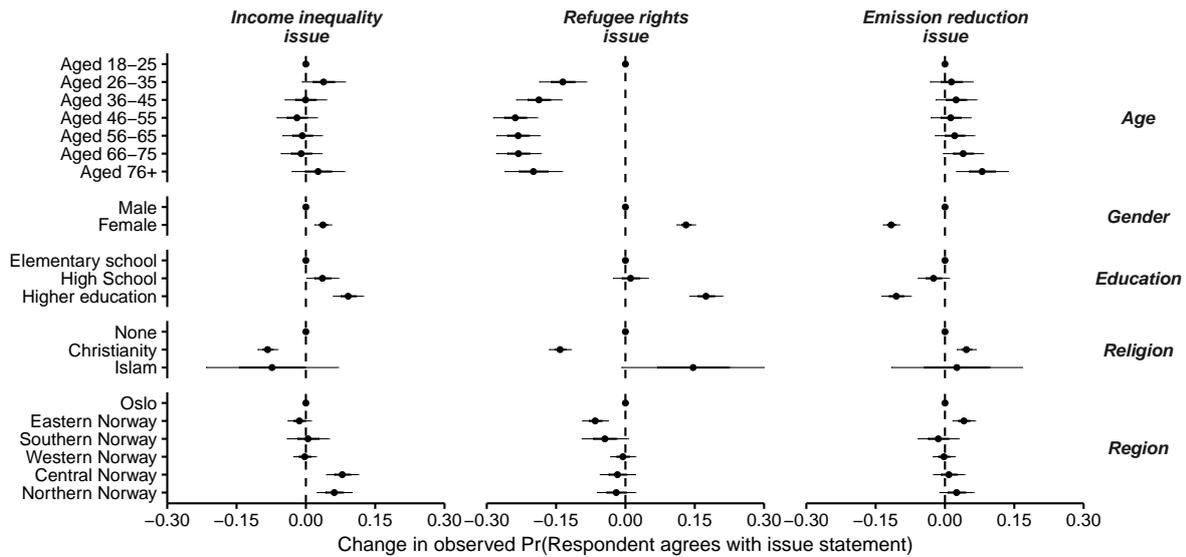


Figure C.5: Change in **observed** probability that a respondents agrees with the issue statement; difference in proportions are shown by respondents' social markers. Includes all respondents in wave 7 of the NCP (N = 4681).

We find congruent patterns of change with variation in social markers in the predicted probability that a respondent thinks the hypothetical candidate agrees with an issues statement and the observed proportions of respondents agreeing with that statement. Respondents believe it is more likely that a candidate agrees with the statements on income inequality as well as refugees but disagrees with the statement on emissions if she is a woman, see Figure 4. Correspondingly, as shown in Figure C.5, female respondent are more likely than male respondents to agree that the state should reduce income inequality as well as that refugees should have the same social rights as Norwegian residents, and are less likely to agree than men that most of the carbon emission reductions should be done abroad. Variation in educational achievement also triggers similar changes in predicted and observed agreement with the statements on two of the three

policy issues. We see rather different patterns of change with variation in age, religion, and region.